Geochemistry Report –
Mareano, Barents Sea Show Study

Applied Petroleum Technology AS
P.O. Box 173 Kalbakken
NO-0903 Oslo
Norway

Address:	**Applied Petroleum Technology AS** **P.O. Box 173 Kalbakken** **NO-0903 Oslo** **Norway**
Telephone:	**+47 453 96 000**

Report number APT22-6600	**Classification** Proprietary
Report Title Geochemistry Report - Maraeno, Barents Sea Show Study	**Submitted**
Client Havforskningsinstituttet, Bergen	**Service Order**
Client Reference Stepan Boitsov (Havforskningsinstituttet) Henning KB Jensen (NGU)	**Number of pages** 194
Distribution Havforskningsinstituttet/NGU (digital) APT (digital)	

Authors
Steve Killops

Hanne Olsson Slaattedal
Kjell Urdal
Nicla Vicinanza
Fahad Ashraf

	Name	Date	Signature
Reviewed by	Christoph Kierdorf	21.10.2022	C. Kierdorf
Approved by	Geir Hansen	24.10.2022	Geir Hansen

CONTENTS

INTERPRETATION

1 Introduction

Shallow core sediment samples from the 10 depth intervals shown in *Table 1* were dried and solvent extracted, and the extracts analysed by GC and the separated aliphatic and aromatic hydrocarbon fractions analysed by GC-MS and for their ^{13}C isotopic composition. The GC-MS analyses involved an extended protocol which monitors for immature biomarkers (hopenes, neohopenes, sterenes and diasterenes) in order to obtain information about variations in potential mixing of indigenous and migrated thermogenic hydrocarbons. In addition, data for Barents Sea oils of known/assumed source ages were included with a view to correlation of any observed seep oil.

Table 1: Sampled Mareano core depth intervals (left) and age calibration oils (right).

Top (m)	Base (m)		Well	Discovery	Test	Depth (m)	Source age
0	0.04		7324/7-3 S	Wisting	MDT	804.78	M-L Triassic
0.1	0.12		7228/7-1 A	Pandora	MDT1	2091.1	E Triassic
0.2	0.23		7121/5-1	Snøhvit	DST1	2436-39	L Jurassic
0.3	0.33		7125/1-1	Binne	RFT	1403.8	Triassic/Jurassic
0.7	0.73		7222/11-2	Langlitinden	MDT	2124.5	M-L Triassic
1.1	1.13						
1.5	1.53						
1.9	1.93						
2.3	2.33						
2.58	2.61						

2 Results & Discussion

2.1 General characteristics of extracts

All extract gas chromatograms give the appearance of containing migrated oil, with varying amounts of immature indigenous bitumen. The immature bitumen exhibits a typical undulating hump of unresolved complex mixture (UCM), with an odd-over-even preference (OEP) among *n*-alkanes in the nC_{23+} region, suggesting a significant higher plant contribution. In contrast, the petrogenic component yields a smoother distribution of both *n*-alkanes and UCM across the entire range. The balance between these characteristics is represented by the shallowest and deepest samples in *Figure 1*.

The indigenous bitumen contains hopanoids associated with pre-oil-window maturity levels, such as 22,29,30-trinor-17β-hopane (27ββ) and 30Ts13en18 (neohop-13(18)-ene). These compounds are ratioed to more thermodynamically stable counterparts (27Tm and 30αβ) in *Figure 2*, reflecting the greater petrogenic contribution with increasing depth below ~1.5 m (i.e. below the dropstone) suggested by the general appearance of extract chromatograms. The deepest pair of samples appear particularly enriched in migrated oil compared to indigenous bitumen.

Sterene and diasterene levels were lower and so less useful than the hopanoids in assessing the relative abundances of the hydrocarbon sources.

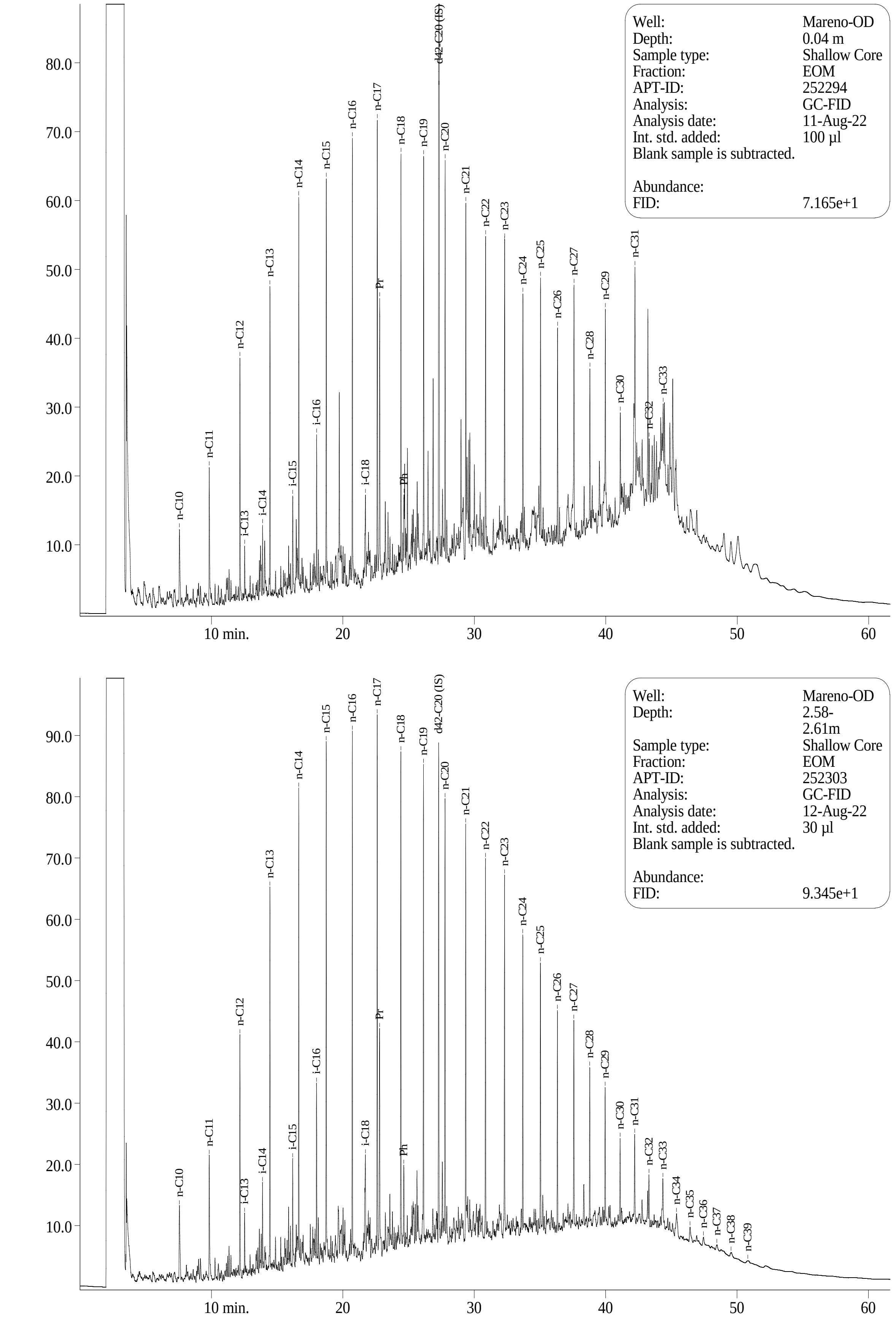


Figure 1: Total extract gas chromatograms of shallowest (top) and deepest (bottom) core samples.

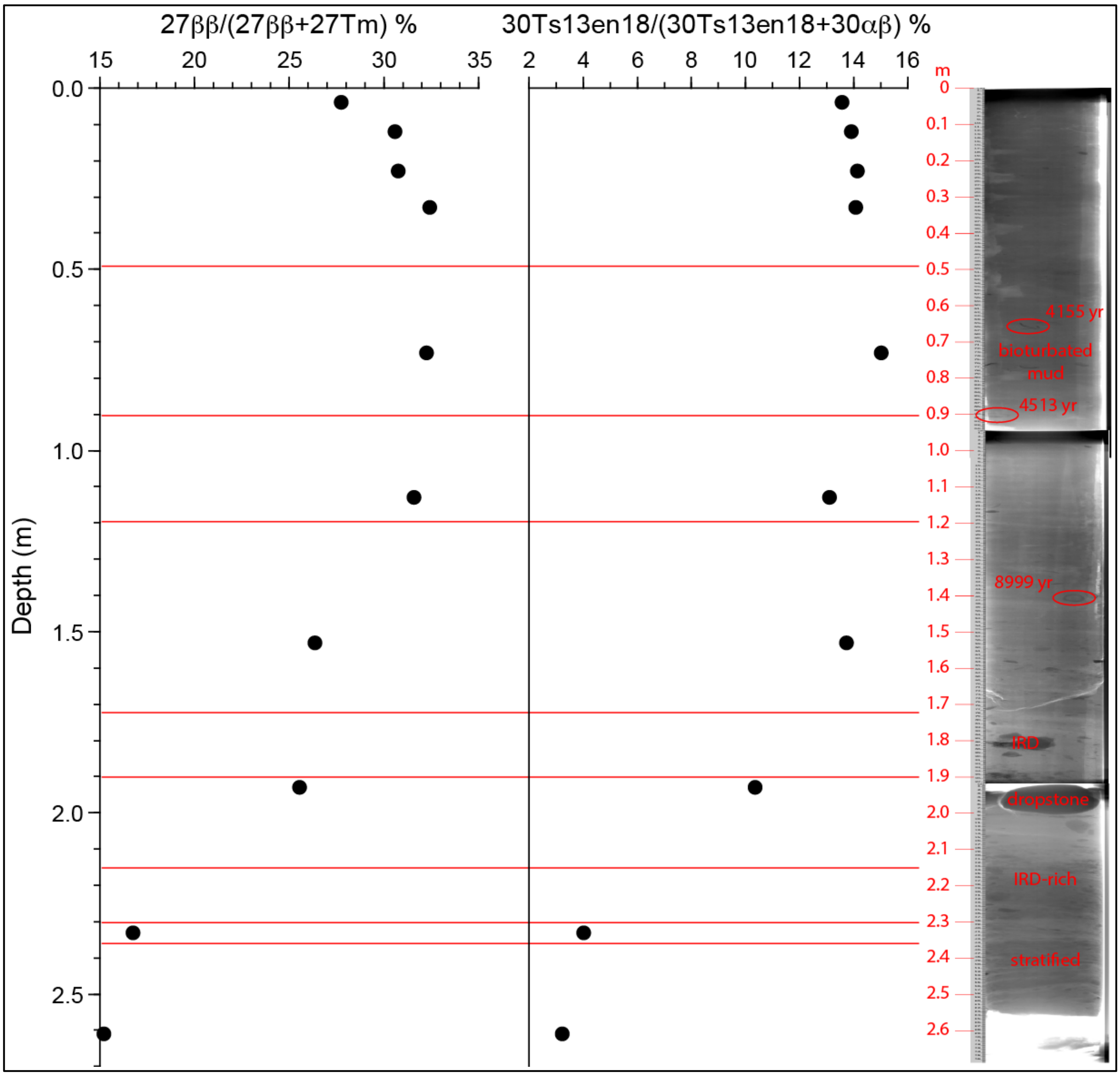


Figure 2: Depth trends in relative abundance of immature hopanoids. Red lines correspond approximately to boundaries of lithological changes revealed by X-ray (right); red elipses show organic residues and corresponding ^{14}C dates (as supplied by client).

Depth trends in the abundance of acyclic isoprenoids in relation to *n*-alkanes of comparable volatility are shown in *Figure 3*. They show a general decrease in the relative abundance of the acyclic isoprenoid that would be expected for increasing petrogenic contributions as depth increases in a mixture with immature indigenous bitumen, in which *n*-alkanes are relatively less abundant because oil generation within the sedimentary column has not begun.

With increasing relative abundance of an immature humic contribution, it would be expected that parameters in *Figure 4* would tend to increase, which they mostly do. There are some deviations at depth, such as Pr/Ph and (19/3)/(23/3), upon which biodegradation and maturity may be influential.

Further evaluation of biomarker distributions requires examination of the potential influence of biodegradation and maturity on the varying mixtures of petrogenic and indigenous bitumen contributions. However, from the appearance of extract gas chromatograms, it is likely that the seep is active, because a greater degree of biodegradation of *n*-alkanes in surface sediments would be expected if months had elapsed since the last discharge of seep oil.

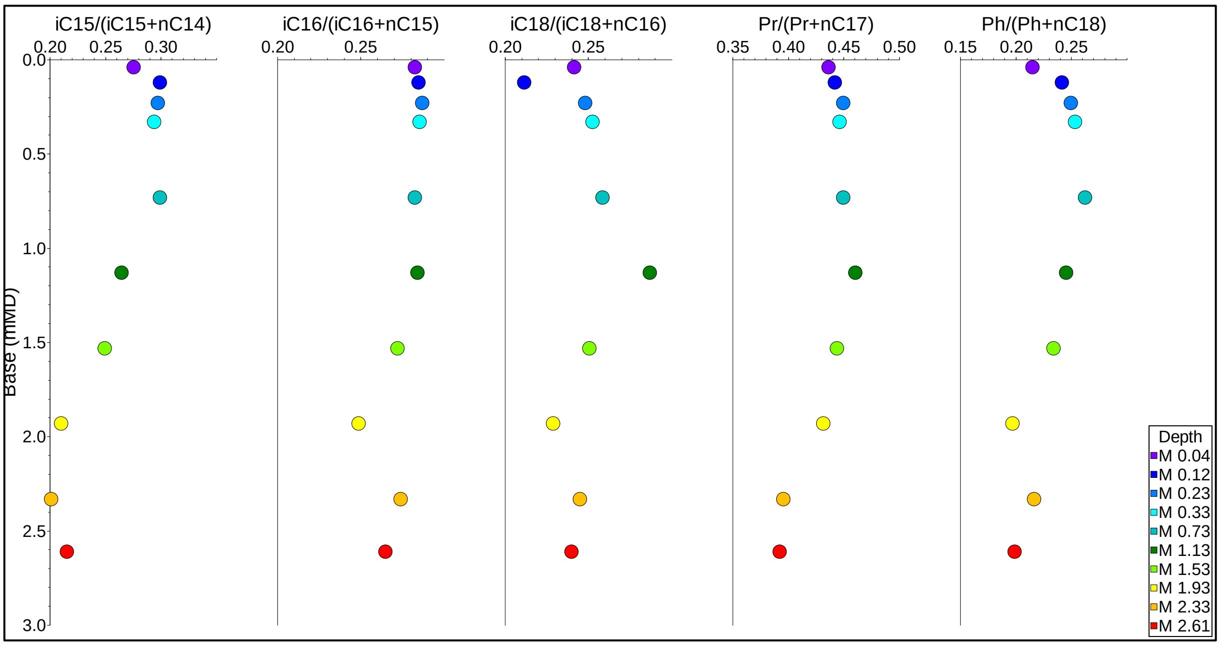


Figure 3: Depth trends in abundance of acyclic isoprenoids relative to n-*alkanes of comparable volatility.*

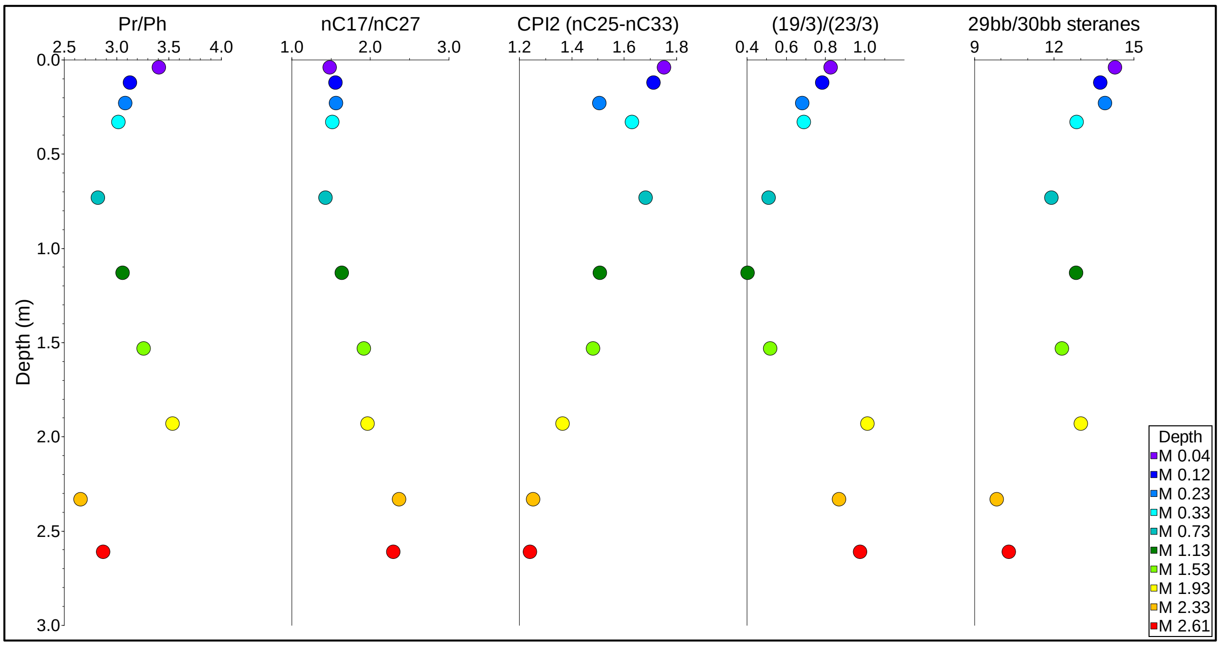


Figure 4: Indications of relative humic contribution (values of all parameters expected to be higher).

2.2 Biodegradation assessment

In petroleum reservoirs, recent recharging with fresh oil tends to mask previous episodes of biodegradation. Potentially, a similar effect might be observed in seeps, where a current discharge is supplementing residual, partially biodegraded oil along the migration route, with fresh hydrocarbons. The presence of a clear UCM in the petrogenic component indicates that biodegradation has occurred, but *n*-alkanes are still abundant, suggesting either degradation and recharging, or that the seep oil originates from a partially biodegraded and recharged accumulation. The extent of biodegradation can often be assessed by examining hydrocarbons that are more resistant towards biodegradation than *n*-alkanes, as shown in *Figure 5*.

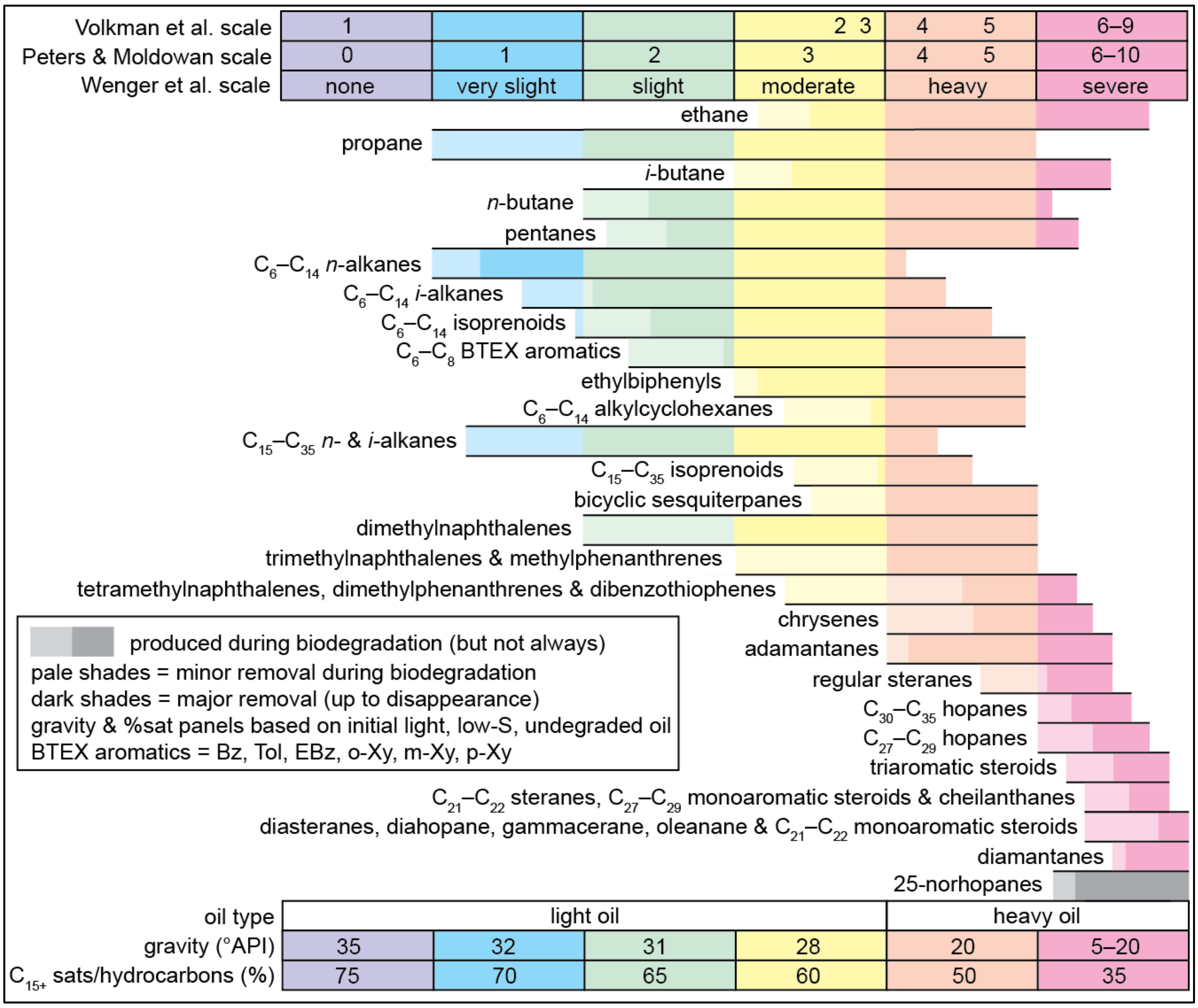


Figure 5: Approximate hydrocarbon biodegradation ranges (after Head et al. 2003).

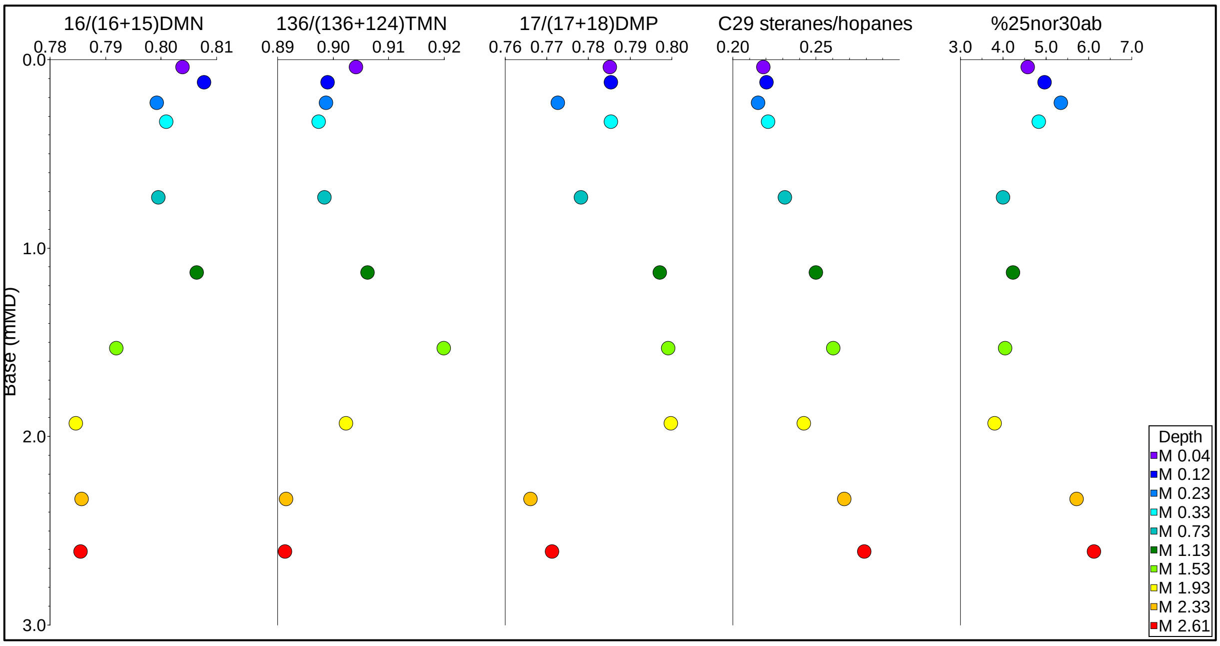


Figure 6: Depth trends in biodegradation indicators. Values decrease with biodegrdataion for methylated naphthalenes and phenanthrenes, increase for steranes/hopanes if steranes are particularly affected, and increase for 25-norhopanes if hopanes are more affected than steranes.

There are suggestions in *Figure 6* that the pair of deepest samples (>2 m) have experienced a greater degree of biodegradation of residual oil in the past, leading to depletion of the more sensitive methylated naphthalenes and phenanthrenes and possibly some removal of regular hopanes (but without obvious attack on steranes).

Among methylated naphthalenes, monomethyls are more sensitive than dimethyls, which are more readily removed than trimethyls. The trend in *Figure 7* could be considered consistent with a degree of biodegradation of methylated aromatics observed for individual isomers in *Figure 6*. When hopanes are attacked prior to steranes, 25-norhopanes can be formed, but interpretation is complicated by the possibility of low levels of 25-norhopanes being present in source rocks, and therefore not indicative of biodegradation of oil.

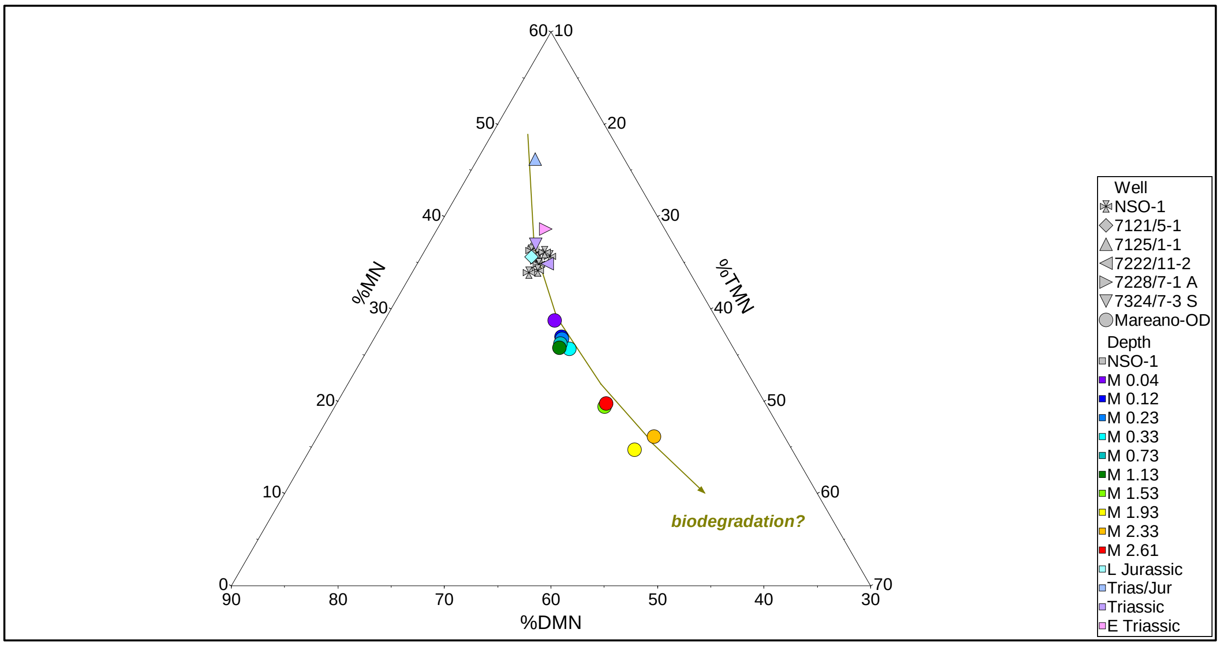


Figure 7: Potential influence of biodegradation on degree of methylation of naphthalene.

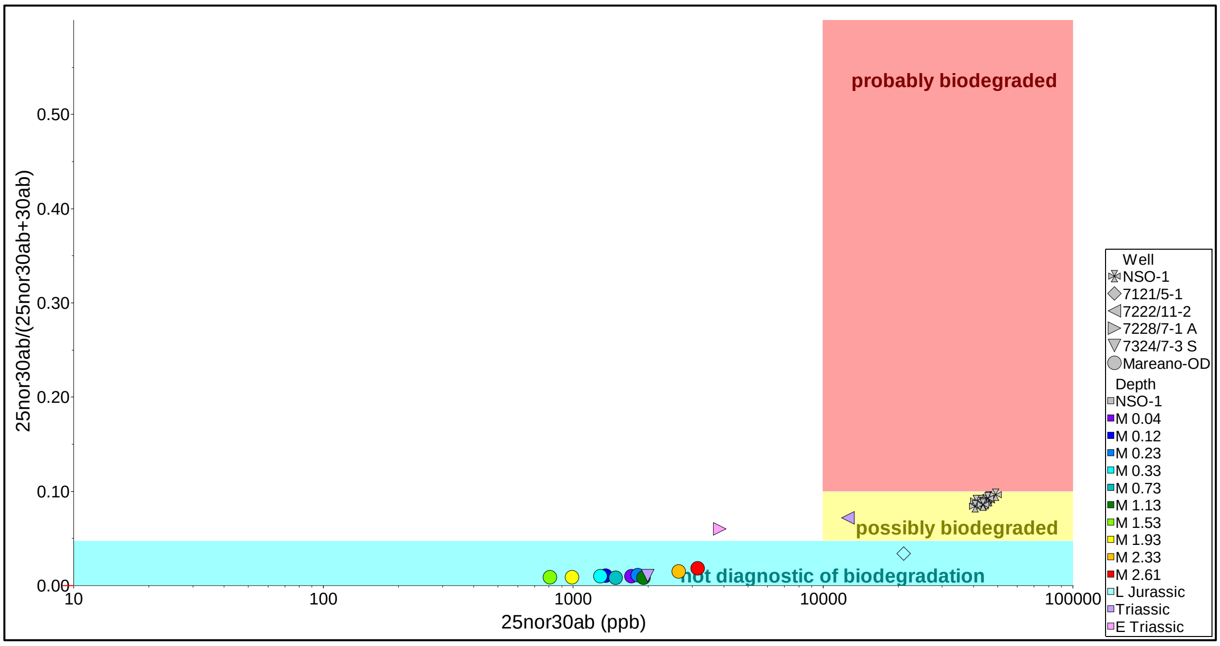


Figure 8: Evaluation of possible hopane biodegradation from 25-norhopane abundance.

In *Figure 8*, 25-norhopane levels are low and might not be indicative of biodegradation of oil. However, relative and absolute abundances are slightly higher in the deepest pair of samples, which could reflect a small degree of severe paleobiodegradation. Alternatively, the seep oil may have a greater abundance of 25-norhopanes than the indigenous bitumen, so the enrichment in the deepest samples simply reflects a greater contribution from the petrogenic component. As for the 25-norhopanes, it is possible that the methylated naphthalene distributions reflect the differences between indigenous bitumen and the petrogenic component and how different mixtures of the two affect overall abundances.

To summarise, while active biodegradation of seep oil near the surface is highly likely, the presence of abundant *n*-alkanes and a UCM could point to the seep oil representing leakage from an accumulation that has previously experienced partial biodegradation and recharging with fresh oil. Alternatively, there is the possibility that the biodegradation has occurred at shallow levels along the seep pathway in the past, resulting in a degree of concentration of the more resistant components, which have then been entrained in the latest, fresh seepage.

2.3 Maturity

The limited variations in hopane maturity parameter values between core samples in *Figure 9* is no greater than observed for the NSO-1 replicates, so there appears to be no statistically relevant variation. The 22S/(22S+22R) ratio for C_{31}–C_{35} hopanes (last 5 ratios in *Figure 9*) has approximately reached its equilibrium value, but the (17α,21β)/(17α,21β + 17β,21α) ratio is a little short of equilibrium, suggesting a maturity approaching 0.6% VR. The slightly lower 30αβ/(30αβ+30βα) ratio for the deepest three samples could result from 31dαβS contribution to the 30βα signal (the compounds co-elute), as diahopanes are more abundant in these samples.

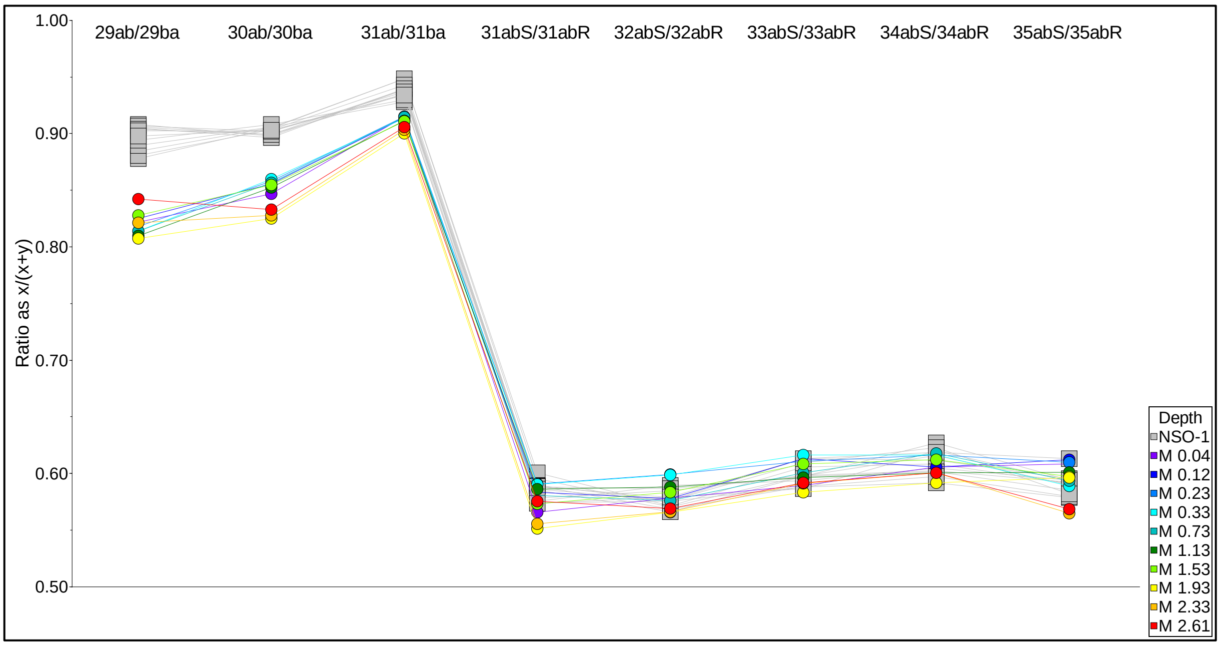


Figure 9: Maturity assessment from hopane isomerism.

Sterane isomerism has not reached equilibrium in any of the core samples, consistent with the maturity level suggested by hopane isomerism. On the standard plot at the top of *Figure 10*, there is little variation in 29ββ/(29ββ+29αα), but more so in 29ααS/(29ααS+29ααR), with the three deepest samples exhibiting the lowest values. Such characteristics could be partially explained by the dominance of C_{29} steranes with an immature distribution (dominated by 5α,14α,17α,20R) in the indigenous bitumen, but a lower abundance of 29ααR and higher abundance of 29ββ isomers in the more mature petrogenic component. It might then be expected that the 29ββ/(29ββ+29αα) ratio would be mostly controlled by the petrogenic component, resulting in the similar ratio values for all samples. However, depression of the 29ααS/(29ααS+29ααR) is seen in the samples with the greatest seep contribution, rather than the greatest proportion of indigenous bitumen.

To examine possible causes of this behaviour, the 20S/(20S+20R) ratio was calculated for C_{27}–C_{30} steranes, as shown in the lower plot of *Figure 10* [only the C_{29} ββ/(ββ+αα) ratio can be calculated from the available data because of co-elutions]. The values ranges are no greater than those observed for NSO-1 replicates, but by far the lowest values are obtained for the C_{29} steranes. This suggests that C_{29} steranes in the indigenous immature bitumen are in far greater relative abundance than in the seep oil and so dominate the distributions in all core samples. A more marine signature is suggested for the seep oil.

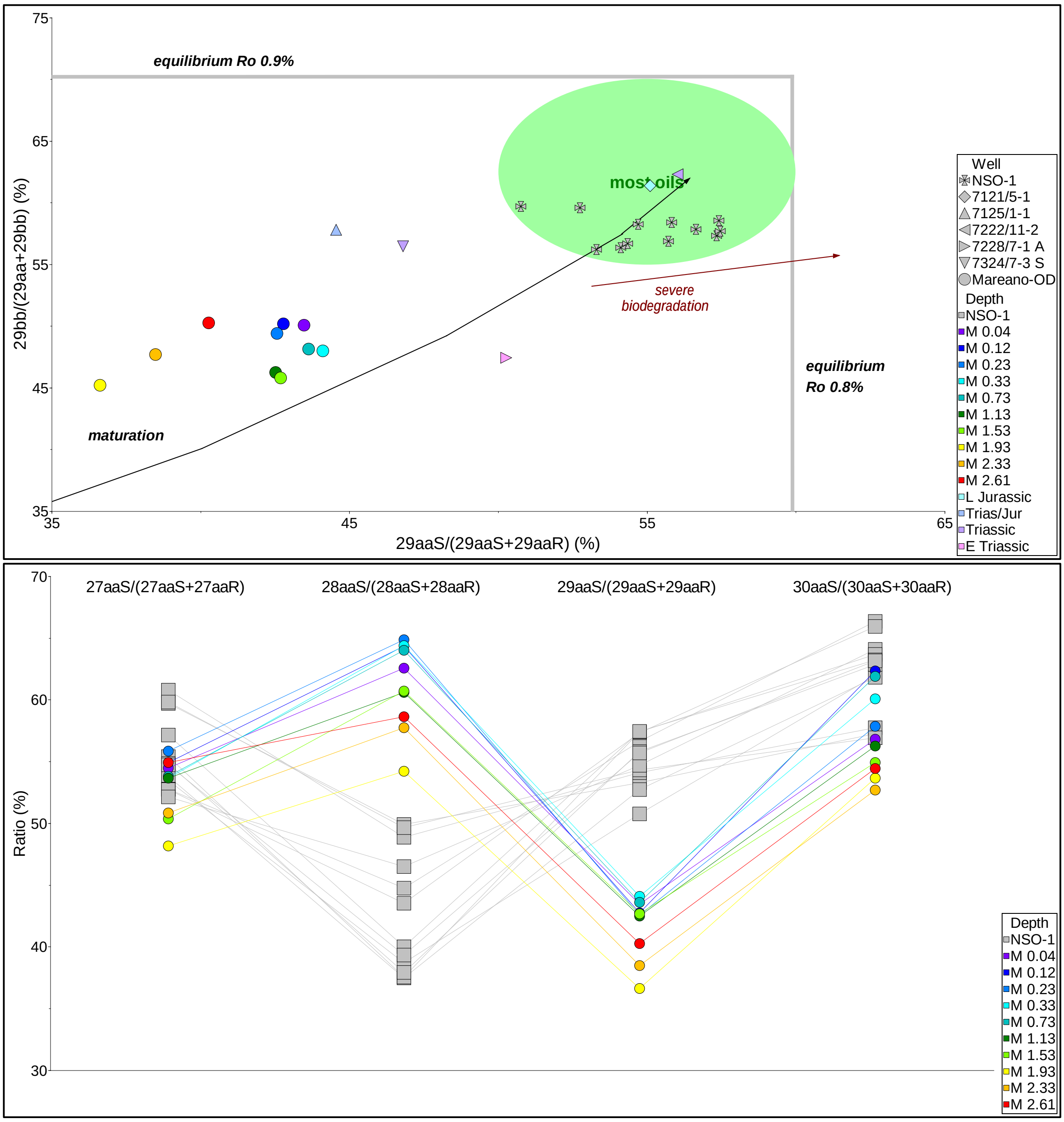


Figure 10: Maturity indications from sterane isomerism.

When looking at the distribution of C-14 and C-17 isomers of C_{31} hopanes (the thermodynamic stability of which increase in the order 31ββ<31βα<31αβ), it does appear that maturity increases with depth for the deepest three samples, consistent with greater petrogenic contributions.

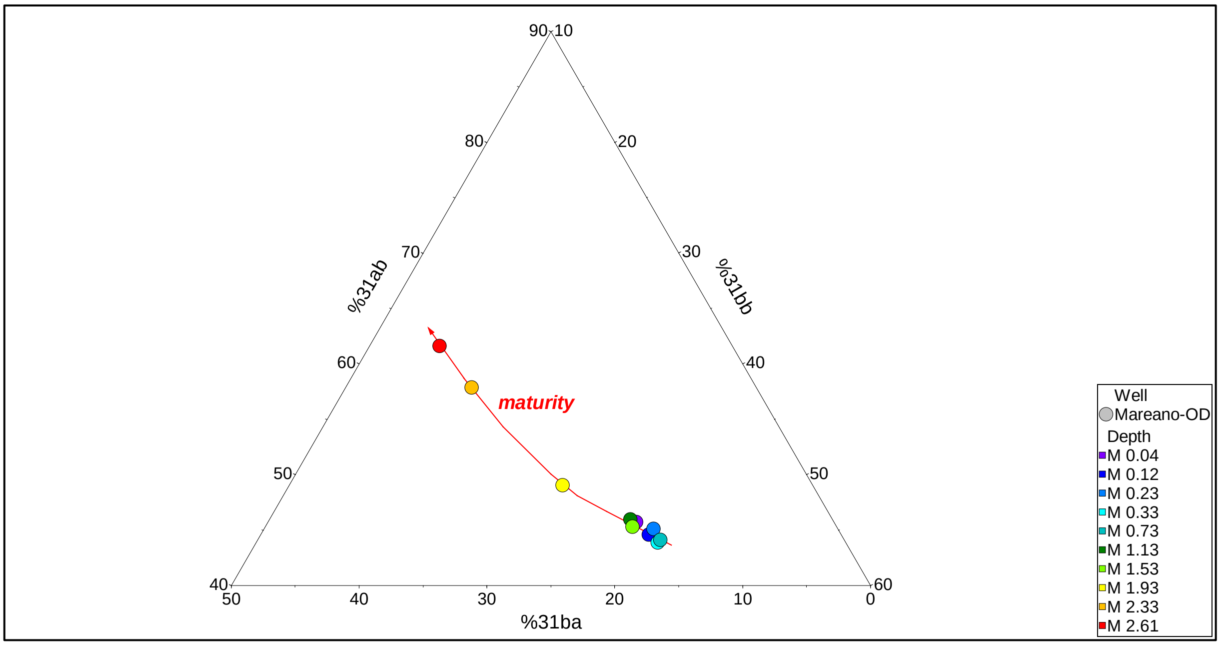


Figure 11: Maturity inferences from relative abundances of 31ββ, 31βα and 31αβ (S+R isomers).

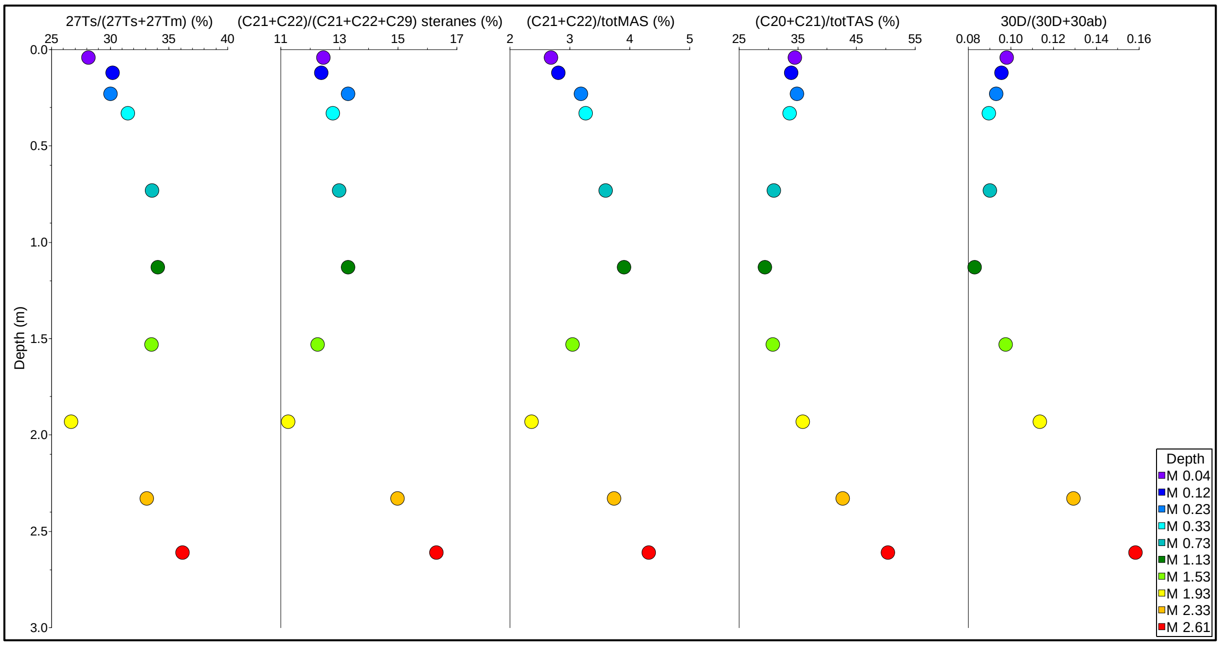


Figure 12: Depth trends in some parameters affected by maturity and biodegradation.

Maturity parameters derived from polycyclic aromatic hydrocarbons are un-useful for these samples, as they are almost certainly dominated by the methylated naphthalenes and phenanthrenes in the relatively humic indigenous immature bitumen. Distributions of these compounds vary widely until the first phase of expulsion has occurred and maturity trends become apparent. Some ratios of hopanoids and steroids are shown in *Figure 12*, values for which tend to increase with maturity in the oil window, but also with severe biodegradation.

The parameters can be divided into a pair of trends. The first three (from the left) pass through a broad maximum at ~1 m with increasing depth, reaching a minimum at ~1.9 m and then increasing significantly at greater depth. In contrast, the last two parameters exhibit a small decrease with depth down to ~1 m, followed by a gradual increase to highest values in the deepest sample. The reason(s) for these differences are not easy to determine. They are most likely controlled by the balance in contributions between seep oil and indigenous bitumen, with potential for variation in the degree of biodegradation of the former and of organofacies variation in the latter. It is apparent that the petrogenic component is characterised by a greater relative contribution from the more volatile components in each compound class (e.g. short-chain steroids and cheilanthanes).

2.4 Characterisation of petrogenic component

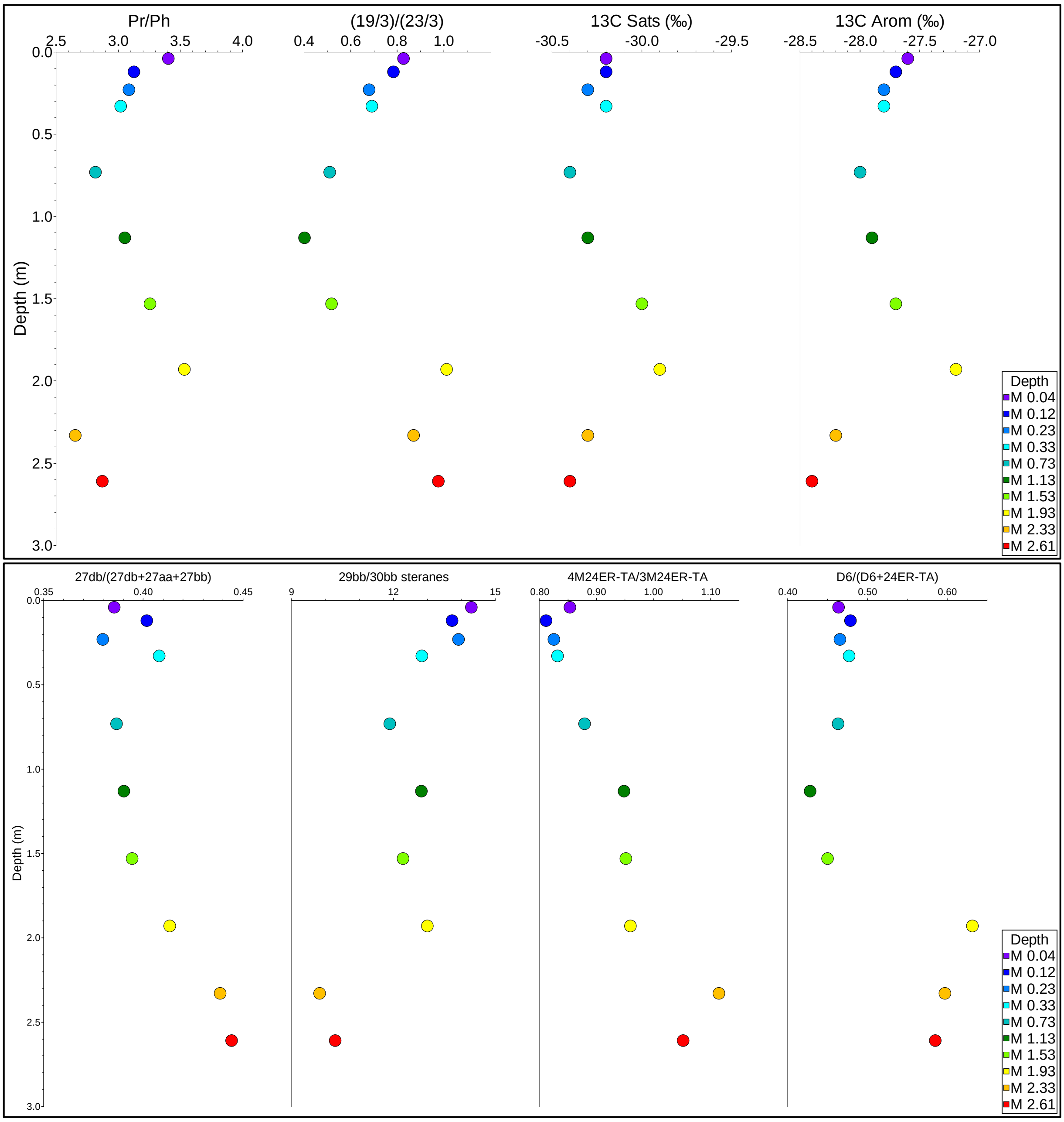


Figure 13: Depth trends in some parameters affected by organofacies.

The Pr/Ph ratio can be affected by biodegradation (Ph is more resistant than Pr where acyclic isoprenoids experience significant attack). Values are lowest in the deepest pair of samples (*Figure 13* top), and although this could reflect biodegradation, it is probably at least partially due to the more marine nature of the seep oil, as also suggested by lower 29ββ/30ββ sterane ratios. Whereas a lower humic contribution might also be expected to result in a lower (19/3)/(23/3) ratio, the relatively high values for the deepest pair of core samples is more likely a reflection of the enrichment in higher volatility components in the seep oil. The C isotopic compositions of the pair of deepest samples are relatively light, consistent with a more marine character than the indigenous bitumen. The heaviest signatures are associated with the sample from near the depth of the dropstone, which might reflect a greater contribution from ice-rafted organic material.

The pair of deepest samples contain the highest relative amounts of dinoflagellate-associated steroids (represented in the lower plot of *Figure 13* by 4-methyl triaromatics and triaromatic dinosteroids, last two panels respectively). Unexpectedly the sample from nearest the dropstone has the highest triaromatic dinosteroid relative abundance (D6). Although these compounds are particularly resistant towards biodegradation, there is no obvious sign of particularly severe biodegradation in this sample, as, for example, from its C_{27} diasterane content (first panel, *Figure 13* bottom).

The stable C isotopic compositions of hydrocarbon fractions from the core extracts are heavier than those suggested to characterise Triassic sources (Ohm et al. 2008), as represented by some examples in *Figure 14*. The samples cluster near Hekkingen sourced oil from Snøhvit, but shifted to slightly higher δ^{13}Caro, which may well result from the immature indigenous humic contribution, the two deepest samples plot closest to the Snøhvit sample.

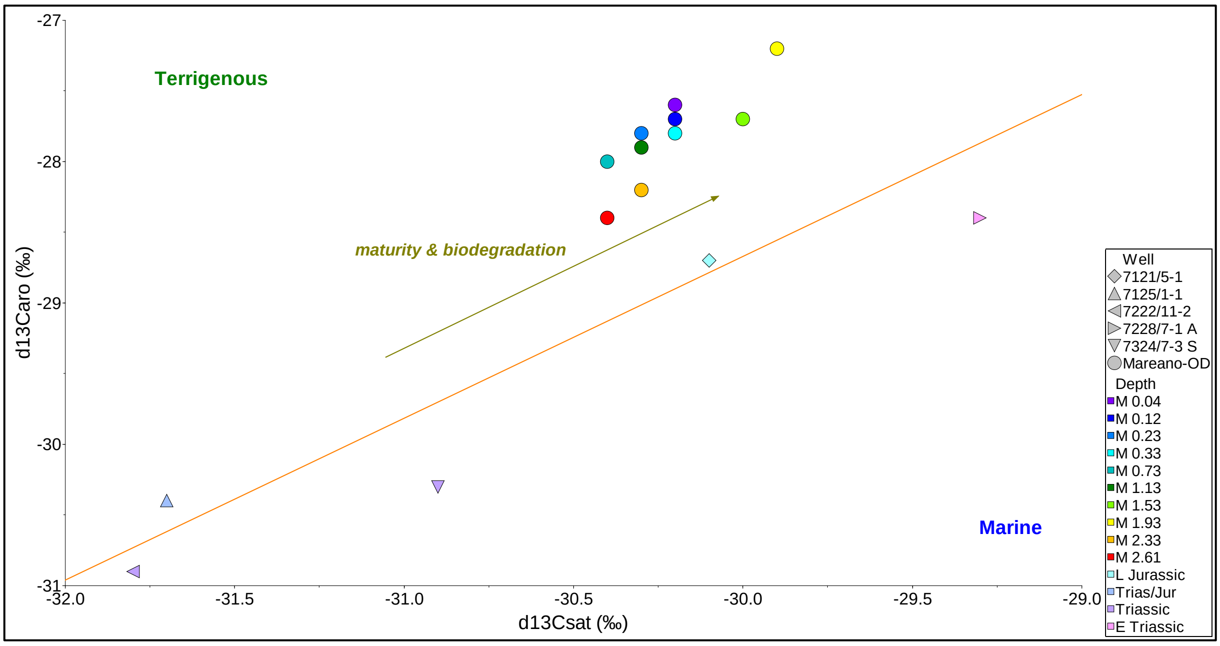


Figure 14: Stable C isotopic compositions of saturated and aromatic hydrocarbon fractions.

The extended tricyclic terpane ratio (ETR; Holba et al. 2001) is based on the abundance of C_{28} and C_{29} cheilanthanes (often referred to by the unspecific term tricyclic terpanes) relative to 27Ts:

$$ETR = (28/3R+28/3S+29/3R+29/3S) / (28/3R+28/3S+29/3R+29/3S+27Ts)$$

This ratio was originally proposed to distinguish Triassic from Jurassic marine-sourced oils. The former mostly having ETR ≥0.67, Early Jurassic oils mostly having ETR ≤0.67, and Middle to Late Jurassic oils ETR values ≤0.67 and mostly <0.55. It is now considered that high ETR values are probably related to marine upwelling (especially the Permian and younger episodes) rather than being specific to the Triassic (Holba et al. 2003). However, Early Triassic sourced oils from the Barents Sea appear to be characterised by high ETR values, exemplified by the Pandora oil in *Figure 15*.

In addition, the end Permian mass extinction and the subsequent appearance of new species colonising vacant ecological niches resulted in unusually abundant C_{33} *n*-alkylcyclohexane (33CyC6) relative to neighbouring homologues, a characteristic that has been observed in oils from earliest Triassic sources (McIldowie and Alexander 2005; Grice et al. 2005). The enhanced 33CyC6 appears to be derived from plankton with spinose acritarch associations (*Michrystridium* and *Veryhachium*). Enrichment of 33CyC6 is here represented by an alkylcyclohexane (ACH) carbon preference index:

CPI2(ACH) = 2(33CyC6)/[32CyC6+2(33CyC6)+34CyC6]

Values >0.5 are recorded for sediments around the Permo-Triassic boundary, as again noted for Pandora, but not the core extracts.

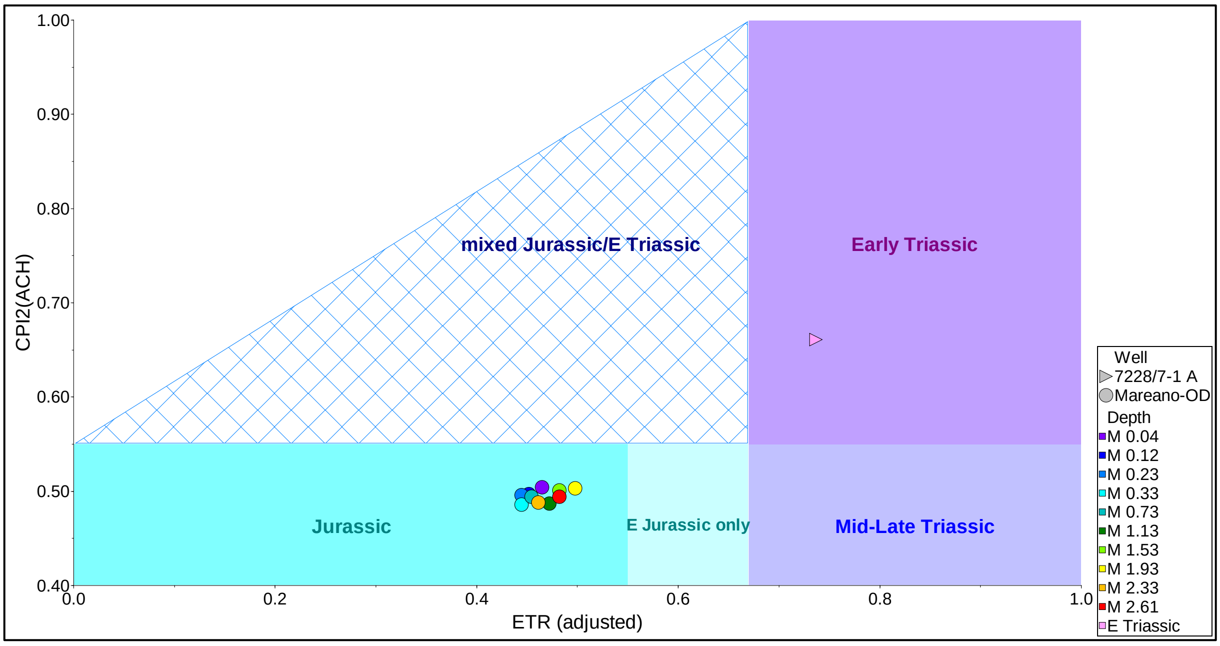


Figure 15: Indications of Mesozoic source age for seep oil.

The C_{28}/C_{29} sterane ratio for marine sourced-oils shows a systematic increase from the Proterozoic (apart from Omani Neoproterozoic-Cambrian oils; Grantham and Wakefield 1988). The reasons are not entirely clear; they may relate to the radiation of dinoflagellates and coccolithophores in the early Mesozoic, and of silicoflagellates and diatoms in the late Mesozoic/Tertiary, but the sterol content of the extant phytoplankton classes does not provide unequivocal support. The effects of planktonic bloom communities and/or herbivory may be important. Contributions from terrestrial OM tend to lower the ratio value, potentially suggesting too old a source age, as is likely the case for the core extracts in *Figure 16*. Age differentiation is too coarse to distinguish between Jurassic, Triassic or even late Paleozoic sources. The two deepest samples plot at slightly higher 28ββ/(28ββ+29ββ) values, consistent with the petrogenic component being less humic than the indigenous bitumen.

The ratio of 24-nor to 27-nor (i.e. C_{26}) cholestanes in marine-sourced oils increases after the Triassic, and particularly during the Cretaceous and Tertiary, apparently related to the radiation of diatoms (Holba et al. 1998). A norcholestane ratio (NCR) can be calculated based on the four regular norcholestane peaks for 24-nor and 27-nor components in m/z 358→217 transitions. However, identification and quantification of the 20S and 20R isomeric pairs of the 13β,17α-nordiacholestanes is often easier, yielding a comparable nordiacholestane ratio:

$$NDR = (24\text{-nord}\beta S + 24\text{-nord}\beta R)/(24\text{-nord}\beta S + 24\text{-nord}\beta R + 27\text{-nord}\beta S + 27\text{-nord}\beta R)$$

Oils from sources younger than Jurassic tend to exhibit NDR values >0.35 and post-Eocene >0.60 (the corresponding thresholds for NCR are a little lower at 0.25 and 0.55), but the ratio can sometimes be elevated in coaly source rocks. There is no indication of a post-Jurassic source for the seep oil.

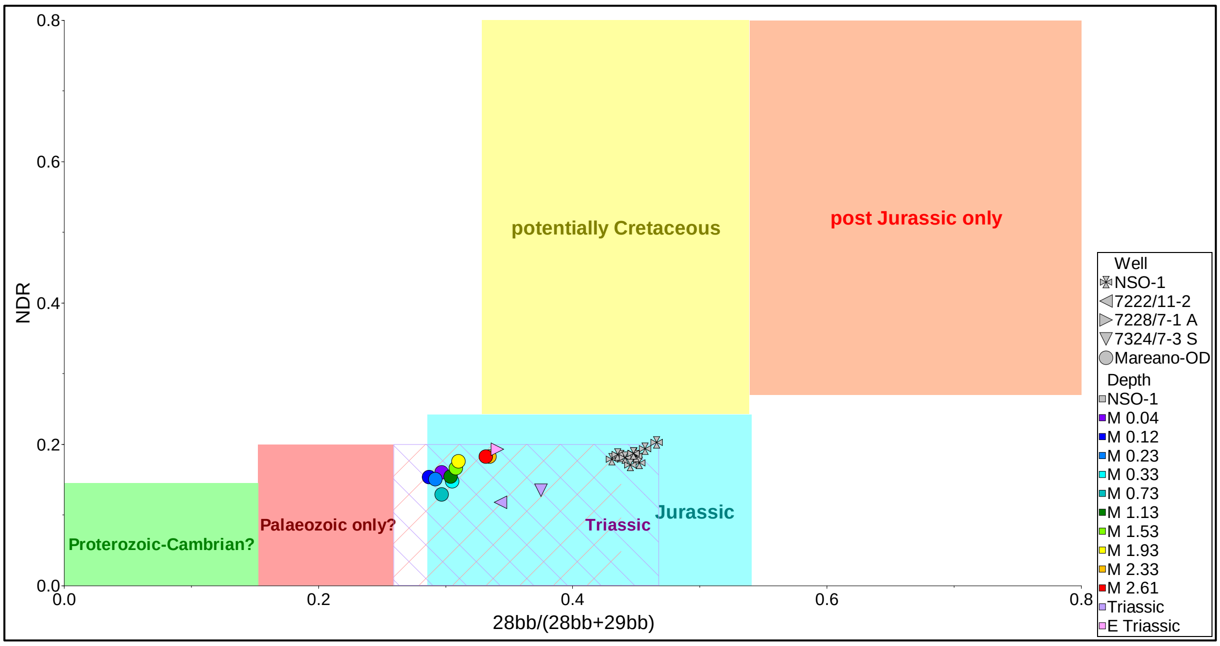


Figure 16: Source age indications for seep oil from sterane compositions.

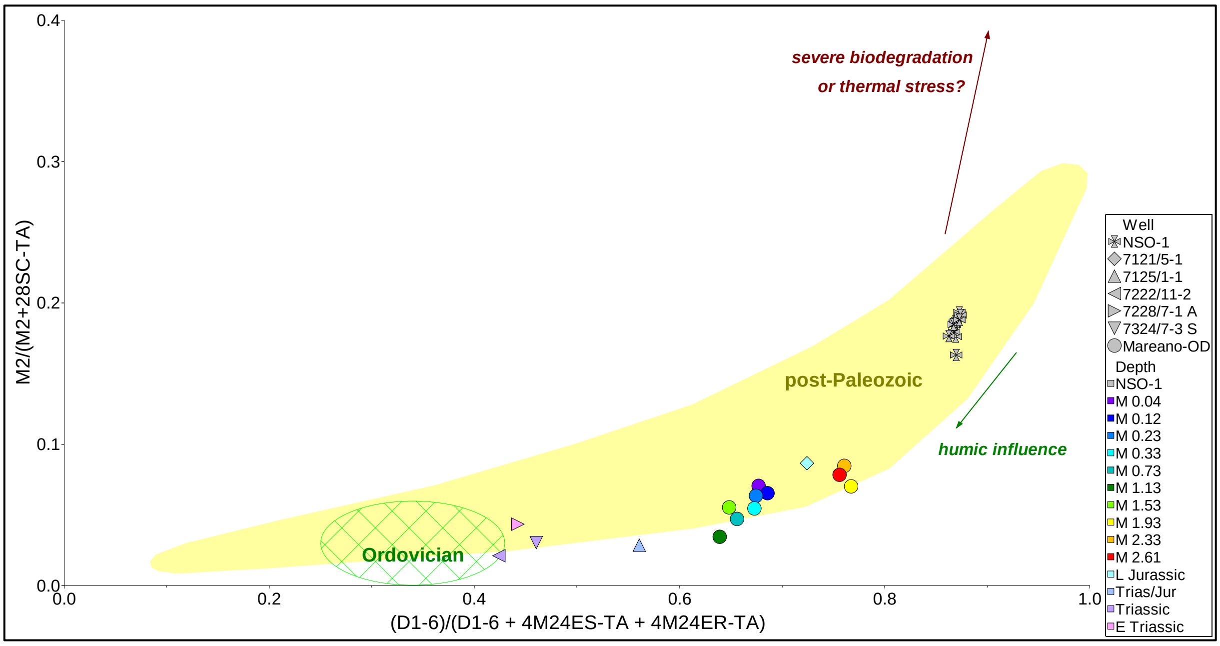


Figure 17: Source age indications from triaromatic dinosteroids (D1–D6) and their demethylated counterparts (M2).

The abundance of triaromatic dinosteroids (D1–D6) can be determined relative to other triaromatic steroidal hydrocarbons in m/z 245 mass chromatograms, providing a further age-related parameter based on dinoflagellate contributions. The compounds are usually abundant in marine sources of Mesozoic or younger age and their oils, but undetectable in most Palaeozoic samples. However, they can occasionally be present at relatively high levels in Devonian and younger Palaeozoic sources. Oils with a degree of contribution from terrestrial OM can have slightly lower values than fully marine oils of comparable age. On its own, this age parameter is not helpful, unless sources older than Carboniferous are unlikely, in which event parameter values >0.6 probably indicate post-Permian sources.

In *Figure 17*, the triaromatic dinosteroid ratio is plotted against a ratio based on related triaromatic 23,24-dimethylsteroids, which are believed to derive from dinoflagellates, haptophytes and diatoms (Barbanti et al. 2011). A parameter based on the abundance of one of these compounds (M2) relative to one of the C_{28} regular triaromatic steroids (SC28TA) in m/z 231 mass chromatograms can be used as an age indicator. Higher values of both parameters are obtained from the deepest three samples, resulting in their plotting close to the Hekkingen sourced oil from Snøhvit.

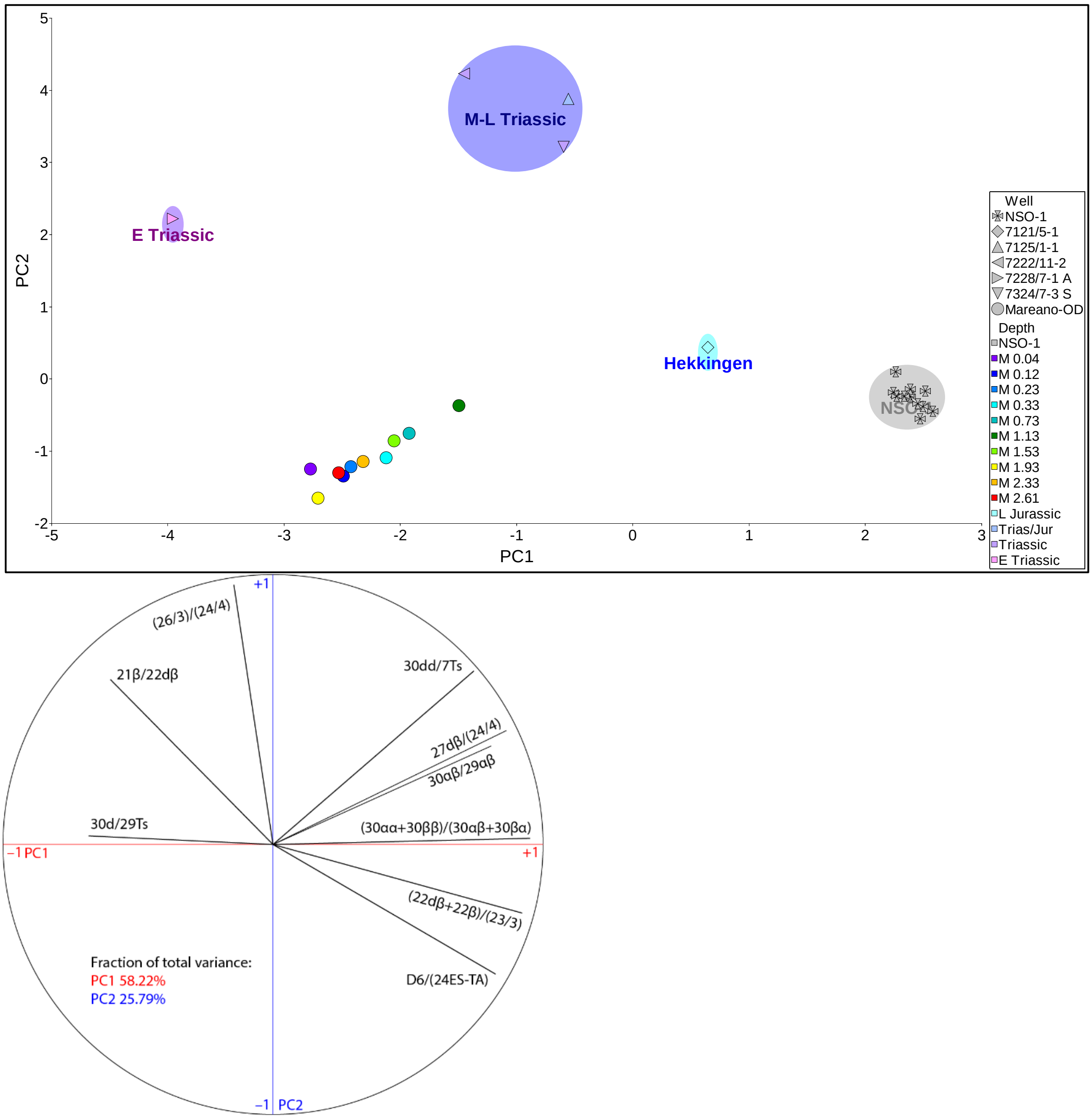


Figure 18: First two PCs from PCA of selected biomarker parameters (top) and parameter loadings (bottom). All ratios in form of x/(x+y).

In an attempt to correlate the core extracts with the Triassic–Jurassic sourced oils included in this study, a PCA was undertaken. Pairs of compounds for each ratio were selected that exhibit similar maturity and biodegradation behaviour and similar volatilities, in order to maximise source correlation influence. C_{29} steranes were avoided because of their apparent control by the indigenous bitumen, and other parameters were selected to be more sensitive to the presence of mature oil. The first pair of PCs are plotted in the upper graph of *Figure 18* and show a trend for the core extracts with slightly greater variation in PC1 and PC2 than the NSO-1 replicates, probably reflecting the mixture of indigenous bitumen and seep oil. No conclusive correlation was possible with oils of known /assumed origins in the area. However, the PC2 range suggests a link with a Late Jurassic source.

Although there are humic contributions to the immature indigenous bitumen, there is little indication of a recognisable coal signature, and the petrogenic component is typical of marine planktonic origins. Even allowing for the level of maturity of the indigenous bitumen, there are no clear signs of gymnosperm diterpenoids or angiosperm triterpenoids that characterise coals. C31 hopanoids are slightly enriched in the shallower core extracts, which contain the lowest petrogenic contributions, but not to any great extent. In addition, C_{29} steranes are not particularly elevated, as demonstrated by 5α,14α,17α,20R isomer distributions in *Figure 19*, which dominate the steranes of the indigenous bitumen.

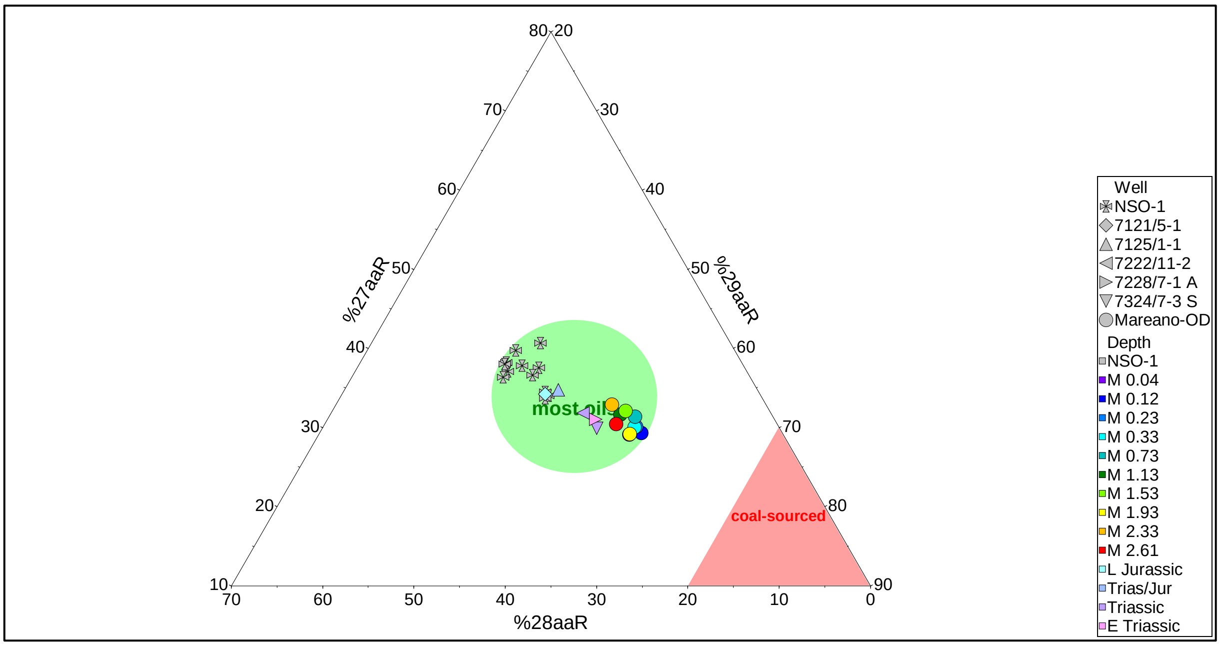


Figure 19: Sterane C-number distributions derived from 5α,14α,17α,20R isomers.

3 Conclusions

- There is a significant seep oil contribution in the core
- It appears to represent an active seep, given the abundance of readily biodegradable *n*-alkanes
- Biodegradation of the seep oil is indicated by a significant UCM
- The presence of UCM and abundant undegraded *n*-alkanes suggests that the seep oil has experienced paleobiodegradation and recharging with fresh oil prior to migration from an accumulation to the seep site, or that paleobiodegraded residual oil in the near surface conduit has been entrained within a fresh seepage of previously undegraded oil

- The *n*-alkane CPI and relative abundance of immature hopanoids both decrease downward, suggesting the relative contribution of migrated oil increases downwards and is particularly abundant in the two deepest core samples
- The indigenous, immature bitumen appears quite humic in character – the seep oil is more marine
- The seep oil does not exhibit any sign of an Early Triassic source from ACH distribution, with triaromatic dinosteroids and C isotopic composition suggesting correlation with a Hekkingen source
- PCA does not provide a definitive correlation but suggests a Hekkingen origin is more likely than a Triassic

4 References

Barbanti S.M., Moldowan L.M., Watt D.S., Kolaczkowska E. (2011) New triaromatic steroids distinguish Paleozoic from Mesozoic oil. Organic Geochemistry 42, 409–424.

Grantham P.J., Wakefield L.L. (1988) Variations in the sterane carbon number distributions of marine source rock derived crude oils through geological time. Organic Geochemistry 12, 61–73.

Grice K., Twitchett R.J., Alexander R., Foster C.B., Looy C. (2005) A potential biomarker for the Permian-Triassic ecological crisis. Earth & Planetary Science Letters 236, 315–321.

Head I.M., Jones D.M., Larter S.J. (2003) Biological activity in the deep subsurface and the origin of heavy oil. Nature 426, 344–352.

Holba A.G., Tegelaar E.W., Huizinga B.J., Moldowan J.M., Singletary M.S., McCaffrey M.A., Dzou L.I.P. (1998) 24-Norcholestanes as age-sensitive molecular fossils. Geology 26, 783–786.

Holba A.G., Ellis L., Dzou I.L., Hallam A., Masterson W.D., Francu J., Fincannon A.L. (2001) Extended tricyclic terpanes as age discriminators between Triassic, Early Jurassic, and Middle-Late Jurassic oils. In Abstracts of 20th International Meeting on Organic Geochemistry, September 10–14, 2001, Nancy-France, Volume 1, 464.

Holba A.G., Zumberge J., Huizinga B.J., Rosenstein H., Dzou L.I. (2003) Extended tricyclic terpanes as indicators of marine upwelling. Abstract OXX1, 21st International Meeting on Organic Geochemistry, September 8–12, 2003, Krakow, Book of Abstracts Part I, 131.

McIldowie M., Alexander R. (2005) Identification of a novel C_{33} *n*-alkylcyclohexane biomarker in Permian-Triassic sediments. Organic Geochemistry 36, 1454–1458.

Ohm S.E., Karlsen D.A., Austin T.J.F. (2008) Geochemically driven exploration models in uplifted areas: examples from the Norwegian Barents Sea. AAPG Bulletin 92, 1191–1223.

APPENDIX – Geochemical Data

Table 1. Samples analysed

Well	Type	Depth	APT ID
Mareno-OD	Shallow Core	0.04 m	252294
Mareno-OD	Shallow Core	0.12 m	252295
Mareno-OD	Shallow Core	0.23 m	252296
Mareno-OD	Shallow Core	0.33 m	252297
Mareno-OD	Shallow Core	0.73 m	252298
Mareno-OD	Shallow Core	1.13 m	252299
Mareno-OD	Shallow Core	1.53 m	252300
Mareno-OD	Shallow Core	1.93 m	252301
Mareno-OD	Shallow Core	2.33 m	252302
Mareno-OD	Shallow Core	2.61 m	252303

Table 2. Number of analyses performed

Analysis	Other	Total
Extraction	10	10
Asphaltenes	10	10
MPLC	10	10
GC of EOM fraction	10	10
GC-MS of Saturated hydrocarbons	10	10
GC-MS of Aromatic hydrocarbons	10	10
GC-MS/MS	10	10
Stable isotopes of fractions	10	10

Table 3. GC of EOM fractions (parameters)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	CPI 1	Pr/n-C17	Ph/n-C18	(Pr/n-C17)/ (Ph/n-C18)	Pr/Ph	n-C17/ (n-C17+n-C27)
Mareno-OD	Shallow Core		0.04	252294	1.67	0.77	0.27	2.83	3.40	0.60
Mareno-OD	Shallow Core	0.10	0.12	252295	1.65	0.79	0.32	2.48	3.13	0.61
Mareno-OD	Shallow Core	0.20	0.23	252296	1.47	0.82	0.33	2.46	3.08	0.61
Mareno-OD	Shallow Core	0.30	0.33	252297	1.61	0.81	0.34	2.38	3.02	0.60
Mareno-OD	Shallow Core	0.70	0.73	252298	1.63	0.82	0.36	2.30	2.82	0.59
Mareno-OD	Shallow Core	1.10	1.13	252299	1.45	0.85	0.32	2.63	3.06	0.62
Mareno-OD	Shallow Core	1.50	1.53	252300	1.45	0.80	0.30	2.62	3.26	0.66
Mareno-OD	Shallow Core	1.90	1.93	252301	1.34	0.76	0.25	3.09	3.53	0.66
Mareno-OD	Shallow Core	2.30	2.33	252302	1.22	0.65	0.28	2.37	2.66	0.70
Mareno-OD	Shallow Core	2.58	2.61	252303	1.21	0.65	0.25	2.60	2.87	0.70

Table 4. GCMS SIR of saturated compounds (parameters)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	%23:3	%28ab	%30D	%27Ts	%22S	%29Ts	%20S	%bb	%27dbS	%C27	%C29	28/29	24:4/23:3
Mareno-OD	Shallow Core		0.04	252294	6.40	4.43	9.79	28.14	57.81	13.54	43.47	50.08	43.65	29.50	49.56	0.48	0.92
Mareno-OD	Shallow Core	0.10	0.12	252295	6.71	4.43	9.56	30.21	57.80	13.99	42.78	50.20	44.76	30.57	49.52	0.46	0.87
Mareno-OD	Shallow Core	0.20	0.23	252296	7.46	4.74	9.31	30.01	59.90	14.43	42.57	49.42	42.86	30.45	49.26	0.48	0.78
Mareno-OD	Shallow Core	0.30	0.33	252297	7.54	4.54	8.96	31.48	59.88	14.49	44.10	48.01	44.38	30.24	48.48	0.49	0.73
Mareno-OD	Shallow Core	0.70	0.73	252298	7.49	4.84	9.01	33.56	57.60	14.85	43.63	48.16	42.02	31.18	48.39	0.47	0.70
Mareno-OD	Shallow Core	1.10	1.13	252299	8.32	4.75	8.29	34.03	58.82	14.88	42.52	46.25	41.69	31.01	48.02	0.49	0.58
Mareno-OD	Shallow Core	1.50	1.53	252300	8.48	5.33	9.74	33.51	58.36	14.43	42.68	45.83	42.77	31.15	47.63	0.48	0.66
Mareno-OD	Shallow Core	1.90	1.93	252301	6.07	9.01	11.36	26.67	56.59	12.65	36.62	45.21	44.65	30.32	48.06	0.47	1.11
Mareno-OD	Shallow Core	2.30	2.33	252302	7.86	7.97	12.94	33.09	56.62	13.61	38.47	47.70	47.57	32.39	45.00	0.52	1.00
Mareno-OD	Shallow Core	2.58	2.61	252303	9.00	7.63	15.82	36.17	56.88	15.52	40.26	50.28	50.24	32.33	45.23	0.52	1.00

%23:3 23:3/(23:3+30αβ)*100
%28αβ 28αβ/(28αβ+30αβ)*100
%30D 30D/(30D+30αβ)*100
%27Ts 27Ts/(27Ts+27Tm)*100
%22S 32αβS/(32αβS+32αβR)*100
%29Ts 29Ts/(29Ts+30αβ)*100
%20S 29ααS/(29ααS+29ααR)*100
%ββ 29ββ(R+S)/(29ββ(R+S)+29αα(R+S))*100
%27dβS 27dβS/(27dβS+27αα(R+S))*100
%C27 27ββ(R+S)/(27ββ(R+S)+28ββ(R+S)+29ββ(R+S))*100
%C29 29ββ(R+S)/(27ββ(R+S)+28ββ(R+S)+29ββ(R+S))*100
28/29 (28αα(R+S)+28ββ(R+S))/(29αα(R+S)+29ββ(R+S))
24:4/23:3 24:4/23:3

Table 5. GCMS SIR of aromatic compounds (parameters)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	AROM2	Crack1	Crack2	MSAro1	MSAro2	MSAro3	MSAro4	MSAro5	MSAro6	MSAro7	MSAro8	MSAro9
Mareno-OD	Shallow Core		0.04	252294	0.67	0.56	0.34	0.08	3.85	0.49	1.13	4.67	1.28	0.05	5.45	0.72
Mareno-OD	Shallow Core	0.10	0.12	252295	0.67	0.56	0.34	0.07	4.12	0.49	1.05	4.50	1.36	0.05	4.69	0.69
Mareno-OD	Shallow Core	0.20	0.23	252296	0.69	0.58	0.35	0.08	3.80	0.48	1.04	4.20	1.38	0.05	4.59	0.71
Mareno-OD	Shallow Core	0.30	0.33	252297	0.69	0.57	0.34	0.09	3.97	0.48	1.01	4.21	1.38	0.05	4.17	0.70
Mareno-OD	Shallow Core	0.70	0.73	252298	0.71	0.54	0.31	0.10	4.21	0.49	1.02	4.31	1.42	0.05	4.29	0.72
Mareno-OD	Shallow Core	1.10	1.13	252299	0.70	0.51	0.29	0.10	4.90	0.50	1.01	4.46	1.71	0.05	4.37	0.72
Mareno-OD	Shallow Core	1.50	1.53	252300	0.69	0.52	0.31	0.08	5.79	0.54	0.96	4.39	2.14	0.05	5.40	0.71
Mareno-OD	Shallow Core	1.90	1.93	252301	0.58	0.61	0.36	0.06	5.17	0.52	0.89	4.02	2.03	0.05	4.46	0.60
Mareno-OD	Shallow Core	2.30	2.33	252302	0.61	0.68	0.43	0.08	3.91	0.46	1.16	4.36	2.21	0.06	4.29	0.57
Mareno-OD	Shallow Core	2.58	2.61	252303	0.61	0.74	0.50	0.09	3.77	0.46	1.18	4.01	2.12	0.08	6.43	0.56

AROM2: $(C_{20}TA+C_{21}TA+SC_{26}TA+RC_{26}TA+SC_{27}TA+SC_{28}TA+RC_{27}TA+RC_{28}TA/(C_{20}TA+C_{21}TA+SC_{26}TA+RC_{26}TA+SC_{27}TA+SC_{28}TA+RC_{27}TA+RC_{28}TA+C_{21}MA+C_{22}MA+$
$\beta SC_{27}MA+\beta RC_{27}MA+\beta RC_{27}DMA+\alpha SC_{27}MA+\beta SC_{28}MA+\beta SC_{28}DMA+\alpha RC_{27}DMA+\alpha SC_{27}DMA+\alpha RC_{27}MA+\alpha SC_{28}MA+\alpha SC_{29}MA+\alpha RC_{29}MA)$

Crack1: $(C_{20}TA)/(C_{20}TA+RC_{28}TA)$

Crack2: $(C_{20}TA+C_{21}TA)/(C_{20}TA+C_{21}TA+SC_{26}TA+RC_{26}TA+SC_{27}TA+SC_{28}TA+RC_{27}TA+RC_{28}TA)$

MSAro1: $(C_{21}MA+C_{22}MA)/(C_{21}MA+C_{22}MA+\beta SC_{27}MA+\beta RC_{27}MA+\beta RC_{27}DMA+\alpha SC_{27}MA+\beta SC_{28}MA+\beta SC_{28}DMA+\alpha RC_{27}DMA+\alpha SC_{27}DMA+\alpha RC_{27}MA+\alpha SC_{28}MA+\alpha SC_{29}MA+\alpha RC_{29}MA)$

MSAro2: 4-MDBT/1-MDBT

MSAro3: (2-MP+3-MP)/(1-MP+2-MP+3-MP+9-MP)

MSAro4: 2-MN/1-MN

MSAro5: (2,6-DMN+2,7-DMN)/1,5-DMN

MSAro6: 4-MDBT/DBT

MSAro7: DBT/P

MSAro8: 3-MP/Retene

MSAro9: $RC_{28}TA/(RC_{28}TA+\alpha RC_{28}MA+\beta RC_{29}MA+\beta RC_{29}DMA)$

Table 6. GCMS/MS of saturated compounds (parameters)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	NDR	NCR	21nor/27nor
Mareno-OD	Shallow Core		0.04	252294	0.160	0.206	0.174
Mareno-OD	Shallow Core	0.10	0.12	252295	0.154	0.214	0.188
Mareno-OD	Shallow Core	0.20	0.23	252296	0.151	0.204	0.164
Mareno-OD	Shallow Core	0.30	0.33	252297	0.148	0.192	0.163
Mareno-OD	Shallow Core	0.70	0.73	252298	0.129	0.191	0.166
Mareno-OD	Shallow Core	1.10	1.13	252299	0.155	0.206	0.151
Mareno-OD	Shallow Core	1.50	1.53	252300	0.166	0.202	0.161
Mareno-OD	Shallow Core	1.90	1.93	252301	0.176	0.229	0.216
Mareno-OD	Shallow Core	2.30	2.33	252302	0.183	0.227	0.250
Mareno-OD	Shallow Core	2.58	2.61	252303	0.183	0.234	0.238

NDR (24nor27dβ(S+R)) / (24nor27dβ(S+R) + 27nor27dβ(S+R))
NCR 24nor27(αα+ββ) (S+R) / (24nor27(αα+ββ) (S+R) + 27nor27(αα+ββ) (S+R))
21nor/27nor 21nor27 / (27nor27(αα+ββ) (S+R))

Table 7. Extraction, Asphaltene precipitation and MPLC data

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	Rock weight (g)	EOM (mg)	EOM (mg/kg Rock)	SAT (wt% of EOM/Oil)	ARO (wt% of EOM/Oil)	POL (wt% of EOM/Oil)	ASP (wt% of EOM/Oil)	HC (wt% of EOM/Oil)
Mareno-OD	Shallow Core		0.04	252294	50.867	21.0	413	22.9	15.3	42.7	19.2	38.1
Mareno-OD	Shallow Core	0.10	0.12	252295	56.772	31.7	558	27.3	14.9	40.1	17.6	42.3
Mareno-OD	Shallow Core	0.20	0.23	252296	60.781	24.7	406	21.7	11.7	46.4	20.2	33.4
Mareno-OD	Shallow Core	0.30	0.33	252297	62.162	28.5	458	23.9	10.7	32.0	33.4	34.6
Mareno-OD	Shallow Core	0.70	0.73	252298	60.300	20.8	345	16.4	10.7	52.9	20.0	27.1
Mareno-OD	Shallow Core	1.10	1.13	252299	61.103	16.0	262	15.0	9.9	57.4	17.7	24.9
Mareno-OD	Shallow Core	1.50	1.53	252300	61.329	36.4	594	22.3	13.0	32.4	32.3	35.3
Mareno-OD	Shallow Core	1.90	1.93	252301	60.862	32.2	529	27.7	13.5	31.7	27.1	41.2
Mareno-OD	Shallow Core	2.30	2.33	252302	61.318	14.1	230	23.7	15.9	30.6	29.8	39.6
Mareno-OD	Shallow Core	2.58	2.61	252303	61.165	10.3	168	25.0	17.4	31.4	26.2	42.4

Table 8. GC of EOM fractions (peak area)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C10	n-C11	n-C12	i-C13	i-C14	n-C13	i-C15	n-C14	i-C16	n-C15	n-C16	i-C18	n-C17	Pr	n-C18	Ph
Mareno-OD	Shallow Core		0.04	252294	2.32e2	2.83e2	4.15e2	9.70e1	1.20e2	4.50e2	2.24e2	5.91e2	2.55e2	6.49e2	6.94e2	2.21e2	7.63e2	5.90e2	6.33e2	1.73e2
Mareno-OD	Shallow Core	0.10	0.12	252295	2.34e2	2.94e2	4.24e2	1.09e2	1.23e2	4.73e2	2.42e2	5.66e2	2.76e2	6.94e2	6.80e2	1.82e2	8.26e2	6.54e2	6.56e2	2.09e2
Mareno-OD	Shallow Core	0.20	0.23	252296	1.98e2	2.47e2	3.70e2	9.80e1	1.11e2	4.07e2	2.11e2	4.98e2	2.51e2	6.24e2	6.04e2	1.99e2	7.74e2	6.32e2	6.17e2	2.05e2
Mareno-OD	Shallow Core	0.30	0.33	252297	1.44e2	1.84e2	3.15e2	8.10e1	9.40e1	3.22e2	1.70e2	4.10e2	2.09e2	5.24e2	5.17e2	1.74e2	6.80e2	5.47e2	5.35e2	1.81e2
Mareno-OD	Shallow Core	0.70	0.73	252298	2.11e2	1.88e2	2.66e2	7.10e1	8.30e1	2.92e2	1.60e2	3.74e2	1.89e2	4.82e2	4.93e2	1.72e2	6.17e2	5.04e2	5.03e2	1.79e2
Mareno-OD	Shallow Core	1.10	1.13	252299	1.54e2	1.67e2	2.65e2	7.40e1	9.00e1	3.09e2	1.42e2	3.95e2	2.03e2	5.13e2	5.17e2	2.08e2	6.36e2	5.42e2	5.47e2	1.77e2
Mareno-OD	Shallow Core	1.50	1.53	252300	1.48e2	2.02e2	3.68e2	9.70e1	1.17e2	4.30e2	1.96e2	5.90e2	2.95e2	7.89e2	8.70e2	2.91e2	1.08e3	8.62e2	8.69e2	2.65e2
Mareno-OD	Shallow Core	1.90	1.93	252301	1.70e2	2.66e2	4.83e2	1.03e2	1.31e2	6.16e2	2.25e2	8.47e2	3.69e2	1.11e3	1.18e3	3.49e2	1.35e3	1.03e3	1.18e3	2.90e2
Mareno-OD	Shallow Core	2.30	2.33	252302	2.61e2	2.62e2	4.09e2	1.13e2	1.64e2	6.37e2	2.14e2	8.50e2	3.89e2	1.03e3	1.02e3	3.30e2	1.13e3	7.37e2	1.01e3	2.77e2
Mareno-OD	Shallow Core	2.58	2.61	252303	2.83e2	3.06e2	4.61e2	1.27e2	1.58e2	6.39e2	2.19e2	7.98e2	3.34e2	9.28e2	8.98e2	2.83e2	9.72e2	6.27e2	8.79e2	2.18e2

Table 8. continued, GC of EOM fractions (peak area)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C19	n-C20	n-C21	n-C22	n-C23	n-C24	n-C25	n-C26	n-C27	n-C28	n-C29	n-C30	n-C31	n-C32	n-C33	n-C34
Mareno-OD	Shallow Core		0.04	252294	6.41e2	6.64e2	5.99e2	5.53e2	5.18e2	4.27e2	4.99e2	3.88e2	5.14e2	3.13e2	4.42e2	2.47e2	5.99e2	1.67e2	2.94e2	0.00e0
Mareno-OD	Shallow Core	0.10	0.12	252295	6.89e2	7.25e2	7.29e2	6.23e2	6.29e2	4.72e2	5.27e2	4.23e2	5.32e2	3.50e2	4.88e2	2.51e2	6.41e2	1.67e2	2.30e2	0.00e0
Mareno-OD	Shallow Core	0.20	0.23	252296	6.75e2	6.75e2	7.02e2	5.97e2	5.72e2	4.45e2	5.10e2	4.53e2	4.95e2	3.55e2	4.30e2	2.88e2	6.09e2	1.77e2	2.56e2	0.00e0
Mareno-OD	Shallow Core	0.30	0.33	252297	5.67e2	6.08e2	6.34e2	4.88e2	4.84e2	3.94e2	4.73e2	3.50e2	4.48e2	3.48e2	3.99e2	2.05e2	5.85e2	1.78e2	1.88e2	0.00e0
Mareno-OD	Shallow Core	0.70	0.73	252298	5.45e2	5.75e2	5.56e2	4.60e2	4.71e2	3.69e2	4.39e2	4.07e2	4.32e2	2.85e2	4.45e2	2.42e2	6.22e2	1.56e2	2.26e2	0.00e0
Mareno-OD	Shallow Core	1.10	1.13	252299	5.87e2	6.02e2	5.59e2	5.04e2	4.72e2	3.78e2	4.07e2	3.31e2	3.88e2	2.54e2	3.45e2	2.36e2	4.29e2	1.59e2	2.25e2	0.00e0
Mareno-OD	Shallow Core	1.50	1.53	252300	8.95e2	9.33e2	9.45e2	7.45e2	7.09e2	5.94e2	6.76e2	4.60e2	5.64e2	4.06e2	4.97e2	2.96e2	5.15e2	2.21e2	2.72e2	0.00e0
Mareno-OD	Shallow Core	1.90	1.93	252301	1.23e3	1.20e3	1.25e3	9.70e2	9.70e2	7.82e2	8.13e2	6.01e2	6.89e2	5.43e2	6.03e2	3.77e2	5.60e2	2.30e2	2.64e2	0.00e0
Mareno-OD	Shallow Core	2.30	2.33	252302	9.94e2	9.81e2	1.02e3	8.59e2	8.20e2	6.50e2	6.48e2	4.66e2	4.76e2	3.81e2	3.73e2	2.55e2	3.02e2	1.67e2	2.33e2	7.90e1
Mareno-OD	Shallow Core	2.58	2.61	252303	8.42e2	8.35e2	7.89e2	7.28e2	7.01e2	5.65e2	5.45e2	4.06e2	4.24e2	3.16e2	2.97e2	2.16e2	2.49e2	1.36e2	1.77e2	9.30e1

Table 8. continued, GC of EOM fractions (peak area)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C35	n-C36	n-C37	n-C38	n-C39	n-C40	n-C41	n-C42	UCM_C12-C22	UCM_C23-C42
Mareno-OD	Shallow Core		0.04	252294	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	2.70e4	7.29e4
Mareno-OD	Shallow Core	0.10	0.12	252295	1.11e2	3.60e1	4.90e1	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	3.12e4	7.89e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.41e2	4.50e1	7.20e1	1.44e2	0.00e0	0.00e0	0.00e0	0.00e0	2.93e4	7.71e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.00e2	3.90e1	5.00e1	2.76e2	0.00e0	0.00e0	0.00e0	0.00e0	2.69e4	7.23e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.08e2	4.40e1	6.50e1	1.23e2	0.00e0	0.00e0	0.00e0	0.00e0	2.44e4	6.97e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.07e2	3.80e1	5.60e1	1.35e2	0.00e0	0.00e0	0.00e0	0.00e0	2.41e4	6.66e4
Mareno-OD	Shallow Core	1.50	1.53	252300	1.99e2	7.30e1	6.20e1	8.40e1	0.00e0	0.00e0	0.00e0	0.00e0	3.70e4	9.00e4
Mareno-OD	Shallow Core	1.90	1.93	252301	1.42e2	7.90e1	6.30e1	7.80e1	0.00e0	0.00e0	0.00e0	0.00e0	3.92e4	8.72e4
Mareno-OD	Shallow Core	2.30	2.33	252302	8.90e1	5.90e1	5.30e1	3.70e1	2.30e1	0.00e0	0.00e0	0.00e0	3.33e4	6.77e4
Mareno-OD	Shallow Core	2.58	2.61	252303	6.70e1	4.70e1	4.40e1	3.20e1	2.20e1	0.00e0	0.00e0	0.00e0	2.78e4	5.38e4

Table 9. GC of EOM fractions (amounts in ng/g)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C10	n-C11	n-C12	i-C13	i-C14	n-C13	i-C15	n-C14	i-C16	n-C15	n-C16	i-C18	n-C17	Pr	n-C18	Ph
Mareno-OD	Shallow Core		0.04	252294	5.65e5	6.91e5	1.01e6	2.35e5	2.91e5	1.10e6	5.47e5	1.44e6	6.23e5	1.58e6	1.69e6	5.38e5	1.86e6	1.44e6	1.54e6	4.22e5
Mareno-OD	Shallow Core	0.10	0.12	252295	3.59e5	4.52e5	6.51e5	1.67e5	1.89e5	7.27e5	3.71e5	8.70e5	4.24e5	1.07e6	1.04e6	2.80e5	1.27e6	1.00e6	1.01e6	3.21e5
Mareno-OD	Shallow Core	0.20	0.23	252296	4.00e5	4.99e5	7.48e5	1.99e5	2.25e5	8.24e5	4.26e5	1.01e6	5.08e5	1.26e6	1.22e6	4.03e5	1.57e6	1.28e6	1.25e6	4.15e5
Mareno-OD	Shallow Core	0.30	0.33	252297	2.53e5	3.23e5	5.54e5	1.42e5	1.65e5	5.66e5	3.00e5	7.20e5	3.68e5	9.21e5	9.09e5	3.07e5	1.20e6	9.62e5	9.41e5	3.19e5
Mareno-OD	Shallow Core	0.70	0.73	252298	5.05e5	4.51e5	6.38e5	1.69e5	1.99e5	6.98e5	3.82e5	8.96e5	4.53e5	1.15e6	1.18e6	4.11e5	1.48e6	1.21e6	1.20e6	4.28e5
Mareno-OD	Shallow Core	1.10	1.13	252299	4.80e5	5.20e5	8.25e5	2.30e5	2.80e5	9.61e5	4.41e5	1.23e6	6.33e5	1.60e6	1.61e6	6.47e5	1.98e6	1.69e6	1.70e6	5.52e5
Mareno-OD	Shallow Core	1.50	1.53	252300	1.72e5	2.35e5	4.27e5	1.13e5	1.36e5	5.00e5	2.27e5	6.85e5	3.42e5	9.15e5	1.01e6	3.38e5	1.26e6	1.00e6	1.01e6	3.07e5
Mareno-OD	Shallow Core	1.90	1.93	252301	2.53e5	3.96e5	7.20e5	1.54e5	1.95e5	9.18e5	3.36e5	1.26e6	5.50e5	1.66e6	1.76e6	5.21e5	2.01e6	1.53e6	1.76e6	4.33e5
Mareno-OD	Shallow Core	2.30	2.33	252302	7.94e5	7.98e5	1.24e6	3.43e5	4.99e5	1.94e6	6.51e5	2.58e6	1.18e6	3.14e6	3.10e6	1.00e6	3.43e6	2.24e6	3.06e6	8.44e5
Mareno-OD	Shallow Core	2.58	2.61	252303	1.22e6	1.32e6	1.98e6	5.43e5	6.78e5	2.74e6	9.40e5	3.43e6	1.43e6	3.98e6	3.85e6	1.22e6	4.17e6	2.69e6	3.78e6	9.38e5

Table 9. continued, GC of EOM fractions (amounts in ng/g)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C19	n-C20	n-C21	n-C22	n-C23	n-C24	n-C25	n-C26	n-C27	n-C28	n-C29	n-C30	n-C31	n-C32	n-C33	n-C34
Mareno-OD	Shallow Core		0.04	252294	1.56e6	1.62e6	1.46e6	1.35e6	1.26e6	1.04e6	1.22e6	9.45e5	1.25e6	7.63e5	1.08e6	6.02e5	1.46e6	4.07e5	7.17e5	0.00e0
Mareno-OD	Shallow Core	0.10	0.12	252295	1.06e6	1.11e6	1.12e6	9.57e5	9.66e5	7.24e5	8.09e5	6.50e5	8.17e5	5.37e5	7.49e5	3.85e5	9.84e5	2.57e5	3.54e5	0.00e0
Mareno-OD	Shallow Core	0.20	0.23	252296	1.37e6	1.37e6	1.42e6	1.21e6	1.16e6	9.00e5	1.03e6	9.17e5	1.00e6	7.19e5	8.70e5	5.83e5	1.23e6	3.59e5	5.19e5	0.00e0
Mareno-OD	Shallow Core	0.30	0.33	252297	9.97e5	1.07e6	1.11e6	8.58e5	8.51e5	6.94e5	8.32e5	6.16e5	7.87e5	6.12e5	7.01e5	3.61e5	1.03e6	3.13e5	3.31e5	0.00e0
Mareno-OD	Shallow Core	0.70	0.73	252298	1.30e6	1.38e6	1.33e6	1.10e6	1.13e6	8.84e5	1.05e6	9.74e5	1.03e6	6.81e5	1.06e6	5.80e5	1.49e6	3.73e5	5.40e5	0.00e0
Mareno-OD	Shallow Core	1.10	1.13	252299	1.83e6	1.87e6	1.74e6	1.57e6	1.47e6	1.18e6	1.27e6	1.03e6	1.21e6	7.89e5	1.07e6	7.34e5	1.33e6	4.96e5	7.00e5	0.00e0
Mareno-OD	Shallow Core	1.50	1.53	252300	1.04e6	1.08e6	1.10e6	8.65e5	8.24e5	6.90e5	7.85e5	5.34e5	6.54e5	4.72e5	5.77e5	3.43e5	5.97e5	2.57e5	3.16e5	0.00e0
Mareno-OD	Shallow Core	1.90	1.93	252301	1.83e6	1.79e6	1.86e6	1.45e6	1.45e6	1.17e6	1.21e6	8.97e5	1.03e6	8.09e5	9.00e5	5.62e5	8.35e5	3.43e5	3.94e5	0.00e0
Mareno-OD	Shallow Core	2.30	2.33	252302	3.02e6	2.98e6	3.10e6	2.61e6	2.49e6	1.98e6	1.97e6	1.42e6	1.45e6	1.16e6	1.13e6	7.74e5	9.19e5	5.09e5	7.07e5	2.41e5
Mareno-OD	Shallow Core	2.58	2.61	252303	3.62e6	3.59e6	3.39e6	3.13e6	3.01e6	2.43e6	2.34e6	1.74e6	1.82e6	1.36e6	1.28e6	9.26e5	1.07e6	5.84e5	7.59e5	3.98e5

Table 9. continued, GC of EOM fractions (amounts in ng/g)

Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	n-C35	n-C36	n-C37	n-C38	n-C39	n-C40	n-C41	n-C42	UCM_C12-C22	UCM_C23-C42
Mareno-OD	Shallow Core		0.04	252294	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	6.58e7	1.78e8
Mareno-OD	Shallow Core	0.10	0.12	252295	1.71e5	5.52e4	7.58e4	0.00e0	0.00e0	0.00e0	0.00e0	0.00e0	4.79e7	1.21e8
Mareno-OD	Shallow Core	0.20	0.23	252296	2.85e5	9.20e4	1.46e5	2.91e5	0.00e0	0.00e0	0.00e0	0.00e0	5.93e7	1.56e8
Mareno-OD	Shallow Core	0.30	0.33	252297	1.76e5	6.88e4	8.86e4	4.86e5	0.00e0	0.00e0	0.00e0	0.00e0	4.74e7	1.27e8
Mareno-OD	Shallow Core	0.70	0.73	252298	2.57e5	1.06e5	1.55e5	2.94e5	0.00e0	0.00e0	0.00e0	0.00e0	5.85e7	1.67e8
Mareno-OD	Shallow Core	1.10	1.13	252299	3.34e5	1.19e5	1.75e5	4.21e5	0.00e0	0.00e0	0.00e0	0.00e0	7.51e7	2.07e8
Mareno-OD	Shallow Core	1.50	1.53	252300	2.31e5	8.49e4	7.17e4	9.74e4	0.00e0	0.00e0	0.00e0	0.00e0	4.29e7	1.04e8
Mareno-OD	Shallow Core	1.90	1.93	252301	2.11e5	1.18e5	9.35e4	1.17e5	0.00e0	0.00e0	0.00e0	0.00e0	5.84e7	1.30e8
Mareno-OD	Shallow Core	2.30	2.33	252302	2.69e5	1.79e5	1.63e5	1.12e5	7.12e4	0.00e0	0.00e0	0.00e0	1.01e8	2.06e8
Mareno-OD	Shallow Core	2.58	2.61	252303	2.86e5	2.02e5	1.87e5	1.39e5	9.26e4	0.00e0	0.00e0	0.00e0	1.19e8	2.31e8

Table 10. GCMS SIR of saturated compounds (peak height)

				m/z	177													191		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	25nor28αβ	25nor29αβ	25nor30αβ	25nor31αβS	25nor31αβR	25nor32αβR	25nor32αβS	25nor33αβR	25nor33αβS	25nor34αβR	25nor34αβS	25nor35αβR	25nor35αβS	19/3	20/3	21/3
Mareno-OD	Shallow Core		0.04	252294	1.33e3	1.64e3	4.86e2	7.05e2	1.23e4	3.39e2	2.68e3	4.90e2	1.76e2	3.26e3	9.40e1	0.00e0	1.25e2	1.01e4	7.92e3	8.80e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.57e3	1.96e3	4.52e2	9.11e2	1.46e4	3.40e2	2.89e3	2.98e2	0.00e0	3.72e3	1.51e2	0.00e0	1.30e2	1.17e4	8.87e3	1.03e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.14e3	1.29e3	5.34e2	5.85e2	1.02e4	1.72e2	2.32e3	2.99e2	0.00e0	2.64e3	0.00e0	1.25e2	0.00e0	7.97e3	6.74e3	7.60e3
Mareno-OD	Shallow Core	0.30	0.33	252297	1.08e3	1.22e3	3.82e2	4.72e2	1.06e4	1.56e2	2.42e3	2.86e2	2.09e2	2.83e3	0.00e0	0.00e0	0.00e0	8.39e3	6.63e3	7.90e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.02e3	1.47e3	4.39e2	6.60e2	1.16e4	3.15e2	2.47e3	3.03e2	1.27e2	2.89e3	0.00e0	9.10e1	1.79e2	6.66e3	6.37e3	8.81e3
Mareno-OD	Shallow Core	1.10	1.13	252299	8.21e2	1.04e3	3.56e2	4.89e2	8.47e3	1.37e2	1.44e3	1.04e2	0.00e0	1.93e3	0.00e0	0.00e0	0.00e0	4.44e3	5.08e3	7.27e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.32e3	1.60e3	3.28e2	6.17e2	1.14e4	3.03e2	0.00e0	2.69e2	0.00e0	2.74e3	0.00e0	0.00e0	0.00e0	7.78e3	6.74e3	8.70e3
Mareno-OD	Shallow Core	1.90	1.93	252301	2.47e3	2.44e3	1.27e3	1.12e3	1.72e4	4.54e2	2.16e3	4.33e2	1.78e2	3.78e3	0.00e0	0.00e0	2.33e2	1.63e4	1.15e4	1.08e4
Mareno-OD	Shallow Core	2.30	2.33	252302	1.72e3	1.61e3	7.94e2	8.64e2	9.81e3	3.92e2	0.00e0	5.64e2	0.00e0	1.35e3	0.00e0	0.00e0	0.00e0	1.05e4	9.36e3	9.11e3
Mareno-OD	Shallow Core	2.58	2.61	252303	1.16e3	1.68e3	4.59e2	5.66e2	7.56e3	4.69e2	0.00e0	6.43e2	0.00e0	8.82e2	0.00e0	2.08e2	0.00e0	1.03e4	8.24e3	7.94e3

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22/3	23/3	24/3	25/3R	25/3S	24/4	26/3R	26/3S	28/3R	28/3S	29/3R	29/3S	27Ts13en18	27Ts	27Tm	30/3R
Mareno-OD	Shallow Core		0.04	252294	3.49e3	1.22e4	7.76e3	3.84e3	3.82e3	1.12e4	3.49e3	3.68e3	3.87e3	3.95e3	6.24e3	4.45e3	0.00e0	1.93e4	4.92e4	1.93e3
Mareno-OD	Shallow Core	0.10	0.12	252295	4.20e3	1.50e4	8.93e3	4.79e3	4.74e3	1.30e4	4.26e3	3.86e3	4.75e3	5.26e3	7.19e3	4.74e3	0.00e0	2.36e4	5.46e4	2.73e3
Mareno-OD	Shallow Core	0.20	0.23	252296	3.42e3	1.17e4	7.13e3	3.59e3	3.57e3	9.16e3	3.16e3	3.39e3	3.58e3	3.73e3	5.79e3	3.48e3	0.00e0	1.78e4	4.15e4	2.02e3
Mareno-OD	Shallow Core	0.30	0.33	252297	3.05e3	1.21e4	6.82e3	3.75e3	3.87e3	8.89e3	3.25e3	3.12e3	3.66e3	3.74e3	5.29e3	3.67e3	0.00e0	1.84e4	4.01e4	1.97e3
Mareno-OD	Shallow Core	0.70	0.73	252298	3.56e3	1.31e4	8.15e3	4.36e3	4.47e3	9.12e3	3.57e3	3.77e3	4.46e3	4.55e3	6.21e3	4.25e3	0.00e0	2.10e4	4.16e4	2.52e3
Mareno-OD	Shallow Core	1.10	1.13	252299	2.99e3	1.10e4	6.60e3	3.54e3	3.81e3	6.43e3	2.85e3	2.88e3	3.31e3	3.41e3	4.61e3	3.63e3	0.00e0	1.56e4	3.03e4	2.09e3
Mareno-OD	Shallow Core	1.50	1.53	252300	4.02e3	1.50e4	8.68e3	5.14e3	4.88e3	9.94e3	3.95e3	3.96e3	4.84e3	4.94e3	6.42e3	4.50e3	0.00e0	2.02e4	4.00e4	2.81e3
Mareno-OD	Shallow Core	1.90	1.93	252301	5.03e3	1.61e4	1.05e4	5.64e3	5.39e3	1.79e4	4.67e3	5.01e3	8.28e3	6.67e3	9.24e3	6.16e3	0.00e0	2.75e4	7.56e4	3.62e3
Mareno-OD	Shallow Core	2.30	2.33	252302	4.58e3	1.21e4	8.04e3	3.73e3	4.17e3	1.21e4	3.50e3	3.61e3	4.04e3	4.84e3	6.60e3	4.72e3	0.00e0	2.14e4	4.33e4	2.32e3
Mareno-OD	Shallow Core	2.58	2.61	252303	4.39e3	1.05e4	7.32e3	3.58e3	3.47e3	1.05e4	2.82e3	3.13e3	3.77e3	4.20e3	6.29e3	4.84e3	1.69e3	1.90e4	3.35e4	2.43e3

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	30/3S	27β	28αβ	25nor30αβ	29Ts13en18	29αβ	29Ts	30d	30-17en21	29βα	30O	30αβ	30Ts13en18	29ββ+25nor31 βα	30βα	31αβS
Mareno-OD	Shallow Core		0.04	252294	3.61e3	1.89e4	8.29e3	1.79e3	4.48e3	9.53e4	2.80e4	1.94e4	1.15e4	2.07e4	0.00e0	1.79e5	2.81e4	1.60e4	3.24e4	7.33e4
Mareno-OD	Shallow Core	0.10	0.12	252295	5.45e3	2.41e4	9.64e3	2.23e3	5.67e3	1.12e5	3.38e4	2.20e4	1.40e4	2.38e4	0.00e0	2.08e5	3.36e4	1.94e4	3.51e4	8.34e4
Mareno-OD	Shallow Core	0.20	0.23	252296	2.78e3	1.84e4	7.23e3	1.67e3	3.98e3	8.16e4	2.45e4	1.49e4	1.07e4	1.82e4	0.00e0	1.45e5	2.39e4	1.51e4	2.41e4	5.98e4
Mareno-OD	Shallow Core	0.30	0.33	252297	5.16e3	1.92e4	7.09e3	1.50e3	4.03e3	8.00e4	2.53e4	1.47e4	1.20e4	1.83e4	0.00e0	1.49e5	2.44e4	1.52e4	2.43e4	5.87e4
Mareno-OD	Shallow Core	0.70	0.73	252298	3.53e3	1.98e4	8.21e3	1.34e3	4.35e3	8.59e4	2.82e4	1.60e4	1.20e4	1.97e4	0.00e0	1.61e5	2.85e4	1.59e4	2.70e4	6.31e4
Mareno-OD	Shallow Core	1.10	1.13	252299	3.12e3	1.40e4	6.07e3	1.02e3	3.77e3	6.12e4	2.13e4	1.10e4	1.00e4	1.44e4	0.00e0	1.22e5	1.84e4	1.08e4	2.11e4	4.65e4
Mareno-OD	Shallow Core	1.50	1.53	252300	4.28e3	1.43e4	9.13e3	1.42e3	0.00e0	8.28e4	2.74e4	1.75e4	1.22e4	1.72e4	0.00e0	1.62e5	2.58e4	1.24e4	2.75e4	6.37e4
Mareno-OD	Shallow Core	1.90	1.93	252301	6.93e3	2.60e4	2.47e4	2.24e3	1.53e4	1.39e5	3.61e4	3.19e4	1.88e4	3.30e4	0.00e0	2.49e5	2.88e4	2.05e4	5.29e4	1.13e5
Mareno-OD	Shallow Core	2.30	2.33	252302	3.68e3	8.71e3	1.23e4	2.13e3	1.11e4	7.49e4	2.23e4	2.10e4	6.16e3	1.63e4	0.00e0	1.42e5	5.94e3	8.19e3	2.95e4	6.26e4
Mareno-OD	Shallow Core	2.58	2.61	252303	2.88e3	6.01e3	8.81e3	2.00e3	8.22e3	6.04e4	1.96e4	2.00e4	4.80e3	1.13e4	0.00e0	1.07e5	3.56e3	5.40e3	2.14e4	4.96e4

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	31αβR	30G+31Ts13e n18	30ββ	31βα	32αβS	32αβR	31ββ	33αβS	33αβR	32ββ	34αβS	34αβR	33ββ	35αβS	34ββ	35αβR
Mareno-OD	Shallow Core		0.04	252294	5.63e4	5.58e3	8.61e3	1.20e4	3.52e4	2.57e4	2.16e4	2.06e4	1.43e4	0.00e0	1.27e4	8.29e3	2.02e3	6.50e3	5.62e2	4.18e3
Mareno-OD	Shallow Core	0.10	0.12	252295	5.96e4	6.53e3	9.81e3	1.34e4	3.99e4	2.91e4	2.61e4	2.37e4	1.49e4	0.00e0	1.44e4	9.37e3	2.43e3	6.67e3	7.80e2	4.23e3
Mareno-OD	Shallow Core	0.20	0.23	252296	4.15e4	4.65e3	2.38e3	9.41e3	2.93e4	1.96e4	1.88e4	1.60e4	1.02e4	0.00e0	1.02e4	6.38e3	1.52e3	4.84e3	4.52e2	3.09e3
Mareno-OD	Shallow Core	0.30	0.33	252297	4.07e4	4.97e3	2.59e3	9.38e3	2.88e4	1.93e4	1.89e4	1.68e4	1.05e4	0.00e0	1.00e4	6.24e3	1.60e3	4.77e3	4.19e2	3.33e3
Mareno-OD	Shallow Core	0.70	0.73	252298	4.55e4	5.56e3	2.84e3	1.02e4	2.87e4	2.11e4	2.05e4	1.79e4	1.19e4	0.00e0	1.06e4	6.57e3	1.69e3	5.15e3	5.96e2	3.52e3
Mareno-OD	Shallow Core	1.10	1.13	252299	3.28e4	4.27e3	2.06e3	7.69e3	2.19e4	1.53e4	1.37e4	1.35e4	9.11e3	0.00e0	7.92e3	5.27e3	1.45e3	4.07e3	5.43e2	2.70e3
Mareno-OD	Shallow Core	1.50	1.53	252300	4.74e4	5.44e3	2.80e3	1.09e4	3.05e4	2.18e4	1.95e4	1.94e4	1.25e4	0.00e0	1.16e4	7.33e3	2.07e3	5.51e3	3.97e2	3.71e3
Mareno-OD	Shallow Core	1.90	1.93	252301	9.17e4	6.68e3	3.56e3	2.26e4	5.20e4	3.99e4	2.65e4	2.77e4	1.98e4	0.00e0	1.78e4	1.23e4	3.77e3	8.33e3	7.39e2	5.63e3
Mareno-OD	Shallow Core	2.30	2.33	252302	5.00e4	3.92e3	2.31e3	1.20e4	3.03e4	2.32e4	7.55e3	1.68e4	1.16e4	0.00e0	1.09e4	7.25e3	2.43e3	4.95e3	5.82e2	3.81e3
Mareno-OD	Shallow Core	2.58	2.61	252303	3.66e4	3.11e3	2.08e3	8.98e3	2.48e4	1.88e4	4.45e3	1.46e4	1.01e4	0.00e0	9.73e3	6.47e3	2.04e3	4.97e3	7.66e2	3.77e3

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	191	217														
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	35ββ	21αα	21ββ	22αα	22ββ	27dβS	27dβR	27daR	27daS	28dβS#1	28dβS#2	28dβR#1	28dβR#2	28daR	27ααS	27βR+29dβS
Mareno-OD	Shallow Core		0.04	252294	1.40e3	4.31e3	4.58e3	3.26e3	1.91e3	8.40e3	4.88e3	3.10e3	2.87e3	4.09e3	4.10e3	2.30e3	2.92e3	2.78e3	5.91e3	1.22e4
Mareno-OD	Shallow Core	0.10	0.12	252295	1.51e3	4.89e3	5.42e3	3.64e3	2.34e3	1.04e4	6.02e3	3.80e3	3.57e3	4.78e3	4.97e3	2.71e3	3.80e3	3.32e3	7.08e3	1.43e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.21e3	3.94e3	4.22e3	2.78e3	1.78e3	7.50e3	4.22e3	2.87e3	2.77e3	3.54e3	3.66e3	1.89e3	2.61e3	2.44e3	5.58e3	1.09e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.02e3	3.90e3	4.13e3	2.66e3	1.78e3	7.77e3	4.59e3	2.82e3	2.52e3	3.53e3	3.43e3	2.02e3	2.44e3	2.29e3	5.23e3	1.07e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.21e3	4.34e3	4.71e3	3.05e3	2.04e3	8.55e3	4.91e3	3.00e3	3.08e3	3.92e3	3.79e3	2.22e3	3.14e3	2.71e3	6.35e3	1.22e4
Mareno-OD	Shallow Core	1.10	1.13	252299	9.41e2	3.43e3	3.94e3	2.45e3	1.67e3	7.34e3	4.03e3	2.43e3	2.49e3	3.07e3	3.07e3	1.90e3	2.41e3	1.84e3	5.51e3	9.52e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.14e3	4.79e3	5.05e3	3.16e3	2.12e3	1.02e4	6.05e3	3.42e3	3.61e3	4.36e3	4.53e3	2.54e3	3.57e3	2.89e3	6.84e3	1.27e4
Mareno-OD	Shallow Core	1.90	1.93	252301	1.69e3	7.11e3	7.01e3	5.27e3	3.19e3	1.61e4	9.22e3	5.78e3	5.55e3	7.19e3	7.79e3	4.46e3	5.78e3	5.41e3	9.61e3	2.00e4
Mareno-OD	Shallow Core	2.30	2.33	252302	1.34e3	5.98e3	6.58e3	4.99e3	2.85e3	1.29e4	7.36e3	4.28e3	4.36e3	5.48e3	6.14e3	3.58e3	4.54e3	3.82e3	7.25e3	1.45e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.16e3	5.62e3	5.95e3	4.51e3	2.76e3	1.09e4	6.14e3	3.68e3	3.78e3	4.84e3	4.98e3	3.04e3	3.85e3	3.65e3	5.91e3	1.20e4

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	217															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	27ββS	28daS	27ααR	29dβR	29daR	28ααS	29daS	28ββR	28ββS	28ααR	29ααS	29ββR	29ββS	29ααR	30ααS	30ββR
Mareno-OD	Shallow Core		0.04	252294	4.02e3	1.47e3	4.93e3	6.11e3	4.10e3	4.76e3	4.49e3	3.35e3	4.66e3	2.85e3	7.02e3	9.91e3	6.30e3	9.13e3	2.57e3	1.21e3
Mareno-OD	Shallow Core	0.10	0.12	252295	4.23e3	1.72e3	5.81e3	7.38e3	4.87e3	5.52e3	5.33e3	3.93e3	5.35e3	3.06e3	8.19e3	1.23e4	7.02e3	1.10e4	3.36e3	1.56e3
Mareno-OD	Shallow Core	0.20	0.23	252296	3.39e3	1.38e3	4.41e3	5.31e3	3.43e3	4.22e3	4.18e3	2.93e3	3.82e3	2.29e3	5.89e3	8.51e3	5.01e3	7.95e3	2.36e3	1.14e3
Mareno-OD	Shallow Core	0.30	0.33	252297	3.15e3	1.33e3	4.51e3	5.55e3	3.47e3	4.30e3	4.07e3	3.16e3	3.88e3	2.38e3	6.41e3	8.25e3	5.16e3	8.12e3	2.54e3	1.09e3
Mareno-OD	Shallow Core	0.70	0.73	252298	3.50e3	1.30e3	5.45e3	6.14e3	3.88e3	4.65e3	4.47e3	3.32e3	4.41e3	2.61e3	7.18e3	9.70e3	5.60e3	9.28e3	3.12e3	1.21e3
Mareno-OD	Shallow Core	1.10	1.13	252299	2.81e3	1.16e3	4.76e3	4.55e3	3.22e3	3.83e3	3.52e3	2.63e3	3.51e3	2.49e3	5.75e3	7.28e3	4.37e3	7.78e3	2.17e3	1.04e3
Mareno-OD	Shallow Core	1.50	1.53	252300	4.24e3	1.75e3	6.74e3	6.61e3	4.23e3	5.11e3	4.47e3	3.60e3	4.90e3	3.31e3	8.13e3	1.01e4	6.05e3	1.09e4	2.91e3	1.49e3
Mareno-OD	Shallow Core	1.90	1.93	252301	5.90e3	3.21e3	1.03e4	1.10e4	7.73e3	7.02e3	7.60e3	5.55e3	7.30e3	5.92e3	1.10e4	1.57e4	9.17e3	1.91e4	3.88e3	2.22e3
Mareno-OD	Shallow Core	2.30	2.33	252302	4.54e3	2.81e3	7.01e3	7.67e3	5.49e3	4.91e3	4.85e3	3.49e3	5.25e3	3.59e3	6.69e3	9.73e3	6.12e3	1.07e4	2.67e3	1.64e3
Mareno-OD	Shallow Core	2.58	2.61	252303	4.13e3	2.19e3	4.84e3	6.49e3	4.38e3	3.96e3	4.12e3	3.17e3	4.63e3	2.79e3	5.55e3	8.46e3	5.49e3	8.24e3	2.27e3	1.57e3

Table 10. continued, GCMS SIR of saturated compounds (peak height)

				m/z	217		218									
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	30ββS	30ααR	27ββR	27ββS	28ββR	28ββS	29ββR	29ββS	30O13en18	30O12en	30ββR	30ββS
Mareno-OD	Shallow Core		0.04	252294	9.34e2	1.95e3	1.10e4	6.07e3	5.51e3	6.60e3	1.74e4	1.12e4	1.44e3	5.87e2	2.26e3	1.71e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.06e3	2.03e3	1.39e4	7.38e3	6.14e3	7.70e3	2.11e4	1.33e4	1.77e3	7.06e2	2.90e3	2.07e3
Mareno-OD	Shallow Core	0.20	0.23	252296	8.66e2	1.72e3	9.74e3	5.20e3	4.40e3	5.56e3	1.48e4	9.42e3	5.24e2	5.15e2	1.92e3	1.50e3
Mareno-OD	Shallow Core	0.30	0.33	252297	1.02e3	1.69e3	9.56e3	5.19e3	4.77e3	5.61e3	1.47e4	8.97e3	8.34e2	4.59e2	2.16e3	1.41e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.01e3	1.92e3	1.11e4	6.38e3	5.03e3	6.44e3	1.70e4	1.02e4	5.20e2	3.71e2	2.65e3	1.78e3
Mareno-OD	Shallow Core	1.10	1.13	252299	7.39e2	1.69e3	8.75e3	4.78e3	4.20e3	4.95e3	1.32e4	7.76e3	4.90e2	4.55e2	1.87e3	1.27e3
Mareno-OD	Shallow Core	1.50	1.53	252300	9.89e2	2.39e3	1.20e4	6.85e3	5.78e3	7.09e3	1.76e4	1.13e4	6.72e2	6.82e2	2.61e3	1.87e3
Mareno-OD	Shallow Core	1.90	1.93	252301	1.82e3	3.35e3	1.77e4	9.36e3	8.73e3	1.05e4	2.63e4	1.66e4	3.42e3	8.08e2	3.96e3	2.38e3
Mareno-OD	Shallow Core	2.30	2.33	252302	1.19e3	2.39e3	1.28e4	7.52e3	6.19e3	7.98e3	1.70e4	1.12e4	5.76e2	4.95e2	3.18e3	2.03e3
Mareno-OD	Shallow Core	2.58	2.61	252303	1.14e3	1.90e3	1.07e4	6.42e3	5.13e3	6.76e3	1.45e4	9.47e3	5.95e2	6.45e2	2.31e3	1.94e3

17α-25,28,30-trinorhopane	25nor28αβ
17α-25,30-dinorhopane	25nor29αβ
17α-25-norhopane	25nor30αβ
17α-(22S)-25-nor-homohopane	25nor31αβS
17α-(22R)-25-nor-homohopane	25nor31αβR
17α-(22S)-25-nor-dihomohopane	25nor32αβS
17α-(22R)-25-nor-dihomohopane	25nor32αβR
17α-(22S)-25-nor-trihomohopane	25nor33αβS
17α-(22R)-25-nor-trihomohopane	25nor33αβR
17α-(22S)-25-nor-tetrahomohopane	25nor34αβS
17α-(22R)-25-nor-tetrahomohopane	25nor34αβR
17α-(22S)-25-nor-pentahomohopane	25nor35αβS
17α-(22R)-25-nor-pentahomohopane	25nor35αβR
$C_{19}H_{34}$ tricyclic terpane	19/3
$C_{20}H_{36}$ tricyclic terpane	20/3
$C_{21}H_{38}$ tricyclic terpane	21/3
$C_{22}H_{40}$ tricyclic terpane	22/3
$C_{23}H_{42}$ tricyclic terpane	23/3
$C_{24}H_{44}$ tricyclic terpane	24/3
$C_{25}H_{46}$ tricyclic terpane	25/3R
$C_{25}H_{46}$ tricyclic terpane	25/3S
$C_{24}H_{42}$ tetracyclic terpane	24/4
$C_{26}H_{48}$ tricyclic terpane	26/3R
$C_{26}H_{48}$ tricyclic terpane	26/3S
$C_{28}H_{52}$ tricyclic terpane	28/3R
$C_{28}H_{52}$ tricyclic terpane	28/3S
$C_{29}H_{54}$ tricyclic terpane	29/3R
$C_{29}H_{54}$ tricyclic terpane	29/3S
22,29,30-trinorneohop-13(18)-ene	27Ts13en18
18α-22,29,30-trinorneohopane	27Ts
17α-22,29,30-trinorhopane	27Tm
$C_{30}H_{56}$ tricyclic terpane	30/3R
$C_{30}H_{56}$ tricyclic terpane	30/3S

17β-22,29,30-trinormoretane	27β
17α-28,30-disnorhopane	28αβ
30-norneohop-13(18)-ene	29Ts13en18
17α-30-norhopane	29αβ
18α-30-norneohopane	29Ts
15α-methyl-17α-27-norhopane	30d
hop-17(21)-ene	30-17en21
17β-30-normoretane	29βα
18α-oleanane	30O
17α-hopane	30αβ
neohop-13(18)-ene	30Ts13en18
17β-22,29,30-trinorhopane	29ββ
17β-25-nor-homomoretane	25nor31βα
17β-moretane	30βα
17α-(22S)-homohopane	31αβS
17α-(22R)-homohopane	31αβR
gammacerane	30G
homo-neohop-13(18)-ene	31Ts13en18
17β-homomoretane	31βα
17α-(22S)-dihomohopane	32αβS
17α-(22R)-dihomohopane	32αβR
17β-homohopane	31ββ
17α-(22S)-trihomohopane	33αβS
17α-(22R)-trihomohopane	33αβR
17β-dihomohopane	32ββ
17α-(22S)-tetrahomohopane	34αβS
17α-(22R)-tetrahomohopane	34αβR
17β-trihomohopane	33ββ
17α-(22S)-pentahomohopane	35αβS
17β-tetrahomohopane	34ββ
17α-(22R)-pentahomohopane	35αβR
17β-pentahomohopane	35ββ
C21-5α(H), 14α(H), 17α(H)-pregnane	21αα

C21-5α(H), 14β(H), 17β(H)-pregnane	21ββ
C22-5α(H), 14α(H), 17α(H)-pregnane	22αα
C22-5α(H), 14β(H), 17β(H)-pregnane	22ββ
13β(H), 17α(H), 20(S)-cholestane (diasterane)	27dβS
13β(H), 17α(H), 20(R)-cholestane (diasterane)	27dβR
13α(H), 17β(H), 20(R)-cholestane (diasterane)	27dαR
13α(H), 17β(H), 20(S)-cholestane (diasterane)	27dαS
24-methyl-13β(H), 17α(H), 20(S)-cholestane (diasterane)	28dβS
24-methyl-13β(H), 17α(H), 20(R)-cholestane (diasterane)	28dβR
24-methyl-13α(H), 17β(H), 20(R)-cholestane (diasterane)	28dαR
5α(H), 14α(H), 17α(H), 20(S)-cholestane	27ααS
5α(H), 14β(H), 17β(H), 20(R)-cholestane	27ββR
24-ethyl-13β(H), 17α(H), 20(S)-cholestane (diasterane)	29dβS
5α(H), 14β(H), 17β(H), 20(S)-cholestane	27ββS
24-methyl-13α(H), 17β(H), 20(S)-cholestane (diasterane)	28dαS
5α(H), 14α(H), 17α(H), 20(R)-cholestane	27ααR
24-ethyl-13β(H), 17α(H), 20(R)-cholestane (diasterane)	29dβR
24-ethyl-13α(H), 17β(H), 20(R)-cholestane (diasterane)	29dαR
24-methyl-5α(H), 14α(H), 17α(H), 20(S)-cholestane	28ααS
24-ethyl-13α(H), 17β(H), 20(S)-cholestane (diasterane)	29dαS
24-methyl-5α(H), 14β(H), 17β(H), 20(R)-cholestane	28ββR
24-methyl-5α(H), 14β(H), 17β(H), 20(S)-cholestane	28ββS
24-methyl-5α(H), 14α(H), 17α(H), 20(R)-cholestane	28ααR
24-ethyl-5α(H), 14α(H), 17α(H), 20(S)-cholestane	29ααS
24-ethyl-5α(H), 14β(H), 17β(H), 20(R)-cholestane	29ββR
24-ethyl-5α(H), 14β(H), 17β(H), 20(S)-cholestane	29ββS
24-ethyl-5α(H), 14α(H), 17α(H), 20(R)-cholestane	29ααR
24-propyl-5α(H), 14α(H), 17α(H), 20(S)-cholestane	30ααS
24-propyl-5α(H), 14β(H), 17β(H), 20(R)-cholestane	30ββR
24-propyl-5α(H), 14β(H), 17β(H), 20(S)-cholestane	30ββS
24-propyl-5α(H), 14α(H), 17α(H), 20(R)-cholestane	30ααR

Table 11. GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	177													191		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	25nor28αβ	25nor29αβ	25nor30αβ	25nor31αβS	25nor31αβR	25nor32αβR	25nor32αβS	25nor33αβR	25nor33αβS	25nor34αβR	25nor34αβS	25nor35αβR	25nor35αβS	19/3	20/3	21/3
Mareno-OD	Shallow Core		0.04	252294	1.27e3	1.57e3	4.65e2	6.75e2	1.18e4	3.24e2	2.57e3	4.70e2	1.69e2	3.12e3	9.00e1	0.00e0	1.20e2	9.68e3	7.58e3	8.43e3
Mareno-OD	Shallow Core	0.10	0.12	252295	9.45e2	1.18e3	2.72e2	5.49e2	8.81e3	2.05e2	1.74e3	1.80e2	0.00e0	2.24e3	9.10e1	0.00e0	7.90e1	7.07e3	5.35e3	6.24e3
Mareno-OD	Shallow Core	0.20	0.23	252296	1.24e3	1.40e3	5.81e2	6.36e2	1.10e4	1.87e2	2.52e3	3.25e2	0.00e0	2.87e3	0.00e0	1.36e2	0.00e0	8.67e3	7.33e3	8.26e3
Mareno-OD	Shallow Core	0.30	0.33	252297	9.20e2	1.04e3	3.27e2	4.03e2	9.03e3	1.33e2	2.07e3	2.45e2	1.78e2	2.42e3	0.00e0	0.00e0	0.00e0	7.17e3	5.66e3	6.75e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.12e3	1.63e3	4.84e2	7.29e2	1.28e4	3.48e2	2.73e3	3.35e2	1.40e2	3.19e3	0.00e0	1.00e2	1.97e2	7.35e3	7.03e3	9.72e3
Mareno-OD	Shallow Core	1.10	1.13	252299	1.53e3	1.94e3	6.65e2	9.13e2	1.58e4	2.55e2	2.68e3	1.94e2	0.00e0	3.60e3	0.00e0	0.00e0	0.00e0	8.29e3	9.47e3	1.36e4
Mareno-OD	Shallow Core	1.50	1.53	252300	7.48e2	9.03e2	1.86e2	3.49e2	6.45e3	1.72e2	0.00e0	1.52e2	0.00e0	1.55e3	0.00e0	0.00e0	0.00e0	4.41e3	3.82e3	4.93e3
Mareno-OD	Shallow Core	1.90	1.93	252301	1.09e3	1.08e3	5.59e2	4.94e2	7.57e3	2.00e2	9.53e2	1.91e2	7.80e1	1.67e3	0.00e0	0.00e0	1.03e2	7.18e3	5.09e3	4.76e3
Mareno-OD	Shallow Core	2.30	2.33	252302	2.14e3	1.99e3	9.85e2	1.07e3	1.22e4	4.86e2	0.00e0	6.99e2	0.00e0	1.68e3	0.00e0	0.00e0	0.00e0	1.30e4	1.16e4	1.13e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.82e3	2.64e3	7.22e2	8.90e2	1.19e4	7.37e2	0.00e0	1.01e3	0.00e0	1.39e3	0.00e0	3.27e2	0.00e0	1.62e4	1.30e4	1.25e4

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22/3	23/3	24/3	25/3R	25/3S	24/4	26/3R	26/3S	28/3R	28/3S	29/3R	29/3S	27Ts13en18	27Ts	27Tm	30/3R
Mareno-OD	Shallow Core		0.04	252294	3.35e3	1.17e4	7.43e3	3.67e3	3.66e3	1.08e4	3.35e3	3.53e3	3.71e3	3.79e3	5.98e3	4.27e3	0.00e0	1.84e4	4.71e4	1.85e3
Mareno-OD	Shallow Core	0.10	0.12	252295	2.53e3	9.02e3	5.38e3	2.89e3	2.86e3	7.85e3	2.57e3	2.33e3	2.87e3	3.17e3	4.33e3	2.86e3	0.00e0	1.43e4	3.30e4	1.65e3
Mareno-OD	Shallow Core	0.20	0.23	252296	3.72e3	1.27e4	7.76e3	3.91e3	3.88e3	9.96e3	3.43e3	3.68e3	3.89e3	4.06e3	6.30e3	3.78e3	0.00e0	1.94e4	4.52e4	2.20e3
Mareno-OD	Shallow Core	0.30	0.33	252297	2.61e3	1.04e4	5.83e3	3.21e3	3.31e3	7.60e3	2.78e3	2.66e3	3.12e3	3.20e3	4.52e3	3.14e3	0.00e0	1.57e4	3.43e4	1.68e3
Mareno-OD	Shallow Core	0.70	0.73	252298	3.93e3	1.44e4	8.99e3	4.82e3	4.93e3	1.01e4	3.94e3	4.16e3	4.92e3	5.02e3	6.86e3	4.69e3	0.00e0	2.32e4	4.59e4	2.78e3
Mareno-OD	Shallow Core	1.10	1.13	252299	5.58e3	2.06e4	1.23e4	6.61e3	7.11e3	1.20e4	5.31e3	5.38e3	6.17e3	6.36e3	8.60e3	6.78e3	0.00e0	2.92e4	5.66e4	3.89e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.28e3	8.51e3	4.92e3	2.91e3	2.76e3	5.63e3	2.24e3	2.24e3	2.74e3	2.80e3	3.64e3	2.55e3	0.00e0	1.14e4	2.27e4	1.59e3
Mareno-OD	Shallow Core	1.90	1.93	252301	2.22e3	7.09e3	4.63e3	2.49e3	2.38e3	7.90e3	2.06e3	2.21e3	3.65e3	2.94e3	4.07e3	2.72e3	0.00e0	1.21e4	3.33e4	1.60e3
Mareno-OD	Shallow Core	2.30	2.33	252302	5.68e3	1.50e4	9.97e3	4.63e3	5.18e3	1.51e4	4.33e3	4.47e3	5.01e3	6.00e3	8.19e3	5.86e3	0.00e0	2.66e4	5.37e4	2.88e3
Mareno-OD	Shallow Core	2.58	2.61	252303	6.91e3	1.66e4	1.15e4	5.63e3	5.47e3	1.66e4	4.43e3	4.93e3	5.93e3	6.61e3	9.90e3	7.61e3	2.66e3	2.98e4	5.27e4	3.82e3

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	30/3S	27β	28αβ	25nor30αβ	29Ts13en18	29αβ	29Ts	30d	30-17en21	29βα	30O	30αβ	30Ts13en18	29ββ+25nor31βα	30βα	31αβS
Mareno-OD	Shallow Core		0.04	252294	3.46e3	1.81e4	7.94e3	1.71e3	4.29e3	9.13e4	2.68e4	1.86e4	1.10e4	1.98e4	0.00e0	1.71e5	2.69e4	1.53e4	3.10e4	7.02e4
Mareno-OD	Shallow Core	0.10	0.12	252295	3.29e3	1.45e4	5.81e3	1.35e3	3.42e3	6.77e4	2.04e4	1.33e4	8.45e3	1.43e4	0.00e0	1.25e5	2.03e4	1.17e4	2.12e4	5.03e4
Mareno-OD	Shallow Core	0.20	0.23	252296	3.03e3	2.01e4	7.86e3	1.81e3	4.33e3	8.88e4	2.67e4	1.62e4	1.16e4	1.98e4	0.00e0	1.58e5	2.60e4	1.64e4	2.62e4	6.51e4
Mareno-OD	Shallow Core	0.30	0.33	252297	4.41e3	1.64e4	6.06e3	1.28e3	3.44e3	6.84e4	2.16e4	1.25e4	1.03e4	1.56e4	0.00e0	1.27e5	2.09e4	1.30e4	2.08e4	5.02e4
Mareno-OD	Shallow Core	0.70	0.73	252298	3.90e3	2.18e4	9.06e3	1.48e3	4.80e3	9.48e4	3.11e4	1.76e4	1.32e4	2.17e4	0.00e0	1.78e5	3.15e4	1.76e4	2.98e4	6.96e4
Mareno-OD	Shallow Core	1.10	1.13	252299	5.82e3	2.61e4	1.13e4	1.91e3	7.04e3	1.14e5	3.97e4	2.05e4	1.87e4	2.68e4	0.00e0	2.27e5	3.43e4	2.01e4	3.94e4	8.68e4
Mareno-OD	Shallow Core	1.50	1.53	252300	2.42e3	8.12e3	5.17e3	8.06e2	0.00e0	4.69e4	1.55e4	9.92e3	6.90e3	9.74e3	0.00e0	9.19e4	1.46e4	7.04e3	1.56e4	3.61e4
Mareno-OD	Shallow Core	1.90	1.93	252301	3.06e3	1.14e4	1.09e4	9.88e2	6.73e3	6.12e4	1.59e4	1.41e4	8.29e3	1.46e4	0.00e0	1.10e5	1.27e4	9.04e3	2.33e4	4.97e4
Mareno-OD	Shallow Core	2.30	2.33	252302	4.56e3	1.08e4	1.52e4	2.65e3	1.37e4	9.29e4	2.77e4	2.61e4	7.64e3	2.02e4	0.00e0	1.76e5	7.37e3	1.02e4	3.66e4	7.76e4
Mareno-OD	Shallow Core	2.58	2.61	252303	4.53e3	9.46e3	1.39e4	3.15e3	1.29e4	9.51e4	3.08e4	3.15e4	7.55e3	1.78e4	0.00e0	1.68e5	5.61e3	8.50e3	3.37e4	7.81e4

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	191															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	31αβR	30G+31Ts13en18	30ββ	31βα	32αβS	32αβR	31ββ	33αβS	33αβR	32ββ	34αβS	34αβR	33ββ	35αβS	34ββ	35αβR
Mareno-OD	Shallow Core		0.04	252294	5.39e4	5.34e3	8.25e3	1.15e4	3.37e4	2.46e4	2.07e4	1.97e4	1.37e4	0.00e0	1.22e4	7.95e3	1.94e3	6.22e3	5.39e2	4.01e3
Mareno-OD	Shallow Core	0.10	0.12	252295	3.59e4	3.94e3	5.91e3	8.09e3	2.40e4	1.75e4	1.58e4	1.43e4	9.01e3	0.00e0	8.68e3	5.65e3	1.47e3	4.02e3	4.70e2	2.55e3
Mareno-OD	Shallow Core	0.20	0.23	252296	4.51e4	5.06e3	2.59e3	1.02e4	3.19e4	2.14e4	2.05e4	1.74e4	1.11e4	0.00e0	1.11e4	6.93e3	1.65e3	5.26e3	4.92e2	3.37e3
Mareno-OD	Shallow Core	0.30	0.33	252297	3.48e4	4.25e3	2.21e3	8.02e3	2.47e4	1.65e4	1.62e4	1.43e4	8.93e3	0.00e0	8.56e3	5.33e3	1.37e3	4.08e3	3.58e2	2.85e3
Mareno-OD	Shallow Core	0.70	0.73	252298	5.03e4	6.13e3	3.13e3	1.12e4	3.16e4	2.33e4	2.26e4	1.98e4	1.31e4	0.00e0	1.17e4	7.25e3	1.86e3	5.68e3	6.57e2	3.89e3
Mareno-OD	Shallow Core	1.10	1.13	252299	6.12e4	7.97e3	3.83e3	1.44e4	4.08e4	2.85e4	2.56e4	2.51e4	1.70e4	0.00e0	1.48e4	9.83e3	2.70e3	7.60e3	1.01e3	5.05e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.69e4	3.08e3	1.59e3	6.17e3	1.73e4	1.23e4	1.10e4	1.10e4	7.08e3	0.00e0	6.56e3	4.15e3	1.17e3	3.12e3	2.25e2	2.10e3
Mareno-OD	Shallow Core	1.90	1.93	252301	4.04e4	2.95e3	1.57e3	9.97e3	2.29e4	1.76e4	1.17e4	1.22e4	8.71e3	0.00e0	7.84e3	5.41e3	1.66e3	3.67e3	3.26e2	2.48e3
Mareno-OD	Shallow Core	2.30	2.33	252302	6.20e4	4.86e3	2.86e3	1.49e4	3.76e4	2.88e4	9.36e3	2.08e4	1.44e4	0.00e0	1.35e4	8.99e3	3.01e3	6.14e3	7.22e2	4.73e3
Mareno-OD	Shallow Core	2.58	2.61	252303	5.76e4	4.90e3	3.28e3	1.41e4	3.90e4	2.96e4	7.01e3	2.30e4	1.59e4	0.00e0	1.53e4	1.02e4	3.21e3	7.81e3	1.21e3	5.93e3

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	191	217															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	35ββ	21αα	21ββ	22αα	22ββ	27dβS	27dβR	27daR	27daS	28dβS#1	28dβS#2	28dβR#1	28dβR#2	28daR	27ααS	27ββR+29dβS
Mareno-OD	Shallow Core		0.04	252294	1.34e3	4.13e3	4.38e3	3.12e3	1.83e3	8.04e3	4.68e3	2.97e3	2.75e3	3.92e3	3.93e3	2.20e3	2.79e3	2.67e3	5.66e3	1.17e4
Mareno-OD	Shallow Core	0.10	0.12	252295	9.13e2	2.95e3	3.27e3	2.20e3	1.41e3	6.30e3	3.63e3	2.29e3	2.16e3	2.88e3	3.00e3	1.63e3	2.29e3	2.00e3	4.27e3	8.65e3
Mareno-OD	Shallow Core	0.20	0.23	252296	1.31e3	4.29e3	4.58e3	3.02e3	1.94e3	8.15e3	4.59e3	3.12e3	3.01e3	3.85e3	3.98e3	2.05e3	2.83e3	2.65e3	6.07e3	1.19e4
Mareno-OD	Shallow Core	0.30	0.33	252297	8.74e2	3.34e3	3.53e3	2.28e3	1.52e3	6.64e3	3.92e3	2.41e3	2.15e3	3.02e3	2.93e3	1.72e3	2.08e3	1.96e3	4.47e3	9.13e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.34e3	4.79e3	5.20e3	3.37e3	2.26e3	9.43e3	5.42e3	3.31e3	3.40e3	4.33e3	4.18e3	2.45e3	3.47e3	2.99e3	7.01e3	1.34e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.76e3	6.40e3	7.34e3	4.58e3	3.12e3	1.37e4	7.51e3	4.54e3	4.64e3	5.73e3	5.73e3	3.55e3	4.49e3	3.42e3	1.03e4	1.78e4
Mareno-OD	Shallow Core	1.50	1.53	252300	6.46e2	2.72e3	2.86e3	1.79e3	1.20e3	5.75e3	3.43e3	1.94e3	2.04e3	2.47e3	2.57e3	1.44e3	2.02e3	1.64e3	3.88e3	7.22e3
Mareno-OD	Shallow Core	1.90	1.93	252301	7.43e2	3.14e3	3.09e3	2.32e3	1.41e3	7.09e3	4.07e3	2.55e3	2.45e3	3.17e3	3.43e3	1.97e3	2.55e3	2.38e3	4.24e3	8.81e3
Mareno-OD	Shallow Core	2.30	2.33	252302	1.66e3	7.41e3	8.15e3	6.18e3	3.54e3	1.61e4	9.13e3	5.31e3	5.41e3	6.80e3	7.61e3	4.44e3	5.64e3	4.74e3	9.00e3	1.80e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.82e3	8.84e3	9.36e3	7.09e3	4.34e3	1.71e4	9.65e3	5.79e3	5.95e3	7.62e3	7.84e3	4.78e3	6.05e3	5.74e3	9.29e3	1.88e4

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	217															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	27ββS	28daS	27ααR	29dβR	29daR	28ααS	29daS	28ββR	28ββS	28ααR	29ααS	29ββR	29ββS	29ααR	30ααS	30ββR
Mareno-OD	Shallow Core		0.04	252294	3.85e3	1.41e3	4.73e3	5.85e3	3.93e3	4.56e3	4.30e3	3.21e3	4.46e3	2.73e3	6.73e3	9.49e3	6.04e3	8.75e3	2.46e3	1.16e3
Mareno-OD	Shallow Core	0.10	0.12	252295	2.55e3	1.04e3	3.50e3	4.45e3	2.94e3	3.33e3	3.22e3	2.37e3	3.23e3	1.84e3	4.94e3	7.41e3	4.23e3	6.61e3	2.03e3	9.42e2
Mareno-OD	Shallow Core	0.20	0.23	252296	3.69e3	1.50e3	4.80e3	5.77e3	3.73e3	4.59e3	4.54e3	3.18e3	4.15e3	2.49e3	6.41e3	9.26e3	5.45e3	8.65e3	2.57e3	1.24e3
Mareno-OD	Shallow Core	0.30	0.33	252297	2.70e3	1.14e3	3.85e3	4.74e3	2.97e3	3.67e3	3.47e3	2.70e3	3.31e3	2.03e3	5.47e3	7.05e3	4.41e3	6.94e3	2.17e3	9.31e2
Mareno-OD	Shallow Core	0.70	0.73	252298	3.86e3	1.44e3	6.01e3	6.78e3	4.28e3	5.13e3	4.93e3	3.67e3	4.87e3	2.88e3	7.93e3	1.07e4	6.18e3	1.02e4	3.44e3	1.33e3
Mareno-OD	Shallow Core	1.10	1.13	252299	5.24e3	2.16e3	8.88e3	8.50e3	6.00e3	7.16e3	6.58e3	4.90e3	6.54e3	4.65e3	1.07e4	1.36e4	8.15e3	1.45e4	4.05e3	1.95e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.40e3	9.91e2	3.82e3	3.74e3	2.40e3	2.89e3	2.53e3	2.04e3	2.77e3	1.87e3	4.61e3	5.71e3	3.42e3	6.19e3	1.65e3	8.44e2
Mareno-OD	Shallow Core	1.90	1.93	252301	2.60e3	1.41e3	4.56e3	4.86e3	3.41e3	3.09e3	3.35e3	2.45e3	3.22e3	2.61e3	4.87e3	6.93e3	4.04e3	8.43e3	1.71e3	9.79e2
Mareno-OD	Shallow Core	2.30	2.33	252302	5.63e3	3.48e3	8.70e3	9.52e3	6.81e3	6.08e3	6.01e3	4.32e3	6.51e3	4.45e3	8.29e3	1.21e4	7.59e3	1.33e4	3.31e3	2.03e3
Mareno-OD	Shallow Core	2.58	2.61	252303	6.50e3	3.45e3	7.62e3	1.02e4	6.90e3	6.23e3	6.48e3	4.99e3	7.29e3	4.40e3	8.74e3	1.33e4	8.63e3	1.30e4	3.57e3	2.46e3

Table 11. continued, GCMS SIR of saturated compounds (amounts in ng/g)

				m/z	217		218									
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	30ββS	30ααR	27ββR	27ββS	28ββR	28ββS	29ββR	29ββS	30O13en18	30O12en	30ββR	30ββS
Mareno-OD	Shallow Core		0.04	252294	8.95e2	1.87e3	1.05e4	5.82e3	5.27e3	6.32e3	1.67e4	1.08e4	1.38e3	5.63e2	2.16e3	1.64e3
Mareno-OD	Shallow Core	0.10	0.12	252295	6.41e2	1.22e3	8.35e3	4.45e3	3.70e3	4.64e3	1.27e4	8.00e3	1.07e3	4.26e2	1.75e3	1.25e3
Mareno-OD	Shallow Core	0.20	0.23	252296	9.42e2	1.87e3	1.06e4	5.66e3	4.78e3	6.05e3	1.60e4	1.02e4	5.70e2	5.59e2	2.09e3	1.63e3
Mareno-OD	Shallow Core	0.30	0.33	252297	8.71e2	1.44e3	8.17e3	4.44e3	4.07e3	4.79e3	1.25e4	7.66e3	7.12e2	3.92e2	1.85e3	1.20e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.11e3	2.12e3	1.23e4	7.04e3	5.56e3	7.11e3	1.88e4	1.12e4	5.74e2	4.09e2	2.92e3	1.97e3
Mareno-OD	Shallow Core	1.10	1.13	252299	1.38e3	3.15e3	1.63e4	8.91e3	7.84e3	9.24e3	2.46e4	1.45e4	9.15e2	8.49e2	3.49e3	2.38e3
Mareno-OD	Shallow Core	1.50	1.53	252300	5.60e2	1.35e3	6.82e3	3.88e3	3.27e3	4.02e3	9.96e3	6.40e3	3.81e2	3.86e2	1.48e3	1.06e3
Mareno-OD	Shallow Core	1.90	1.93	252301	8.00e2	1.48e3	7.79e3	4.13e3	3.85e3	4.64e3	1.16e4	7.30e3	1.51e3	3.56e2	1.75e3	1.05e3
Mareno-OD	Shallow Core	2.30	2.33	252302	1.47e3	2.97e3	1.58e4	9.33e3	7.68e3	9.90e3	2.11e4	1.38e4	7.14e2	6.14e2	3.95e3	2.52e3
Mareno-OD	Shallow Core	2.58	2.61	252303	1.80e3	2.99e3	1.69e4	1.01e4	8.08e3	1.06e4	2.28e4	1.49e4	9.37e2	1.02e3	3.64e3	3.06e3

Table 12. GCMS SIR of aromatic compounds (peak height)

				m/z	92															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	11n-Bz	12n-Bz	13n-Bz	14n-Bz	15n-Bz	16n-Bz	17n-Bz	18n-Bz	19n-Bz	21i-Bz	20n-Bz	22i-Bz	21n-Bz	22n-Bz	23n-Bz	26i-Bz
Mareno-OD	Shallow Core		0.04	252294	2.94e5	4.12e5	4.57e5	4.98e5	5.81e5	5.08e5	4.77e5	4.57e5	4.59e5	3.41e4	3.77e5	7.89e4	4.19e5	2.50e5	2.25e5	3.82e4
Mareno-OD	Shallow Core	0.10	0.12	252295	2.49e5	3.36e5	3.92e5	4.15e5	5.39e5	4.96e5	4.93e5	4.79e5	4.96e5	3.61e4	4.04e5	9.68e4	4.26e5	2.69e5	2.44e5	4.40e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.57e5	2.12e5	2.38e5	2.52e5	3.18e5	3.08e5	3.19e5	3.06e5	2.96e5	2.91e4	2.76e5	6.96e4	2.87e5	1.87e5	1.77e5	3.14e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.17e5	1.56e5	1.75e5	1.94e5	2.61e5	2.59e5	2.70e5	2.75e5	3.13e5	2.21e4	2.43e5	7.24e4	2.78e5	1.64e5	1.60e5	2.94e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.18e5	1.58e5	1.76e5	1.87e5	2.41e5	2.29e5	2.40e5	2.45e5	2.25e5	2.23e4	2.27e5	5.60e4	2.45e5	1.48e5	1.37e5	2.56e4
Mareno-OD	Shallow Core	1.10	1.13	252299	9.08e4	1.23e5	1.23e5	1.15e5	1.50e5	1.47e5	1.61e5	1.68e5	1.70e5	1.91e4	1.60e5	1.59e4	1.76e5	1.09e5	9.84e4	2.09e4
Mareno-OD	Shallow Core	1.50	1.53	252300	9.66e4	1.50e5	1.58e5	1.62e5	2.24e5	2.42e5	2.84e5	2.95e5	3.39e5	2.87e4	2.59e5	3.24e4	2.81e5	1.88e5	1.60e5	3.26e4
Mareno-OD	Shallow Core	1.90	1.93	252301	1.39e5	2.95e5	3.68e5	4.34e5	6.70e5	7.12e5	7.64e5	7.75e5	7.58e5	5.17e4	6.09e5	2.78e4	6.49e5	4.20e5	3.86e5	5.85e4
Mareno-OD	Shallow Core	2.30	2.33	252302	9.49e4	1.64e5	2.59e5	3.18e5	5.31e5	5.94e5	6.09e5	5.17e5	5.05e5	4.47e4	4.18e5	2.09e4	4.50e5	2.85e5	2.47e5	4.28e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.46e5	2.35e5	3.45e5	4.19e5	5.58e5	5.50e5	5.30e5	4.70e5	4.08e5	4.01e4	3.42e5	1.78e4	3.77e5	2.38e5	1.97e5	3.16e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z												106				
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	24n-Bz	25n-Bz	26n-Bz	27n-Bz	28n-Bz	29n-Bz	30n-Bz	31n-Bz	32n-Bz	33n-Bz	34n-Bz	11n-mTol	11n-oTol	12n-mTol	12n-oTol	13n-mTol
Mareno-OD	Shallow Core		0.04	252294	1.75e5	1.73e5	1.04e5	1.03e5	8.29e4	7.72e4	5.94e4	1.24e5	2.71e5	2.38e4	2.21e4	7.81e5	2.50e5	4.18e5	1.61e5	5.87e5
Mareno-OD	Shallow Core	0.10	0.12	252295	1.96e5	1.98e5	1.17e5	1.13e5	9.44e4	8.48e4	6.04e4	1.37e5	2.74e5	2.51e4	1.88e4	6.72e5	2.03e5	3.65e5	1.37e5	5.29e5
Mareno-OD	Shallow Core	0.20	0.23	252296	1.25e5	1.61e5	7.40e4	7.31e4	6.20e4	4.97e4	4.15e4	8.35e4	2.07e5	1.56e4	1.10e4	3.99e5	1.32e5	2.23e5	8.89e4	3.19e5
Mareno-OD	Shallow Core	0.30	0.33	252297	1.21e5	1.07e5	7.05e4	6.70e4	5.74e4	4.79e4	3.50e4	8.20e4	1.92e5	1.42e4	1.23e4	2.91e5	1.01e5	1.59e5	6.33e4	2.46e5
Mareno-OD	Shallow Core	0.70	0.73	252298	9.74e4	1.49e5	6.35e4	6.25e4	4.87e4	4.22e4	3.29e4	7.07e4	2.04e5	1.16e4	1.01e4	3.21e5	1.04e5	1.66e5	6.61e4	2.45e5
Mareno-OD	Shallow Core	1.10	1.13	252299	7.99e4	6.79e4	4.49e4	4.74e4	3.28e4	3.25e4	2.48e4	4.60e4	1.21e5	9.12e3	7.32e3	2.25e5	7.93e4	1.24e5	4.78e4	1.89e5
Mareno-OD	Shallow Core	1.50	1.53	252300	1.41e5	9.69e4	7.73e4	7.41e4	5.59e4	5.04e4	3.58e4	7.75e4	1.31e5	1.55e4	1.35e4	2.37e5	6.90e4	1.61e5	4.99e4	2.81e5
Mareno-OD	Shallow Core	1.90	1.93	252301	2.97e5	2.39e5	1.99e5	1.68e5	1.35e5	1.20e5	9.30e4	2.06e5	1.97e5	3.43e4	3.53e4	3.81e5	1.07e5	3.04e5	9.88e4	6.14e5
Mareno-OD	Shallow Core	2.30	2.33	252302	1.90e5	1.64e5	1.33e5	1.12e5	9.68e4	7.39e4	6.31e4	1.32e5	4.65e4	2.21e4	1.74e4	2.32e5	6.70e4	2.67e5	8.30e4	4.87e5
Mareno-OD	Shallow Core	2.58	2.61	252303	1.52e5	1.24e5	9.39e4	9.13e4	6.67e4	5.86e4	4.69e4	1.04e5	3.29e4	1.82e4	1.69e4	4.88e5	1.62e5	3.60e5	1.22e5	5.75e5

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	106															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	13n-oTol	14n-mTol	14n-oTol	15n-mTol	15n-oTol	16n-mTol	16n-oTol	17n-mTol	17n-oTol	18n-mTol	18n-oTol	19n-mTol	19n-oTol	20n-mTol	20n-oTol	22i-mTol
Mareno-OD	Shallow Core		0.04	252294	3.19e5	6.51e5	3.64e5	6.47e5	3.75e5	5.94e5	3.98e5	6.26e5	3.39e5	5.03e5	3.29e5	4.54e5	2.73e5	4.15e5	2.44e5	7.33e4
Mareno-OD	Shallow Core	0.10	0.12	252295	2.72e5	5.85e5	3.41e5	6.19e5	3.70e5	5.88e5	4.01e5	6.47e5	3.53e5	5.19e5	3.55e5	4.73e5	2.67e5	4.43e5	2.52e5	8.09e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.82e5	3.44e5	2.16e5	3.72e5	2.24e5	3.52e5	2.53e5	4.15e5	2.41e5	3.43e5	2.30e5	3.21e5	2.09e5	3.05e5	1.81e5	5.32e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.37e5	2.73e5	1.64e5	3.06e5	1.78e5	2.88e5	2.13e5	3.87e5	2.13e5	3.01e5	2.09e5	2.74e5	1.74e5	2.67e5	1.53e5	4.90e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.34e5	2.77e5	1.60e5	2.87e5	1.72e5	2.84e5	2.00e5	3.25e5	1.93e5	2.83e5	1.91e5	2.53e5	1.60e5	2.45e5	1.49e5	5.07e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.06e5	1.83e5	1.21e5	1.91e5	1.17e5	1.79e5	1.31e5	1.88e5	1.36e5	1.75e5	1.31e5	1.40e5	1.11e5	1.47e5	1.05e5	2.79e4
Mareno-OD	Shallow Core	1.50	1.53	252300	1.39e5	2.99e5	1.69e5	3.43e5	1.78e5	3.52e5	2.25e5	4.69e5	2.12e5	3.82e5	2.19e5	3.63e5	1.80e5	3.57e5	1.87e5	7.13e4
Mareno-OD	Shallow Core	1.90	1.93	252301	2.97e5	7.93e5	4.25e5	9.46e5	5.08e5	9.53e5	6.30e5	1.12e6	5.65e5	9.12e5	5.71e5	8.46e5	4.43e5	6.91e5	4.05e5	9.39e4
Mareno-OD	Shallow Core	2.30	2.33	252302	2.56e5	6.54e5	3.66e5	7.69e5	4.06e5	8.41e5	5.18e5	8.91e5	5.15e5	8.04e5	4.41e5	6.93e5	4.12e5	5.96e5	3.32e5	7.95e4
Mareno-OD	Shallow Core	2.58	2.61	252303	3.15e5	7.64e5	3.98e5	7.92e5	4.04e5	7.84e5	4.59e5	7.54e5	4.38e5	6.93e5	3.69e5	5.76e5	3.47e5	4.83e5	2.55e5	6.34e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	106							133								
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22i-oTol	23i-Tol	27i-Tol	25n-mTol	25n-oTol	30n-mTol	30n-oTol	13i-2,3,6-TMBz	14i-2,3,6-TMBz	15i-2,3,6-TMBz	16i-2,3,6-TMBz	17i-2,3,6-TMBz	18i-2,3,6-TMBz	19i-2,3,6-TMBz	20i-2,3,6-TMBz	21i-2,3,6-TMBz
Mareno-OD	Shallow Core		0.04	252294	8.61e4	5.82e4	3.56e5	3.01e5	9.76e4	7.32e4	3.86e4	5.40e5	5.29e5	3.71e5	3.02e5	9.46e4	2.86e5	2.45e5	1.29e5	1.16e5
Mareno-OD	Shallow Core	0.10	0.12	252295	9.93e4	6.21e4	3.97e5	3.40e5	1.10e5	8.18e4	3.97e4	4.64e5	5.07e5	3.91e5	3.28e5	9.68e4	3.31e5	2.68e5	1.42e5	1.39e5
Mareno-OD	Shallow Core	0.20	0.23	252296	7.30e4	4.37e4	2.80e5	2.23e5	7.21e4	5.26e4	2.21e4	3.18e5	3.55e5	2.64e5	2.38e5	6.78e4	2.46e5	2.18e5	1.13e5	1.13e5
Mareno-OD	Shallow Core	0.30	0.33	252297	6.79e4	4.12e4	2.41e5	2.03e5	6.34e4	4.29e4	2.30e4	2.43e5	2.82e5	2.26e5	2.02e5	5.55e4	2.30e5	2.00e5	1.06e5	1.04e5
Mareno-OD	Shallow Core	0.70	0.73	252298	6.39e4	4.07e4	2.51e5	1.81e5	6.45e4	3.95e4	2.08e4	2.56e5	3.14e5	2.40e5	2.19e5	5.53e4	2.46e5	2.24e5	1.17e5	1.11e5
Mareno-OD	Shallow Core	1.10	1.13	252299	4.61e4	3.03e4	1.66e5	1.26e5	3.57e4	2.45e4	1.15e4	1.98e5	2.70e5	1.83e5	1.77e5	3.89e4	2.08e5	2.06e5	1.11e5	9.39e4
Mareno-OD	Shallow Core	1.50	1.53	252300	7.69e4	5.57e4	3.11e5	2.50e5	6.95e4	5.59e4	2.53e4	2.32e5	3.19e5	2.37e5	2.38e5	6.74e4	2.83e5	2.34e5	1.33e5	1.37e5
Mareno-OD	Shallow Core	1.90	1.93	252301	1.22e5	1.02e5	4.31e5	5.98e5	1.91e5	1.27e5	5.66e4	4.13e5	4.92e5	3.82e5	3.34e5	1.68e5	3.27e5	2.79e5	1.47e5	1.25e5
Mareno-OD	Shallow Core	2.30	2.33	252302	9.50e4	7.25e4	3.98e5	4.05e5	1.24e5	9.36e4	4.43e4	4.44e5	4.39e5	2.84e5	2.49e5	1.32e5	2.74e5	2.11e5	1.24e5	9.07e4
Mareno-OD	Shallow Core	2.58	2.61	252303	7.10e4	5.68e4	2.81e5	3.17e5	1.02e5	7.33e4	4.25e4	5.39e5	4.32e5	2.60e5	2.06e5	1.13e5	2.14e5	1.57e5	9.98e4	7.19e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	133					149	121	142		156						
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22i-2,3,6-TMBz	24i-2,3,6-TMBz	30i-2,3,6-TMBz	31i-2,3,6-TMBz	40isoren	5,7,8-TM-MTTC	8-M-MTTC	2-MN	1-MN	2-EN	1-EN	2,6-DMN	2,7-DMN	1,3- + 1,7-DMN	1,6-DMN	2,3- + 1,4-DMN
Mareno-OD	Shallow Core		0.04	252294	5.48e4	8.45e4	2.65e5	3.98e4	0.00e0	9.57e4	6.22e4	1.42e7	1.25e7	1.33e6	8.57e5	5.09e6	4.89e6	1.23e7	8.76e6	4.65e6
Mareno-OD	Shallow Core	0.10	0.12	252295	6.75e4	9.20e4	2.91e5	4.08e4	0.00e0	1.05e5	7.08e4	1.15e7	1.10e7	1.11e6	7.58e5	4.53e6	4.16e6	1.13e7	8.11e6	4.34e6
Mareno-OD	Shallow Core	0.20	0.23	252296	4.92e4	6.73e4	1.89e5	3.59e4	0.00e0	7.48e4	4.71e4	7.07e6	6.80e6	7.07e5	4.86e5	2.70e6	2.56e6	7.11e6	4.98e6	2.63e6
Mareno-OD	Shallow Core	0.30	0.33	252297	4.97e4	6.54e4	1.81e5	2.84e4	0.00e0	7.20e4	5.20e4	5.26e6	5.20e6	5.39e5	3.80e5	2.09e6	1.95e6	5.64e6	3.86e6	2.17e6
Mareno-OD	Shallow Core	0.70	0.73	252298	4.98e4	6.59e4	1.75e5	3.38e4	0.00e0	6.86e4	4.50e4	5.82e6	5.71e6	5.75e5	4.20e5	2.30e6	2.22e6	6.15e6	4.18e6	2.33e6
Mareno-OD	Shallow Core	1.10	1.13	252299	4.14e4	4.44e4	1.47e5	2.81e4	0.00e0	5.40e4	3.44e4	3.65e6	3.63e6	3.49e5	2.45e5	1.53e6	1.44e6	4.03e6	2.77e6	1.46e6
Mareno-OD	Shallow Core	1.50	1.53	252300	5.35e4	7.94e4	2.23e5	6.66e4	0.00e0	1.25e5	6.10e4	2.76e6	2.87e6	3.43e5	2.23e5	1.55e6	1.48e6	4.27e6	2.62e6	1.43e6
Mareno-OD	Shallow Core	1.90	1.93	252301	5.83e4	1.35e5	5.52e5	8.64e4	0.00e0	6.77e4	1.30e5	4.10e6	4.62e6	6.80e5	4.39e5	2.94e6	2.91e6	8.55e6	5.30e6	3.03e6
Mareno-OD	Shallow Core	2.30	2.33	252302	5.13e4	1.18e5	2.89e5	3.77e4	0.00e0	2.81e4	8.83e4	2.49e6	2.14e6	3.43e5	2.06e5	1.49e6	1.38e6	3.67e6	2.41e6	1.38e6
Mareno-OD	Shallow Core	2.58	2.61	252303	3.65e4	8.66e4	2.06e5	4.91e4	0.00e0	1.49e4	6.97e4	4.70e6	3.99e6	5.89e5	3.36e5	2.43e6	2.26e6	5.76e6	4.29e6	2.08e6

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	156			170								168				182
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	1,5-DMN	1,2-DMN	1,8-DMN	1,3,7-TMN	1,3,6-TMN	1,3,5- + 1,4,6-TMN	2,3,6-TMN	1,2,7-TMN	1,6,7 + 1,2,6-TMN	1,2,4-TMN	1,2,5-TMN	2-MBP	DPM	3-MBP	4-MBP	2,2'-DMBP
Mareno-OD	Shallow Core		0.04	252294	2.14e6	2.04e6	1.64e4	3.69e6	4.98e6	3.52e6	4.05e6	9.83e5	3.13e6	5.28e5	3.26e6	4.01e5	6.24e5	7.41e6	2.88e6	4.45e4
Mareno-OD	Shallow Core	0.10	0.12	252295	1.93e6	1.80e6	1.70e4	3.49e6	4.65e6	3.34e6	3.81e6	9.42e5	3.07e6	5.22e5	3.13e6	3.51e5	5.56e5	6.47e6	2.53e6	4.30e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.25e6	1.17e6	9.36e3	2.16e6	2.94e6	2.12e6	2.26e6	5.69e5	1.85e6	3.32e5	2.08e6	2.29e5	3.54e5	3.68e6	1.50e6	2.88e4
Mareno-OD	Shallow Core	0.30	0.33	252297	9.59e5	9.05e5	8.46e3	1.80e6	2.38e6	1.75e6	1.87e6	4.83e5	1.54e6	2.72e5	1.69e6	1.83e5	2.76e5	3.07e6	1.24e6	2.30e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.05e6	9.78e5	8.95e3	1.83e6	2.48e6	1.81e6	1.97e6	4.98e5	1.58e6	2.80e5	1.77e6	1.83e5	2.73e5	3.45e6	1.38e6	2.12e4
Mareno-OD	Shallow Core	1.10	1.13	252299	6.64e5	5.77e5	7.18e3	1.24e6	1.67e6	1.20e6	1.25e6	2.90e5	9.87e5	1.72e5	1.06e6	1.43e5	2.05e5	2.43e6	9.57e5	1.75e4
Mareno-OD	Shallow Core	1.50	1.53	252300	6.89e5	5.30e5	8.31e3	1.71e6	2.32e6	1.61e6	1.77e6	3.44e5	1.24e6	2.02e5	1.09e6	1.68e5	3.01e5	3.12e6	1.44e6	2.03e4
Mareno-OD	Shallow Core	1.90	1.93	252301	1.45e6	1.14e6	1.92e4	3.78e6	5.15e6	3.69e6	4.03e6	8.95e5	3.06e6	5.58e5	2.73e6	3.27e5	5.79e5	6.00e6	2.84e6	4.85e4
Mareno-OD	Shallow Core	2.30	2.33	252302	6.58e5	5.21e5	1.56e4	1.94e6	2.57e6	1.98e6	1.98e6	4.37e5	1.45e6	3.12e5	1.23e6	3.01e5	4.32e5	2.55e6	1.20e6	3.80e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.17e6	8.39e5	1.54e4	2.53e6	3.33e6	2.61e6	2.65e6	6.50e5	1.96e6	4.06e5	1.39e6	4.55e5	5.21e5	3.31e6	1.54e6	4.35e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	182												178	192		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	2,6-DMBP	2-EBP	2,3'-DMBP	2,5-DMBP	2,4+2,4'-DMBP	3-EBP	3,5-DMBP	3,3'-DMBP	4-EBP	3,4'-DMBP	4,4'-DMBP	3,4-DMBP	P	3-MP	2-MP	9-MP
Mareno-OD	Shallow Core		0.04	252294	1.03e4	7.07e3	1.54e5	8.79e4	1.46e5	3.75e5	1.19e6	3.29e6	1.86e5	2.18e6	4.63e5	9.74e5	3.32e7	1.59e7	1.86e7	2.11e7
Mareno-OD	Shallow Core	0.10	0.12	252295	1.16e4	7.21e3	1.45e5	8.96e4	1.41e5	3.62e5	1.12e6	3.21e6	1.81e5	2.23e6	4.53e5	9.54e5	3.37e7	1.57e7	1.84e7	2.13e7
Mareno-OD	Shallow Core	0.20	0.23	252296	7.81e3	4.58e3	9.72e4	5.82e4	9.00e4	2.24e5	6.95e5	2.02e6	1.11e5	1.28e6	2.75e5	5.87e5	2.26e7	1.08e7	1.29e7	1.51e7
Mareno-OD	Shallow Core	0.30	0.33	252297	5.27e3	4.14e3	8.18e4	5.31e4	7.40e4	1.83e5	6.12e5	1.62e6	9.34e4	1.13e6	2.36e5	4.88e5	1.95e7	9.62e6	1.15e7	1.38e7
Mareno-OD	Shallow Core	0.70	0.73	252298	5.77e3	4.11e3	7.93e4	4.45e4	7.63e4	1.98e5	6.86e5	1.79e6	1.03e5	1.33e6	2.93e5	5.46e5	2.05e7	1.00e7	1.20e7	1.36e7
Mareno-OD	Shallow Core	1.10	1.13	252299	5.91e3	3.21e3	6.02e4	3.64e4	5.57e4	1.40e5	5.76e5	1.40e6	7.85e4	1.01e6	2.47e5	3.93e5	1.34e7	7.47e6	8.75e6	9.70e6
Mareno-OD	Shallow Core	1.50	1.53	252300	5.22e3	3.14e3	8.44e4	5.75e4	8.62e4	2.09e5	9.21e5	2.32e6	1.36e5	1.72e6	4.43e5	6.09e5	1.62e7	1.10e7	1.27e7	1.21e7
Mareno-OD	Shallow Core	1.90	1.93	252301	1.29e4	8.32e3	1.80e5	1.22e5	1.70e5	5.16e5	1.91e6	4.90e6	3.27e5	3.55e6	8.78e5	1.44e6	3.41e7	2.28e7	2.88e7	2.98e7
Mareno-OD	Shallow Core	2.30	2.33	252302	9.32e3	6.03e3	1.31e5	8.11e4	1.28e5	2.33e5	8.38e5	2.32e6	1.83e5	1.74e6	4.15e5	6.80e5	1.57e7	1.12e7	1.48e7	1.84e7
Mareno-OD	Shallow Core	2.58	2.61	252303	1.14e4	5.99e3	1.57e5	8.05e4	1.51e5	2.70e5	8.23e5	2.39e6	1.76e5	1.75e6	4.02e5	6.84e5	1.63e7	1.08e7	1.41e7	1.72e7

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	192	206										219	184	198		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	1-MP	2-EP+9-EP+ 3,6-DMP	1-EP	2,6- + 2,7- + 3,5-DMP	1,3- + 2,10- + 3,9- + 3,10-DMP	1,6- + 2,5- + 2,9-DMP	1,7-DMP	2,3-DMP	1,9- + 4,9- + 4,10-DMP	1,8-DMP	1,2-DMP	Retene	DBT	4-MDBT	(3+2)-MDBT	1-MDBT
Mareno-OD	Shallow Core		0.04	252294	1.43e7	3.38e6	5.31e6	3.60e6	1.34e7	6.71e6	7.60e6	3.71e6	4.13e6	2.08e6	1.99e6	2.92e6	1.66e6	2.12e6	1.52e6	5.52e5
Mareno-OD	Shallow Core	0.10	0.12	252295	1.44e7	3.46e6	5.83e6	4.03e6	1.40e7	6.88e6	7.79e6	3.67e6	4.31e6	2.13e6	2.04e6	3.36e6	1.65e6	2.25e6	1.54e6	5.45e5
Mareno-OD	Shallow Core	0.20	0.23	252296	1.03e7	2.30e6	3.70e6	2.68e6	9.65e6	4.77e6	5.12e6	2.52e6	2.96e6	1.51e6	1.38e6	2.34e6	1.09e6	1.50e6	1.05e6	3.95e5
Mareno-OD	Shallow Core	0.30	0.33	252297	9.02e6	2.32e6	3.71e6	2.58e6	8.81e6	4.22e6	4.88e6	2.39e6	2.71e6	1.33e6	1.26e6	2.31e6	9.63e5	1.33e6	9.42e5	3.35e5
Mareno-OD	Shallow Core	0.70	0.73	252298	8.93e6	2.07e6	3.52e6	2.57e6	9.24e6	4.36e6	4.84e6	2.42e6	2.63e6	1.38e6	1.17e6	2.34e6	9.89e5	1.41e6	9.38e5	3.34e5
Mareno-OD	Shallow Core	1.10	1.13	252299	6.23e6	1.65e6	3.13e6	2.14e6	7.56e6	3.72e6	3.96e6	1.92e6	2.03e6	1.01e6	8.26e5	1.71e6	6.52e5	1.12e6	6.85e5	2.28e5
Mareno-OD	Shallow Core	1.50	1.53	252300	8.23e6	3.00e6	5.61e6	4.12e6	1.09e7	5.38e6	5.61e6	2.85e6	2.89e6	1.41e6	1.14e6	2.04e6	7.78e5	1.67e6	1.02e6	2.88e5
Mareno-OD	Shallow Core	1.90	1.93	252301	1.88e7	5.53e6	1.07e7	7.30e6	2.22e7	1.09e7	1.22e7	5.72e6	6.15e6	3.05e6	2.45e6	5.11e6	1.69e6	3.44e6	2.32e6	6.66e5
Mareno-OD	Shallow Core	2.30	2.33	252302	1.20e7	3.65e6	5.74e6	4.07e6	1.76e7	8.65e6	8.54e6	4.65e6	5.74e6	2.61e6	2.25e6	2.61e6	1.00e6	2.21e6	1.31e6	5.66e5
Mareno-OD	Shallow Core	2.58	2.61	252303	1.19e7	3.17e6	4.93e6	3.27e6	1.60e7	8.14e6	8.38e6	4.03e6	5.45e6	2.48e6	1.93e6	1.68e6	1.24e6	2.63e6	1.43e6	6.98e5

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	191				253											
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	32BzH	33BzH	34BzH	35BzH	C21MA	C21DMA	C22MA	C22DMA	βSC27MA	βSC27DMA	αSC27DMA	βRC27MA+ βRC27DMA	αSC27MA	βSC28MA+ βSC28DMA+ αRC27DMA	αSC28DMA	αRC27MA
Mareno-OD	Shallow Core		0.04	252294	1.94e5	1.58e5	8.65e4	0.00e0	2.92e4	2.21e4	2.33e4	1.48e4	2.06e4	5.68e4	1.55e4	1.04e5	6.07e4	1.00e5	3.60e4	4.71e4
Mareno-OD	Shallow Core	0.10	0.12	252295	2.01e5	1.69e5	1.22e5	0.00e0	3.19e4	2.20e4	2.78e4	1.72e4	4.38e4	6.58e4	1.91e4	1.27e5	7.40e4	1.22e5	3.97e4	5.49e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.76e5	1.05e5	5.74e4	0.00e0	2.56e4	1.97e4	1.99e4	1.26e4	1.83e4	4.44e4	1.36e4	8.41e4	5.03e4	8.49e4	2.80e4	3.86e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.50e5	1.16e5	0.00e0	0.00e0	2.53e4	1.87e4	2.03e4	1.26e4	1.66e4	4.46e4	1.29e4	8.04e4	4.74e4	8.31e4	2.77e4	3.83e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.57e5	1.34e5	0.00e0	0.00e0	2.61e4	1.83e4	1.97e4	1.16e4	2.03e4	4.54e4	1.52e4	6.67e4	3.95e4	8.39e4	2.61e4	3.02e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.52e5	1.07e5	0.00e0	0.00e0	2.28e4	1.42e4	1.71e4	9.50e3	2.01e4	3.96e4	1.07e4	5.62e4	3.39e4	7.55e4	2.12e4	3.23e4
Mareno-OD	Shallow Core	1.50	1.53	252300	1.67e5	1.26e5	6.69e4	0.00e0	2.52e4	1.88e4	2.26e4	1.32e4	2.65e4	5.18e4	1.59e4	8.57e4	4.81e4	1.09e5	3.55e4	4.62e4
Mareno-OD	Shallow Core	1.90	1.93	252301	4.34e5	3.07e5	1.62e5	0.00e0	4.12e4	3.35e4	4.21e4	2.57e4	4.57e4	1.00e5	3.41e4	2.68e5	1.45e5	2.38e5	7.81e4	1.01e5
Mareno-OD	Shallow Core	2.30	2.33	252302	2.65e5	1.80e5	8.96e4	0.00e0	3.96e4	2.98e4	3.58e4	2.29e4	2.75e4	7.54e4	2.40e4	1.73e5	8.08e4	1.56e5	4.63e4	6.55e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.61e5	1.35e5	8.13e4	0.00e0	3.18e4	2.77e4	3.12e4	1.94e4	1.78e4	5.36e4	1.93e4	1.31e5	6.40e4	1.06e5	3.19e4	4.16e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	253								231							
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	αSC28MA	βRC28MA+ βRC28DMA	βSC29MA+ βSC29DMA	αRC28DMA	αSC29MA	αRC28MA+ βRC29MA+ βRC29DMA	αRC29DMA	αRC29MA	C20TA	C21TA	SC26TA	RC26TA+ SC27TA	M1	M2	SC28TA	RC27TA
Mareno-OD	Shallow Core		0.04	252294	1.70e5	9.86e5	1.59e5	1.69e4	3.56e4	8.05e4	8.02e4	4.31e4	2.66e5	2.13e5	1.31e5	2.72e5	6.37e3	1.43e4	1.89e5	1.11e5
Mareno-OD	Shallow Core	0.10	0.12	252295	1.91e5	9.89e5	1.50e5	2.10e4	4.53e4	1.05e5	1.00e5	6.28e4	3.04e5	2.51e5	1.65e5	3.28e5	5.66e3	1.53e4	2.18e5	1.35e5
Mareno-OD	Shallow Core	0.20	0.23	252296	1.28e5	6.61e5	1.06e5	1.30e4	2.80e4	6.96e4	6.57e4	4.00e4	2.31e5	1.84e5	1.14e5	2.39e5	5.53e3	1.08e4	1.59e5	9.51e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.20e5	6.57e5	9.76e4	1.28e4	2.31e4	7.18e4	6.72e4	4.27e4	2.15e5	1.79e5	1.16e5	2.36e5	5.13e3	9.50e3	1.64e5	9.65e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.06e5	5.81e5	9.67e4	1.24e4	2.82e4	6.87e4	5.85e4	3.47e4	2.02e5	1.59e5	1.23e5	2.45e5	5.57e3	8.28e3	1.68e5	9.58e4
Mareno-OD	Shallow Core	1.10	1.13	252299	7.45e4	4.39e5	7.83e4	9.65e3	2.57e4	5.71e4	5.13e4	2.83e4	1.55e5	1.29e5	1.04e5	2.12e5	3.70e3	5.06e3	1.42e5	8.11e4
Mareno-OD	Shallow Core	1.50	1.53	252300	1.15e5	7.50e5	1.12e5	1.17e4	2.33e4	7.95e4	9.70e4	4.09e4	2.15e5	1.75e5	1.33e5	2.65e5	5.00e3	1.04e4	1.78e5	1.09e5
Mareno-OD	Shallow Core	1.90	1.93	252301	3.00e5	1.61e6	2.43e5	3.27e4	6.47e4	1.66e5	1.74e5	8.24e4	3.78e5	3.30e5	2.07e5	4.26e5	7.44e3	1.63e4	2.16e5	1.73e5
Mareno-OD	Shallow Core	2.30	2.33	252302	2.08e5	7.61e5	1.33e5	2.47e4	4.47e4	1.15e5	1.01e5	5.74e4	3.21e5	2.93e5	1.35e5	2.86e5	7.65e3	1.29e4	1.39e5	1.14e5
Mareno-OD	Shallow Core	2.58	2.61	252303	1.61e5	5.46e5	9.08e4	1.79e4	3.29e4	8.01e4	9.10e4	4.19e4	2.86e5	2.52e5	8.36e4	1.82e5	3.33e3	7.73e3	9.10e4	7.29e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	231			245												
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	M3	M4	RC28TA	3MS-TA	4MS-TA	2,24DMS-TA	3,24DMS+3MR-TA	4,24DMS+4MR-TA	D1-TA	3M24ES-TA	D2-TA	4M24ES-TA	3,24DMR-TA	4,24DMR-TA	D3-TA	D4-TA
Mareno-OD	Shallow Core		0.04	252294	1.55e4	4.02e4	2.07e5	1.92e4	3.86e4	1.10e4	5.01e4	5.49e4	9.24e3	3.94e4	2.34e4	3.78e4	2.74e4	4.08e4	2.14e4	4.83e4
Mareno-OD	Shallow Core	0.10	0.12	252295	1.72e4	4.57e4	2.37e5	2.35e4	4.38e4	1.32e4	5.67e4	6.46e4	1.16e4	4.30e4	2.50e4	4.23e4	3.03e4	5.02e4	2.41e4	5.56e4
Mareno-OD	Shallow Core	0.20	0.23	252296	1.19e4	3.61e4	1.67e5	1.70e4	3.20e4	8.59e3	4.28e4	4.18e4	8.20e3	3.00e4	1.86e4	3.08e4	2.14e4	3.26e4	1.58e4	3.74e4
Mareno-OD	Shallow Core	0.30	0.33	252297	1.30e4	3.39e4	1.65e5	1.88e4	3.38e4	9.43e3	3.96e4	4.20e4	8.09e3	3.26e4	1.76e4	3.04e4	2.07e4	3.39e4	1.76e4	3.57e4
Mareno-OD	Shallow Core	0.70	0.73	252298	1.30e4	3.61e4	1.74e5	1.71e4	3.52e4	1.01e4	4.03e4	3.98e4	7.49e3	3.14e4	1.78e4	3.17e4	2.23e4	2.97e4	1.57e4	3.49e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.15e4	2.99e4	1.46e5	1.44e4	2.67e4	7.35e3	3.40e4	3.31e4	6.76e3	2.49e4	1.42e4	2.65e4	1.67e4	2.33e4	1.38e4	2.51e4
Mareno-OD	Shallow Core	1.50	1.53	252300	1.36e4	3.79e4	1.96e5	1.92e4	3.40e4	1.01e4	4.19e4	4.52e4	7.98e3	3.31e4	1.97e4	3.39e4	2.31e4	3.28e4	1.73e4	3.44e4
Mareno-OD	Shallow Core	1.90	1.93	252301	2.49e4	5.03e4	2.47e5	2.51e4	5.55e4	1.39e4	6.17e4	9.43e4	2.14e4	4.32e4	5.29e4	5.41e4	3.86e4	7.43e4	4.90e4	8.56e4
Mareno-OD	Shallow Core	2.30	2.33	252302	1.79e4	3.80e4	1.52e5	1.89e4	3.46e4	8.77e3	4.38e4	6.08e4	1.45e4	2.97e4	3.63e4	3.62e4	2.64e4	5.04e4	3.64e4	5.69e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.12e4	2.45e4	1.00e5	1.36e4	2.33e4	5.87e3	3.10e4	4.16e4	1.09e4	1.99e4	2.29e4	2.37e4	1.85e4	3.21e4	2.18e4	3.70e4

Table 12. continued, GCMS SIR of aromatic compounds (peak height)

				m/z	245					252				365	
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	2M24ER-TA	3M24ER-TA	D5-TA	4M24ER-TA	D6-TA	BzFa	Bz[e]Py	Bz[a]Py	Pe	29DMSH	30DMSH
Mareno-OD	Shallow Core		0.04	252294	8.63e3	3.69e4	1.54e4	3.15e4	2.72e4	1.00e7	1.81e7	1.69e6	9.94e5	2.98e5	3.51e5
Mareno-OD	Shallow Core	0.10	0.12	252295	9.92e3	4.17e4	1.91e4	3.38e4	3.11e4	1.00e7	1.95e7	1.89e6	1.10e6	3.29e5	3.89e5
Mareno-OD	Shallow Core	0.20	0.23	252296	7.10e3	2.85e4	1.19e4	2.35e4	2.05e4	6.70e6	1.39e7	1.20e6	7.57e5	2.33e5	2.83e5
Mareno-OD	Shallow Core	0.30	0.33	252297	8.49e3	2.97e4	1.19e4	2.47e4	2.25e4	6.63e6	1.36e7	1.23e6	8.50e5	2.31e5	2.66e5
Mareno-OD	Shallow Core	0.70	0.73	252298	7.05e3	2.96e4	1.16e4	2.60e4	2.24e4	5.90e6	1.18e7	1.03e6	9.48e5	2.41e5	2.80e5
Mareno-OD	Shallow Core	1.10	1.13	252299	6.51e3	2.38e4	1.01e4	2.26e4	1.69e4	4.49e6	8.62e6	7.23e5	8.64e5	1.60e5	1.73e5
Mareno-OD	Shallow Core	1.50	1.53	252300	7.75e3	3.05e4	1.31e4	2.90e4	2.37e4	7.54e6	1.42e7	1.20e6	1.32e6	2.11e5	2.43e5
Mareno-OD	Shallow Core	1.90	1.93	252301	1.00e4	4.34e4	3.52e4	4.17e4	7.14e4	1.63e7	3.06e7	3.19e6	7.22e6	3.02e5	3.78e5
Mareno-OD	Shallow Core	2.30	2.33	252302	8.73e3	2.81e4	2.42e4	3.13e4	4.65e4	7.49e6	1.90e7	1.76e6	3.79e6	1.91e5	2.40e5
Mareno-OD	Shallow Core	2.58	2.61	252303	5.07e3	2.06e4	1.74e4	2.16e4	3.05e4	5.30e6	1.49e7	1.19e6	1.75e6	1.47e5	1.93e5

Abbreviation of aromatic biomarkers

C-ring monoaromatic steroids

5βH pregnoid	C_{21}MA
5βMe diapregnoid	C_{21}DMA
5βH 20-methylpregnoid	C_{22}MA
5βMe 20-methyldiapregnoid	C_{22}DMA
5βH,20S cholesteroid	βSC_{27}MA
5βMe,20S diacholesteroid	βSC_{27}DMA
5αMe,20S diacholesteroid	αSC_{27}DMA
5βMe,20R diacholesteroid 5βH,20R cholesteroid	βRC_{27}DMA+ βRC_{27}MA
5αH,20S cholesteroid	αSC_{27}MA
5βH,24Me,20S cholesteroid 5αMe,20R diacholesteroid 5βMe,24Me,20S diacholesteroid	βSC_{28}MA+ αRC_{27}DMA+ βSC_{28}DMA
5αMe,24Me,20S diacholesteroid	αSC_{28}DMA
5αH,20R cholesteroid	αRC_{27}MA
5αH,24Me,20S cholesteroid	αSC_{28}MA
5βH,24Me,20R cholesteroid 5βMe,24Me,20R diacholesteroid	βRC_{28}MA+ βRC_{28}DMA
5βH,24Et,20S cholesteroid 5βMe,24Et,20S diacholesteroid	βSC_{29}MA+ βSC_{29}DMA
5αMe,24Me,20R diacholesteroid	αRC_{28}DMA
5αMe,24Et,20S diacholesteroid	αSC_{29}DMA
5αH,24Et,20S cholesteroid	αSC_{29}MA
5αH,24Me,20R cholesteroid 5βH,24Et,20R cholesteroid 5βMe,24Et,20R diacholesteroid	αRC_{28}MA+ βRC_{29}MA+ βRC_{29}DMA
5αMe,24Et,20R diacholesteroid	αRC_{29}DMA
5αH,24Et,20R cholesteroid	αRC_{29}MA

Triaromatic steroids

19-norpregnoid	C_{20}TA
20-methyl-19-norpregnoid	C_{21}TA
20S-19-norcholesteroid	SC_{26}TA
20R-19-norcholesteroid 20S-24-methyl-19-norcholesteroid	RC_{26}TA+ SC_{27}TA
20S-24-ethyl-19-norcholesteroid	SC_{28}TA
20R-24-methyl-19-norcholesteroid	RC_{27}TA
20R-24-ethyl-19-norcholesteroid	RC_{28}TA

Triaromatic dinosteroids

D1-TA	TA-dinosteroid #1
D2-TA	TA-dinosteroid #2
D3-TA	TA-dinosteroid #3
D4-TA	TA-dinosteroid #4
D5-TA	TA-dinosteroid #5
D6-TA	TA-dinosteroid #6
28-nor-D1-TA	TA 28-nor-dinosteroid #1*
28-nor-D2-TA	TA 28-nor-dinosteroid #2*
28-nor-D3-TA	TA 28-nor-dinosteroid #3*
28-nor-D4-TA	TA 28-nor-dinosteroid #4*
28-nor-D5-TA	TA 28-nor-dinosteroid #5*
28-nor-D6-TA	TA 28-nor-dinosteroid #6*

*Also known as 23,24 dimethylcholesteroids

Triaromatic methylsteroids

3MS-TA	(20S) 3-methyl TA
4MS-TA	(20S) 4-methyl TA
2,24DMS-TA	(20S) 2,24-dimethyl TA
3,24DMS-TA	(20S) 3,24-dimethyl TA
3MR-TA	(20R) 3-methyl TA
4,24DMS-TA	(20S) 4,24-dimethyl TA
4MR-TA	(20R) 4-methyl TA
3M24ES-TA	(20S) 3-methyl-24-ethyl TA
4M24ES-TA	(20S) 4-methyl-24-ethyl TA
3,24DMR-TA	(20R) 3,24-dimethyl TA
4,24DMR-TA	(20R) 4,24-dimethyl TA
2M24ER-TA	(20R) 2-methyl-24-ethyl TA
3M24ER-TA	(20R) 3-methyl-24-ethyl TA
4M24ER-TA	(20R) 4-methyl-24-ethyl TA

Polycyclic aromatic hydrocarbons and sulphur compounds

N	Naphthalene
MN	Methylnaphthalene
EN	Ethylnaphthalene
DMN	Dimethylnaphthalene
TMN	Trimethylnaphthalene
TeMN	Tetramethylnaphthalene
PMN	Pentamethylnaphthalene
P	Phenanthrene
MP	Methylphenanthrene
EP	Ethylphenanthrene
DMP	Dimethylphenanthrene
TMP	Trimethylphenanthre
DBT	Dibenzothiophene
MDBT	Methyldibenzothiophene
DMDBT	Dimethyldibenzothiophene
TMDBT	Trimethyldibenzothiophene

Other aromatic compounds

F	Fluorene
MF	Methylfluorene
DBF	Dibenzofuran
MDBF	Methyldibenzofuran
BP	Biphenyl
MBP	Methylbiphenyl
DPM	Diphenylmethane
DMBP	Dimethylbiphenyl
EBP	Ethylbiphenyl
Py	Pyrene
MPy	Methylpyrene
C	Chrysene
MC	Methylchrysene
Bz[b]F	Benzo[b]fluoranthene
Bz[k]F	Benzo[k]fluoranthene
Bz[e]Py	Benzo[e]pyrene
Bz[a]Py	Benzo[a]pyrene
Pe	Perylene

Table 13. GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	92															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	11n-Bz	12n-Bz	13n-Bz	14n-Bz	15n-Bz	16n-Bz	17n-Bz	18n-Bz	19n-Bz	21i-Bz	20n-Bz	22i-Bz	21n-Bz	22n-Bz	23n-Bz	26i-Bz
Mareno-OD	Shallow Core		0.04	252294	3.99e3	5.58e3	6.19e3	6.75e3	7.88e3	6.89e3	6.47e3	6.19e3	6.22e3	4.62e2	5.11e3	1.07e3	5.68e3	3.39e3	3.04e3	5.18e2
Mareno-OD	Shallow Core	0.10	0.12	252295	2.52e3	3.41e3	3.98e3	4.21e3	5.47e3	5.03e3	5.01e3	4.86e3	5.04e3	3.66e2	4.10e3	9.82e2	4.32e3	2.73e3	2.48e3	4.46e2
Mareno-OD	Shallow Core	0.20	0.23	252296	2.88e3	3.88e3	4.36e3	4.60e3	5.82e3	5.63e3	5.84e3	5.60e3	5.42e3	5.33e2	5.06e3	1.27e3	5.25e3	3.43e3	3.24e3	5.75e2
Mareno-OD	Shallow Core	0.30	0.33	252297	1.95e3	2.61e3	2.93e3	3.24e3	4.36e3	4.34e3	4.51e3	4.60e3	5.23e3	3.70e2	4.07e3	1.21e3	4.64e3	2.74e3	2.68e3	4.91e2
Mareno-OD	Shallow Core	0.70	0.73	252298	2.21e3	2.95e3	3.29e3	3.49e3	4.50e3	4.26e3	4.47e3	4.57e3	4.19e3	4.15e2	4.24e3	1.04e3	4.56e3	2.75e3	2.56e3	4.76e2
Mareno-OD	Shallow Core	1.10	1.13	252299	2.64e3	3.58e3	3.57e3	3.35e3	4.37e3	4.27e3	4.69e3	4.87e3	4.95e3	5.55e2	4.66e3	4.63e2	5.11e3	3.16e3	2.86e3	6.09e2
Mareno-OD	Shallow Core	1.50	1.53	252300	1.13e3	1.76e3	1.86e3	1.90e3	2.63e3	2.84e3	3.33e3	3.46e3	3.98e3	3.37e2	3.04e3	3.80e2	3.30e3	2.21e3	1.88e3	3.82e2
Mareno-OD	Shallow Core	1.90	1.93	252301	1.57e3	3.32e3	4.14e3	4.87e3	7.53e3	8.00e3	8.58e3	8.70e3	8.51e3	5.80e2	6.84e3	3.12e2	7.29e3	4.72e3	4.33e3	6.57e2
Mareno-OD	Shallow Core	2.30	2.33	252302	3.45e3	5.98e3	9.41e3	1.16e4	1.93e4	2.16e4	2.22e4	1.88e4	1.84e4	1.63e3	1.52e4	7.61e2	1.64e4	1.04e4	8.98e3	1.56e3
Mareno-OD	Shallow Core	2.58	2.61	252303	5.99e3	9.66e3	1.42e4	1.72e4	2.29e4	2.26e4	2.17e4	1.93e4	1.68e4	1.65e3	1.40e4	7.33e2	1.55e4	9.76e3	8.09e3	1.30e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z												106				
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	24n-Bz	25n-Bz	26n-Bz	27n-Bz	28n-Bz	29n-Bz	30n-Bz	31n-Bz	32n-Bz	33n-Bz	34n-Bz	11n-mTol	11n-oTol	12n-mTol	12n-oTol	13n-mTol
Mareno-OD	Shallow Core		0.04	252294	2.38e3	2.35e3	1.41e3	1.40e3	1.12e3	1.05e3	8.04e2	1.68e3	3.68e3	3.23e2	2.99e2	1.06e4	3.38e3	5.66e3	2.18e3	7.96e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.99e3	2.01e3	1.18e3	1.14e3	9.57e2	8.61e2	6.12e2	1.39e3	2.78e3	2.55e2	1.91e2	6.82e3	2.06e3	3.71e3	1.39e3	5.36e3
Mareno-OD	Shallow Core	0.20	0.23	252296	2.28e3	2.95e3	1.36e3	1.34e3	1.14e3	9.10e2	7.60e2	1.53e3	3.79e3	2.86e2	2.02e2	7.30e3	2.41e3	4.07e3	1.63e3	5.83e3
Mareno-OD	Shallow Core	0.30	0.33	252297	2.02e3	1.79e3	1.18e3	1.12e3	9.60e2	8.01e2	5.85e2	1.37e3	3.21e3	2.38e2	2.05e2	4.87e3	1.69e3	2.65e3	1.06e3	4.12e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.82e3	2.77e3	1.18e3	1.17e3	9.07e2	7.87e2	6.12e2	1.32e3	3.79e3	2.15e2	1.88e2	5.99e3	1.95e3	3.09e3	1.23e3	4.57e3
Mareno-OD	Shallow Core	1.10	1.13	252299	2.32e3	1.97e3	1.31e3	1.38e3	9.54e2	9.46e2	7.22e2	1.34e3	3.53e3	2.65e2	2.13e2	6.55e3	2.31e3	3.60e3	1.39e3	5.50e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.65e3	1.14e3	9.07e2	8.70e2	6.56e2	5.91e2	4.20e2	9.10e2	1.54e3	1.81e2	1.58e2	2.78e3	8.10e2	1.89e3	5.86e2	3.30e3
Mareno-OD	Shallow Core	1.90	1.93	252301	3.33e3	2.68e3	2.24e3	1.89e3	1.51e3	1.35e3	1.04e3	2.32e3	2.21e3	3.85e2	3.97e2	4.28e3	1.20e3	3.42e3	1.11e3	6.89e3
Mareno-OD	Shallow Core	2.30	2.33	252302	6.92e3	5.95e3	4.84e3	4.09e3	3.53e3	2.69e3	2.30e3	4.81e3	1.69e3	8.06e2	6.33e2	8.46e3	2.44e3	9.71e3	3.02e3	1.77e4
Mareno-OD	Shallow Core	2.58	2.61	252303	6.24e3	5.08e3	3.86e3	3.75e3	2.74e3	2.41e3	1.93e3	4.29e3	1.35e3	7.48e2	6.95e2	2.00e4	6.66e3	1.48e4	5.02e3	2.36e4

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	106															
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	13n-oTol	14n-mTol	14n-oTol	15n-mTol	15n-oTol	16n-mTol	16n-oTol	17n-mTol	17n-oTol	18n-mTol	18n-oTol	19n-mTol	19n-oTol	20n-mTol	20n-oTol	22i-mTol
Mareno-OD	Shallow Core		0.04	252294	4.32e3	8.83e3	4.93e3	8.77e3	5.08e3	8.06e3	5.39e3	8.48e3	4.59e3	6.82e3	4.46e3	6.15e3	3.70e3	5.63e3	3.30e3	9.94e2
Mareno-OD	Shallow Core	0.10	0.12	252295	2.76e3	5.93e3	3.46e3	6.28e3	3.75e3	5.97e3	4.07e3	6.57e3	3.58e3	5.27e3	3.60e3	4.80e3	2.71e3	4.50e3	2.55e3	8.21e2
Mareno-OD	Shallow Core	0.20	0.23	252296	3.33e3	6.30e3	3.95e3	6.81e3	4.09e3	6.45e3	4.62e3	7.59e3	4.41e3	6.27e3	4.21e3	5.88e3	3.82e3	5.58e3	3.32e3	9.74e2
Mareno-OD	Shallow Core	0.30	0.33	252297	2.29e3	4.56e3	2.74e3	5.12e3	2.98e3	4.82e3	3.56e3	6.47e3	3.56e3	5.04e3	3.50e3	4.58e3	2.91e3	4.47e3	2.57e3	8.20e2
Mareno-OD	Shallow Core	0.70	0.73	252298	2.49e3	5.17e3	2.98e3	5.35e3	3.21e3	5.30e3	3.72e3	6.06e3	3.60e3	5.27e3	3.55e3	4.71e3	2.99e3	4.57e3	2.77e3	9.45e2
Mareno-OD	Shallow Core	1.10	1.13	252299	3.07e3	5.31e3	3.52e3	5.56e3	3.41e3	5.22e3	3.80e3	5.48e3	3.96e3	5.10e3	3.82e3	4.08e3	3.22e3	4.29e3	3.06e3	8.11e2
Mareno-OD	Shallow Core	1.50	1.53	252300	1.63e3	3.51e3	1.98e3	4.03e3	2.09e3	4.13e3	2.64e3	5.51e3	2.49e3	4.48e3	2.57e3	4.26e3	2.12e3	4.18e3	2.20e3	8.36e2
Mareno-OD	Shallow Core	1.90	1.93	252301	3.34e3	8.90e3	4.78e3	1.06e4	5.71e3	1.07e4	7.07e3	1.25e4	6.35e3	1.02e4	6.41e3	9.50e3	4.98e3	7.76e3	4.55e3	1.05e3
Mareno-OD	Shallow Core	2.30	2.33	252302	9.31e3	2.38e4	1.33e4	2.80e4	1.48e4	3.06e4	1.89e4	3.24e4	1.87e4	2.93e4	1.60e4	2.52e4	1.50e4	2.17e4	1.21e4	2.89e3
Mareno-OD	Shallow Core	2.58	2.61	252303	1.29e4	3.14e4	1.64e4	3.25e4	1.66e4	3.22e4	1.89e4	3.10e4	1.80e4	2.85e4	1.51e4	2.37e4	1.43e4	1.98e4	1.05e4	2.60e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	106							133								
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22i-oTol	23i-Tol	27i-Tol	25n-mTol	25n-oTol	30n-mTol	30n-oTol	13i-2,3,6-TMBz	14i-2,3,6-TMBz	15i-2,3,6-TMBz	16i-2,3,6-TMBz	17i-2,3,6-TMBz	18i-2,3,6-TMBz	19i-2,3,6-TMBz	20i-2,3,6-TMBz	21i-2,3,6-TMBz
Mareno-OD	Shallow Core		0.04	252294	1.17e3	7.89e2	4.83e3	4.08e3	1.32e3	9.92e2	5.22e2	7.32e3	7.17e3	5.03e3	4.09e3	1.28e3	3.88e3	3.32e3	1.75e3	1.57e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.01e3	6.30e2	4.03e3	3.45e3	1.12e3	8.30e2	4.03e2	4.71e3	5.15e3	3.97e3	3.33e3	9.82e2	3.36e3	2.72e3	1.44e3	1.41e3
Mareno-OD	Shallow Core	0.20	0.23	252296	1.34e3	8.00e2	5.13e3	4.09e3	1.32e3	9.63e2	4.05e2	5.82e3	6.49e3	4.84e3	4.36e3	1.24e3	4.51e3	4.00e3	2.08e3	2.07e3
Mareno-OD	Shallow Core	0.30	0.33	252297	1.14e3	6.88e2	4.02e3	3.39e3	1.06e3	7.17e2	3.85e2	4.07e3	4.72e3	3.79e3	3.38e3	9.28e2	3.84e3	3.35e3	1.78e3	1.74e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.19e3	7.59e2	4.67e3	3.37e3	1.20e3	7.36e2	3.88e2	4.77e3	5.85e3	4.47e3	4.09e3	1.03e3	4.58e3	4.18e3	2.17e3	2.07e3
Mareno-OD	Shallow Core	1.10	1.13	252299	1.34e3	8.83e2	4.83e3	3.66e3	1.04e3	7.12e2	3.35e2	5.75e3	7.85e3	5.32e3	5.16e3	1.13e3	6.06e3	5.99e3	3.22e3	2.73e3
Mareno-OD	Shallow Core	1.50	1.53	252300	9.03e2	6.53e2	3.64e3	2.93e3	8.15e2	6.56e2	2.97e2	2.72e3	3.74e3	2.78e3	2.79e3	7.91e2	3.33e3	2.74e3	1.56e3	1.60e3
Mareno-OD	Shallow Core	1.90	1.93	252301	1.37e3	1.14e3	4.84e3	6.72e3	2.14e3	1.42e3	6.36e2	4.64e3	5.52e3	4.30e3	3.75e3	1.89e3	3.67e3	3.14e3	1.65e3	1.41e3
Mareno-OD	Shallow Core	2.30	2.33	252302	3.46e3	2.64e3	1.45e4	1.48e4	4.51e3	3.41e3	1.61e3	1.61e4	1.60e4	1.03e4	9.07e3	4.79e3	9.96e3	7.68e3	4.50e3	3.30e3
Mareno-OD	Shallow Core	2.58	2.61	252303	2.92e3	2.33e3	1.15e4	1.30e4	4.19e3	3.01e3	1.75e3	2.21e4	1.77e4	1.07e4	8.46e3	4.63e3	8.78e3	6.46e3	4.10e3	2.95e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	133					149	121	142		156						
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	22i-2,3,6-TMBz	24i-2,3,6-TMBz	30i-2,3,6-TMBz	31i-2,3,6-TMBz	40isoren	5,7,8-TM-MTTC	8-M-MTTC	2-MN	1-MN	2-EN	1-EN	2,6-DMN	2,7-DMN	1,3- + 1,7-DMN	1,6-DMN	2,3- + 1,4-DMN
Mareno-OD	Shallow Core		0.04	252294	7.43e2	1.15e3	3.60e3	5.40e2	0.00e0	1.30e3	8.42e2	1.92e5	1.70e5	1.81e4	1.16e4	6.89e4	6.63e4	1.67e5	1.19e5	6.30e4
Mareno-OD	Shallow Core	0.10	0.12	252295	6.85e2	9.33e2	2.95e3	4.14e2	0.00e0	1.07e3	7.18e2	1.17e5	1.12e5	1.12e4	7.69e3	4.59e4	4.22e4	1.14e5	8.23e4	4.40e4
Mareno-OD	Shallow Core	0.20	0.23	252296	9.01e2	1.23e3	3.46e3	6.57e2	0.00e0	1.37e3	8.63e2	1.29e5	1.24e5	1.30e4	8.89e3	4.94e4	4.68e4	1.30e5	9.12e4	4.81e4
Mareno-OD	Shallow Core	0.30	0.33	252297	8.30e2	1.09e3	3.03e3	4.76e2	0.00e0	1.20e3	8.70e2	8.79e4	8.69e4	9.01e3	6.36e3	3.50e4	3.25e4	9.44e4	6.45e4	3.63e4
Mareno-OD	Shallow Core	0.70	0.73	252298	9.28e2	1.23e3	3.27e3	6.30e2	0.00e0	1.28e3	8.39e2	1.08e5	1.06e5	1.07e4	7.83e3	4.28e4	4.13e4	1.15e5	7.79e4	4.35e4
Mareno-OD	Shallow Core	1.10	1.13	252299	1.21e3	1.29e3	4.29e3	8.19e2	0.00e0	1.57e3	1.00e3	1.06e5	1.06e5	1.01e4	7.13e3	4.44e4	4.18e4	1.17e5	8.04e4	4.25e4
Mareno-OD	Shallow Core	1.50	1.53	252300	6.28e2	9.32e2	2.62e3	7.82e2	0.00e0	1.46e3	7.16e2	3.24e4	3.37e4	4.03e3	2.62e3	1.82e4	1.73e4	5.01e4	3.08e4	1.68e4
Mareno-OD	Shallow Core	1.90	1.93	252301	6.54e2	1.52e3	6.20e3	9.70e2	0.00e0	7.60e2	1.46e3	4.60e4	5.19e4	7.64e3	4.93e3	3.30e4	3.27e4	9.60e4	5.95e4	3.40e4
Mareno-OD	Shallow Core	2.30	2.33	252302	1.87e3	4.29e3	1.05e4	1.37e3	0.00e0	1.02e3	3.21e3	9.05e4	7.79e4	1.25e4	7.48e3	5.44e4	5.02e4	1.34e5	8.79e4	5.03e4
Mareno-OD	Shallow Core	2.58	2.61	252303	1.50e3	3.56e3	8.46e3	2.02e3	0.00e0	6.11e2	2.86e3	1.93e5	1.64e5	2.42e4	1.38e4	9.97e4	9.30e4	2.36e5	1.76e5	8.56e4

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	156			170								168				182
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	1,5-DMN	1,2-DMN	1,8-DMN	1,3,7-TMN	1,3,6-TMN	1,3,5- + 1,4,6-TMN	2,3,6-TMN	1,2,7-TMN	1,6,7 + 1,2,6-TMN	1,2,4-TMN	1,2,5-TMN	2-MBP	DPM	3-MBP	4-MBP	2,2'-DMBP
Mareno-OD	Shallow Core		0.04	252294	2.90e4	2.76e4	2.22e2	5.00e4	6.75e4	4.77e4	5.48e4	1.33e4	4.25e4	7.16e3	4.41e4	6.20e3	9.64e3	1.15e5	4.45e4	6.88e2
Mareno-OD	Shallow Core	0.10	0.12	252295	1.96e4	1.82e4	1.73e2	3.54e4	4.71e4	3.39e4	3.87e4	9.55e3	3.12e4	5.30e3	3.18e4	4.11e3	6.52e3	7.58e4	2.97e4	5.04e2
Mareno-OD	Shallow Core	0.20	0.23	252296	2.29e4	2.15e4	1.71e2	3.96e4	5.39e4	3.89e4	4.15e4	1.04e4	3.40e4	6.08e3	3.80e4	4.74e3	7.33e3	7.61e4	3.10e4	5.95e2
Mareno-OD	Shallow Core	0.30	0.33	252297	1.60e4	1.51e4	1.42e2	3.00e4	3.97e4	2.92e4	3.13e4	8.08e3	2.57e4	4.55e3	2.83e4	3.53e3	5.30e3	5.92e4	2.39e4	4.42e2
Mareno-OD	Shallow Core	0.70	0.73	252298	1.95e4	1.82e4	1.67e2	3.42e4	4.62e4	3.37e4	3.66e4	9.27e3	2.95e4	5.22e3	3.29e4	4.14e3	6.17e3	7.79e4	3.11e4	4.80e2
Mareno-OD	Shallow Core	1.10	1.13	252299	1.93e4	1.68e4	2.09e2	3.60e4	4.85e4	3.48e4	3.63e4	8.45e3	2.87e4	5.02e3	3.08e4	4.86e3	6.99e3	8.27e4	3.26e4	5.95e2
Mareno-OD	Shallow Core	1.50	1.53	252300	8.09e3	6.22e3	9.80e1	2.01e4	2.72e4	1.89e4	2.07e4	4.04e3	1.45e4	2.37e3	1.27e4	2.45e3	4.39e3	4.56e4	2.11e4	2.97e2
Mareno-OD	Shallow Core	1.90	1.93	252301	1.63e4	1.28e4	2.16e2	4.24e4	5.79e4	4.14e4	4.53e4	1.00e4	3.44e4	6.27e3	3.06e4	4.06e3	7.18e3	7.45e4	3.52e4	6.02e2
Mareno-OD	Shallow Core	2.30	2.33	252302	2.40e4	1.89e4	5.67e2	7.06e4	9.35e4	7.20e4	7.21e4	1.59e4	5.30e4	1.14e4	4.47e4	1.12e4	1.60e4	9.45e4	4.45e4	1.41e3
Mareno-OD	Shallow Core	2.58	2.61	252303	4.81e4	3.45e4	6.31e2	1.04e5	1.37e5	1.07e5	1.09e5	2.67e4	8.06e4	1.67e4	5.69e4	1.94e4	2.23e4	1.41e5	6.58e4	1.86e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	182												178	192		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	2,6-DMBP	2-EBP	2,3'-DMBP	2,5-DMBP	2,4+2,4'-DMBP	3-EBP	3,5-DMBP	3,3'-DMBP	4-EBP	3,4'-DMBP	4,4'-DMBP	3,4-DMBP	P	3-MP	2-MP	9-MP
Mareno-OD	Shallow Core		0.04	252294	1.59e2	1.09e2	2.39e3	1.36e3	2.25e3	5.80e3	1.84e4	5.09e4	2.88e3	3.36e4	7.16e3	1.51e4	3.82e5	1.83e5	2.14e5	2.43e5
Mareno-OD	Shallow Core	0.10	0.12	252295	1.36e2	8.40e1	1.70e3	1.05e3	1.66e3	4.25e3	1.31e4	3.77e4	2.12e3	2.62e4	5.31e3	1.12e4	2.48e5	1.16e5	1.36e5	1.57e5
Mareno-OD	Shallow Core	0.20	0.23	252296	1.62e2	9.50e1	2.01e3	1.20e3	1.86e3	4.63e3	1.44e4	4.18e4	2.30e3	2.65e4	5.70e3	1.22e4	2.71e5	1.29e5	1.54e5	1.81e5
Mareno-OD	Shallow Core	0.30	0.33	252297	1.01e2	8.00e1	1.57e3	1.02e3	1.42e3	3.52e3	1.18e4	3.13e4	1.80e3	2.18e4	4.54e3	9.40e3	2.07e5	1.02e5	1.22e5	1.47e5
Mareno-OD	Shallow Core	0.70	0.73	252298	1.30e2	9.30e1	1.79e3	1.01e3	1.73e3	4.47e3	1.55e4	4.04e4	2.33e3	3.00e4	6.63e3	1.23e4	2.68e5	1.32e5	1.57e5	1.78e5
Mareno-OD	Shallow Core	1.10	1.13	252299	2.01e2	1.09e2	2.05e3	1.24e3	1.90e3	4.76e3	1.96e4	4.77e4	2.67e3	3.42e4	8.40e3	1.34e4	2.79e5	1.55e5	1.82e5	2.02e5
Mareno-OD	Shallow Core	1.50	1.53	252300	7.60e1	4.60e1	1.23e3	8.39e2	1.26e3	3.05e3	1.34e4	3.39e4	1.99e3	2.51e4	6.46e3	8.89e3	1.27e5	8.67e4	1.00e5	9.54e4
Mareno-OD	Shallow Core	1.90	1.93	252301	1.60e2	1.03e2	2.24e3	1.51e3	2.11e3	6.40e3	2.36e4	6.08e4	4.05e3	4.41e4	1.09e4	1.78e4	2.25e5	1.50e5	1.90e5	1.96e5
Mareno-OD	Shallow Core	2.30	2.33	252302	3.46e2	2.24e2	4.88e3	3.01e3	4.75e3	8.67e3	3.11e4	8.61e4	6.81e3	6.47e4	1.54e4	2.53e4	2.77e5	1.98e5	2.61e5	3.25e5
Mareno-OD	Shallow Core	2.58	2.61	252303	4.88e2	2.56e2	6.72e3	3.44e3	6.47e3	1.15e4	3.52e4	1.02e5	7.51e3	7.46e4	1.72e4	2.92e4	4.36e5	2.90e5	3.76e5	4.61e5

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	192	206										219	184	198		
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	1-MP	2-EP+9-EP+ 3,6-DMP	1-EP	2,6- + 2,7- + 3,5-DMP	1,3- + 2,10- + 3,9- + 3,10-DMP	1,6- + 2,5- + 2,9-DMP	1,7-DMP	2,3-DMP	1,9- + 4,9- + 4,10-DMP	1,8-DMP	1,2-DMP	Retene	DBT	4-MDBT	(3+2)-MDBT	1-MDBT
Mareno-OD	Shallow Core		0.04	252294	1.65e5	3.89e4	6.12e4	4.15e4	1.54e5	7.73e4	8.76e4	4.28e4	4.76e4	2.40e4	2.30e4	3.37e4	1.91e4	2.45e4	1.75e4	6.36e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.06e5	2.55e4	4.30e4	2.97e4	1.03e5	5.07e4	5.74e4	2.70e4	3.18e4	1.57e4	1.50e4	2.48e4	1.22e4	1.66e4	1.14e4	4.02e3
Mareno-OD	Shallow Core	0.20	0.23	252296	1.24e5	2.75e4	4.44e4	3.22e4	1.16e5	5.71e4	6.13e4	3.02e4	3.54e4	1.81e4	1.65e4	2.80e4	1.30e4	1.80e4	1.25e4	4.73e3
Mareno-OD	Shallow Core	0.30	0.33	252297	9.56e4	2.46e4	3.93e4	2.74e4	9.33e4	4.48e4	5.17e4	2.53e4	2.87e4	1.41e4	1.34e4	2.45e4	1.02e4	1.41e4	9.99e3	3.56e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.17e5	2.72e4	4.61e4	3.37e4	1.21e5	5.72e4	6.34e4	3.17e4	3.45e4	1.81e4	1.53e4	3.07e4	1.30e4	1.84e4	1.23e4	4.37e3
Mareno-OD	Shallow Core	1.10	1.13	252299	1.30e5	3.44e4	6.50e4	4.45e4	1.57e5	7.75e4	8.23e4	3.99e4	4.23e4	2.10e4	1.72e4	3.56e4	1.36e4	2.32e4	1.42e4	4.74e3
Mareno-OD	Shallow Core	1.50	1.53	252300	6.48e4	2.36e4	4.42e4	3.24e4	8.59e4	4.24e4	4.42e4	2.25e4	2.28e4	1.11e4	9.00e3	1.60e4	6.13e3	1.31e4	8.01e3	2.27e3
Mareno-OD	Shallow Core	1.90	1.93	252301	1.24e5	3.64e4	7.01e4	4.81e4	1.46e5	7.15e4	8.03e4	3.76e4	4.05e4	2.01e4	1.61e4	3.36e4	1.12e4	2.27e4	1.53e4	4.38e3
Mareno-OD	Shallow Core	2.30	2.33	252302	2.12e5	6.46e4	1.01e5	7.20e4	3.11e5	1.53e5	1.51e5	8.22e4	1.02e5	4.62e4	3.99e4	4.62e4	1.77e4	3.91e4	2.32e4	1.00e4
Mareno-OD	Shallow Core	2.58	2.61	252303	3.18e5	8.49e4	1.32e5	8.75e4	4.28e5	2.18e5	2.24e5	1.08e5	1.46e5	6.65e4	5.16e4	4.50e4	3.32e4	7.04e4	3.83e4	1.87e4

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	191				253											
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	32BzH	33BzH	34BzH	35BzH	C21MA	C21DMA	C22MA	C22DMA	βSC27MA	βSC27DMA	αSC27DMA	βRC27MA+ βRC27DMA	αSC27MA	βSC28MA+ βSC28DMA+ αRC27DMA	αSC28DMA	αRC27MA
Mareno-OD	Shallow Core		0.04	252294	3.93e3	3.21e3	1.76e3	0.00e0	5.92e2	4.48e2	4.74e2	3.01e2	4.18e2	1.15e3	3.15e2	2.11e3	1.23e3	2.04e3	7.32e2	9.56e2
Mareno-OD	Shallow Core	0.10	0.12	252295	2.49e3	2.09e3	1.51e3	0.00e0	3.95e2	2.72e2	3.44e2	2.13e2	5.41e2	8.14e2	2.36e2	1.57e3	9.16e2	1.51e3	4.91e2	6.79e2
Mareno-OD	Shallow Core	0.20	0.23	252296	3.92e3	2.34e3	1.28e3	0.00e0	5.70e2	4.37e2	4.42e2	2.80e2	4.08e2	9.87e2	3.02e2	1.87e3	1.12e3	1.89e3	6.23e2	8.58e2
Mareno-OD	Shallow Core	0.30	0.33	252297	2.56e3	1.98e3	0.00e0	0.00e0	4.30e2	3.19e2	3.45e2	2.14e2	2.83e2	7.58e2	2.19e2	1.37e3	8.06e2	1.41e3	4.71e2	6.51e2
Mareno-OD	Shallow Core	0.70	0.73	252298	3.77e3	3.23e3	0.00e0	0.00e0	6.28e2	4.41e2	4.73e2	2.79e2	4.87e2	1.09e3	3.65e2	1.60e3	9.49e2	2.02e3	6.28e2	7.25e2
Mareno-OD	Shallow Core	1.10	1.13	252299	6.13e3	4.31e3	0.00e0	0.00e0	9.19e2	5.72e2	6.88e2	3.83e2	8.10e2	1.60e3	4.31e2	2.27e3	1.37e3	3.05e3	8.54e2	1.30e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.35e3	1.77e3	9.40e2	0.00e0	3.55e2	2.65e2	3.17e2	1.85e2	3.72e2	7.28e2	2.23e2	1.21e3	6.76e2	1.54e3	4.99e2	6.49e2
Mareno-OD	Shallow Core	1.90	1.93	252301	4.65e3	3.29e3	1.74e3	0.00e0	4.41e2	3.59e2	4.51e2	2.75e2	4.90e2	1.08e3	3.66e2	2.87e3	1.55e3	2.55e3	8.36e2	1.08e3
Mareno-OD	Shallow Core	2.30	2.33	252302	8.49e3	5.76e3	2.86e3	0.00e0	1.27e3	9.53e2	1.15e3	7.33e2	8.78e2	2.41e3	7.66e2	5.53e3	2.58e3	5.00e3	1.48e3	2.10e3
Mareno-OD	Shallow Core	2.58	2.61	252303	7.73e3	6.47e3	3.90e3	0.00e0	1.53e3	1.33e3	1.50e3	9.33e2	8.57e2	2.58e3	9.25e2	6.29e3	3.07e3	5.08e3	1.53e3	2.00e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	253								231							
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	αSC28MA	βRC28MA+ βRC28DMA	βSC29MA+ βSC29DMA	αRC28DMA	αSC29MA	αRC28MA+ βRC29MA+ βRC29DMA	αRC29DMA	αRC29MA	C20TA	C21TA	SC26TA	RC26TA+ SC27TA	M1	M2	SC28TA	RC27TA
Mareno-OD	Shallow Core		0.04	252294	3.46e3	2.00e4	3.22e3	3.42e2	7.23e2	1.64e3	1.63e3	8.77e2	5.40e3	4.33e3	2.66e3	5.52e3	1.29e2	2.91e2	3.84e3	2.26e3
Mareno-OD	Shallow Core	0.10	0.12	252295	2.37e3	1.22e4	1.86e3	2.60e2	5.60e2	1.30e3	1.24e3	7.76e2	3.77e3	3.10e3	2.04e3	4.06e3	7.00e1	1.89e2	2.70e3	1.67e3
Mareno-OD	Shallow Core	0.20	0.23	252296	2.84e3	1.47e4	2.37e3	2.89e2	6.22e2	1.55e3	1.46e3	8.89e2	5.13e3	4.09e3	2.55e3	5.31e3	1.23e2	2.40e2	3.54e3	2.12e3
Mareno-OD	Shallow Core	0.30	0.33	252297	2.03e3	1.12e4	1.66e3	2.18e2	3.92e2	1.22e3	1.14e3	7.27e2	3.65e3	3.05e3	1.98e3	4.02e3	8.70e1	1.62e2	2.80e3	1.64e3
Mareno-OD	Shallow Core	0.70	0.73	252298	2.55e3	1.40e4	2.32e3	2.99e2	6.78e2	1.65e3	1.41e3	8.35e2	4.85e3	3.82e3	2.95e3	5.89e3	1.34e2	1.99e2	4.03e3	2.30e3
Mareno-OD	Shallow Core	1.10	1.13	252299	3.01e3	1.77e4	3.16e3	3.89e2	1.04e3	2.30e3	2.07e3	1.14e3	6.27e3	5.22e3	4.20e3	8.54e3	1.49e2	2.04e2	5.72e3	3.27e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.61e3	1.06e4	1.57e3	1.64e2	3.27e2	1.12e3	1.36e3	5.75e2	3.03e3	2.46e3	1.87e3	3.73e3	7.00e1	1.47e2	2.50e3	1.53e3
Mareno-OD	Shallow Core	1.90	1.93	252301	3.21e3	1.72e4	2.60e3	3.50e2	6.93e2	1.78e3	1.86e3	8.83e2	4.05e3	3.54e3	2.22e3	4.57e3	8.00e1	1.75e2	2.32e3	1.85e3
Mareno-OD	Shallow Core	2.30	2.33	252302	6.65e3	2.43e4	4.24e3	7.90e2	1.43e3	3.66e3	3.24e3	1.84e3	1.03e4	9.37e3	4.33e3	9.15e3	2.44e2	4.12e2	4.44e3	3.64e3
Mareno-OD	Shallow Core	2.58	2.61	252303	7.73e3	2.62e4	4.36e3	8.61e2	1.58e3	3.84e3	4.37e3	2.01e3	1.37e4	1.21e4	4.01e3	8.74e3	1.60e2	3.71e2	4.37e3	3.50e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	231			245												
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	M3	M4	RC28TA	3MS-TA	4MS-TA	2,24DMS-TA	3,24DMS+3MR-TA	4,24DMS+4MR-TA	D1-TA	3M24ES-TA	D2-TA	4M24ES-TA	3,24DMR-TA	4,24DMR-TA	D3-TA	D4-TA
Mareno-OD	Shallow Core		0.04	252294	3.15e2	8.16e2	4.20e3	3.90e2	7.84e2	2.23e2	1.02e3	1.12e3	1.88e2	8.00e2	4.76e2	7.67e2	5.56e2	8.29e2	4.36e2	9.81e2
Mareno-OD	Shallow Core	0.10	0.12	252295	2.13e2	5.65e2	2.93e3	2.91e2	5.41e2	1.63e2	7.02e2	7.99e2	1.43e2	5.31e2	3.09e2	5.24e2	3.75e2	6.21e2	2.99e2	6.88e2
Mareno-OD	Shallow Core	0.20	0.23	252296	2.64e2	8.03e2	3.71e3	3.78e2	7.11e2	1.91e2	9.52e2	9.30e2	1.82e2	6.67e2	4.14e2	6.84e2	4.77e2	7.24e2	3.52e2	8.32e2
Mareno-OD	Shallow Core	0.30	0.33	252297	2.21e2	5.76e2	2.80e3	3.19e2	5.75e2	1.60e2	6.73e2	7.15e2	1.38e2	5.54e2	2.98e2	5.17e2	3.52e2	5.76e2	2.99e2	6.08e2
Mareno-OD	Shallow Core	0.70	0.73	252298	3.13e2	8.68e2	4.18e3	4.10e2	8.46e2	2.44e2	9.68e2	9.57e2	1.80e2	7.55e2	4.29e2	7.63e2	5.36e2	7.15e2	3.78e2	8.39e2
Mareno-OD	Shallow Core	1.10	1.13	252299	4.62e2	1.20e3	5.90e3	5.82e2	1.08e3	2.96e2	1.37e3	1.34e3	2.73e2	1.01e3	5.73e2	1.07e3	6.75e2	9.39e2	5.55e2	1.01e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.91e2	5.32e2	2.75e3	2.69e2	4.77e2	1.42e2	5.89e2	6.36e2	1.12e2	4.66e2	2.78e2	4.77e2	3.24e2	4.61e2	2.43e2	4.83e2
Mareno-OD	Shallow Core	1.90	1.93	252301	2.66e2	5.38e2	2.64e3	2.69e2	5.94e2	1.49e2	6.61e2	1.01e3	2.29e2	4.63e2	5.66e2	5.79e2	4.13e2	7.96e2	5.25e2	9.17e2
Mareno-OD	Shallow Core	2.30	2.33	252302	5.74e2	1.22e3	4.85e3	6.06e2	1.11e3	2.80e2	1.40e3	1.94e3	4.63e2	9.49e2	1.16e3	1.16e3	8.45e2	1.61e3	1.16e3	1.82e3
Mareno-OD	Shallow Core	2.58	2.61	252303	5.40e2	1.18e3	4.82e3	6.53e2	1.12e3	2.81e2	1.49e3	2.00e3	5.23e2	9.55e2	1.10e3	1.14e3	8.86e2	1.54e3	1.04e3	1.78e3

Table 13. continued, GCMS SIR of aromatic compounds (amounts in ng/g)

				m/z	245					252				365	
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	2M24ER-TA	3M24ER-TA	D5-TA	4M24ER-TA	D6-TA	BzFa	Bz[e]Py	Bz[a]Py	Pe	29DMSH	30DMSH
Mareno-OD	Shallow Core		0.04	252294	1.75e2	7.49e2	3.14e2	6.39e2	5.53e2	2.03e5	3.68e5	3.44e4	2.02e4	6.06e3	7.12e3
Mareno-OD	Shallow Core	0.10	0.12	252295	1.23e2	5.15e2	2.36e2	4.18e2	3.84e2	1.24e5	2.41e5	2.34e4	1.36e4	4.07e3	4.81e3
Mareno-OD	Shallow Core	0.20	0.23	252296	1.58e2	6.33e2	2.65e2	5.22e2	4.55e2	1.49e5	3.09e5	2.68e4	1.68e4	5.18e3	6.28e3
Mareno-OD	Shallow Core	0.30	0.33	252297	1.44e2	5.05e2	2.03e2	4.20e2	3.83e2	1.13e5	2.31e5	2.10e4	1.45e4	3.94e3	4.52e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.69e2	7.10e2	2.80e2	6.24e2	5.38e2	1.42e5	2.83e5	2.47e4	2.28e4	5.78e3	6.72e3
Mareno-OD	Shallow Core	1.10	1.13	252299	2.62e2	9.61e2	4.08e2	9.11e2	6.82e2	1.81e5	3.48e5	2.92e4	3.48e4	6.44e3	6.99e3
Mareno-OD	Shallow Core	1.50	1.53	252300	1.09e2	4.29e2	1.84e2	4.08e2	3.34e2	1.06e5	2.00e5	1.69e4	1.85e4	2.96e3	3.42e3
Mareno-OD	Shallow Core	1.90	1.93	252301	1.07e2	4.65e2	3.77e2	4.46e2	7.65e2	1.75e5	3.27e5	3.42e4	7.74e4	3.24e3	4.05e3
Mareno-OD	Shallow Core	2.30	2.33	252302	2.79e2	8.99e2	7.72e2	1.00e3	1.49e3	2.40e5	6.09e5	5.62e4	1.21e5	6.11e3	7.67e3
Mareno-OD	Shallow Core	2.58	2.61	252303	2.43e2	9.88e2	8.36e2	1.04e3	1.47e3	2.54e5	7.17e5	5.70e4	8.38e4	7.04e3	9.26e3

Table 14. GCMS/MS of saturated compounds (peak height)

				m/z	358->217												
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	24nor27dβS	24nor27dβR	27nor27dβS	27nor27dβR	24nor27ααS	24nor27ββR	24nor27ββS	24nor27ααR	21nor27	27nor27ααS	27nor27ββR	27nor27ββS	27nor27ααR
Mareno-OD	Shallow Core		0.04	252294	2.31e3	1.52e3	1.21e4	7.97e3	7.44e2	8.75e2	5.97e2	6.13e2	1.90e3	2.67e3	2.72e3	2.68e3	2.85e3
Mareno-OD	Shallow Core	0.10	0.12	252295	2.69e3	1.68e3	1.44e4	9.53e3	9.13e2	1.37e3	6.17e2	7.38e2	2.51e3	3.31e3	3.47e3	3.01e3	3.59e3
Mareno-OD	Shallow Core	0.20	0.23	252296	2.27e3	1.63e3	1.34e4	8.57e3	8.30e2	9.94e2	7.59e2	5.12e2	1.98e3	3.11e3	3.06e3	2.79e3	3.15e3
Mareno-OD	Shallow Core	0.30	0.33	252297	2.01e3	1.31e3	1.14e4	7.82e3	4.46e2	9.94e2	5.15e2	5.45e2	1.71e3	2.64e3	2.78e3	2.37e3	2.72e3
Mareno-OD	Shallow Core	0.70	0.73	252298	1.76e3	1.24e3	1.20e4	8.31e3	6.29e2	9.87e2	4.71e2	5.19e2	1.84e3	2.60e3	2.68e3	2.85e3	2.92e3
Mareno-OD	Shallow Core	1.10	1.13	252299	1.83e3	1.24e3	1.06e4	6.16e3	7.10e2	9.64e2	3.85e2	6.88e2	1.60e3	2.40e3	2.64e3	2.19e3	3.37e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.30e3	1.61e3	1.21e4	7.57e3	6.71e2	1.12e3	6.94e2	8.10e2	2.10e3	2.81e3	3.31e3	2.82e3	4.07e3
Mareno-OD	Shallow Core	1.90	1.93	252301	3.32e3	2.27e3	1.57e4	1.05e4	1.21e3	1.04e3	7.92e2	8.11e2	2.81e3	3.46e3	2.98e3	2.86e3	3.71e3
Mareno-OD	Shallow Core	2.30	2.33	252302	3.01e3	1.83e3	1.33e4	8.33e3	7.76e2	1.01e3	5.95e2	4.57e2	2.40e3	1.97e3	2.68e3	2.16e3	2.82e3
Mareno-OD	Shallow Core	2.58	2.61	252303	2.53e3	1.63e3	1.13e4	7.22e3	6.13e2	8.84e2	6.72e2	4.67e2	2.06e3	1.80e3	2.47e3	2.13e3	2.26e3

Abbreviations of saturated biomarkers analysed by GC-MS/MS

13β, 17α, 20S-24-nordiacholestane	24nor27dβS
13β, 17α, 20R-24-nordiacholestane	24nor27dβR
13β, 17α, 20S-27-nordiacholestane	27nor27dβS
13β, 17α, 20R-27-nordiacholestane	27nor27dβR
5α, 14α, 17α, 20S-24-norcholestane	24nor27ααS
5α, 14β, 17β, 20R-24-norcholestane	24nor27ββR
5α, 14β, 17β, 20S-24-norcholestane	24nor27ββS

5α, 14α, 17β, 20R-24-norcholestane	24nor27ααR
21-norcholestane	21nor27
5α, 14α, 17α, 20S-27-norcholestane	27nor27ααS
5α, 14β, 17β, 20R-27-norcholestane	27nor27ββR
5α, 14β, 17β, 20S-27-norcholestane	27nor27ββS
5α, 14α, 17α, 20R-27-norcholestane	27nor27ααR

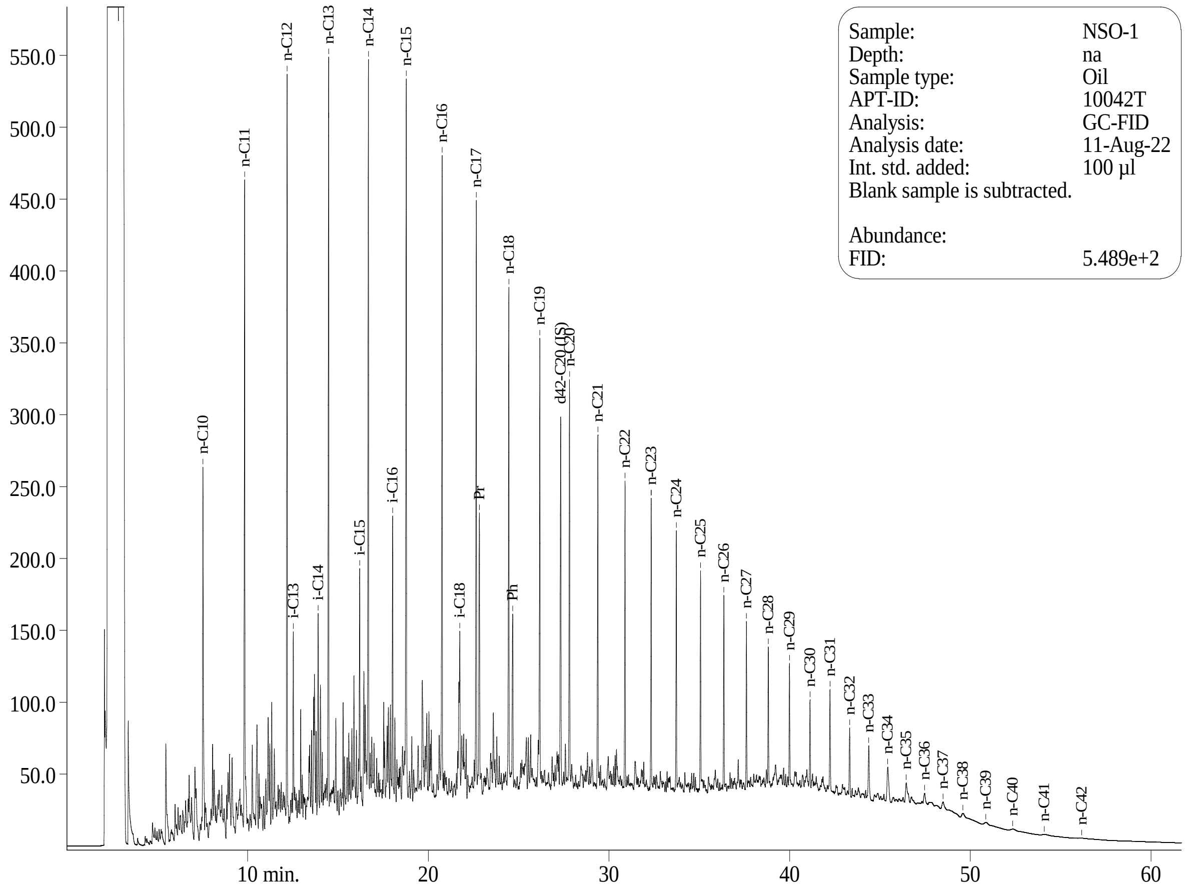
Table 15. GCMS/MS of saturated compounds (amounts in ng/g)

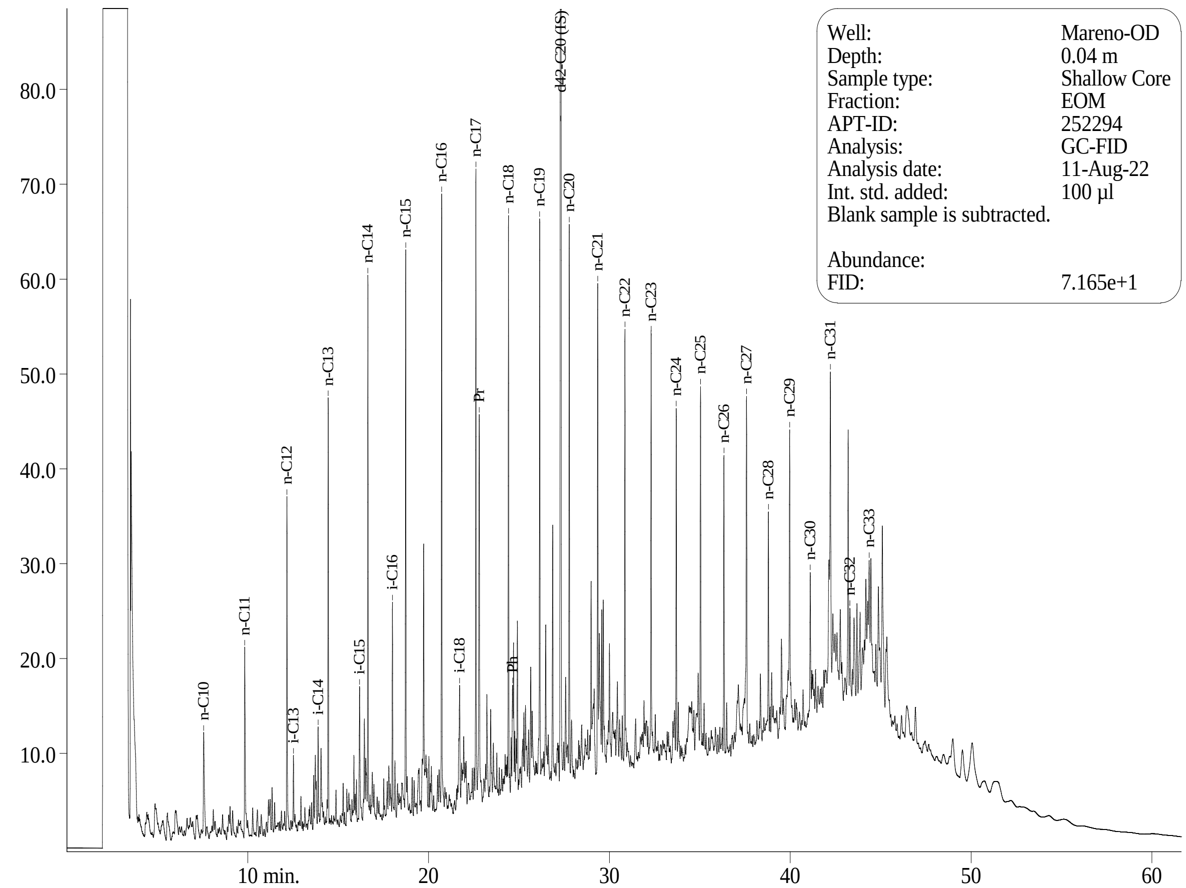
				m/z	358->217												
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	24nor27dβS	24nor27dβR	27nor27dβS	27nor27dβR	24nor27ααS	24nor27ββR	24nor27ββS	24nor27ααR	21nor27	27nor27ααS	27nor27ββR	27nor27ββS	27nor27ααR
Mareno-OD	Shallow Core		0.04	252294	4.57e2	3.00e2	2.39e3	1.58e3	1.47e2	1.73e2	1.18e2	1.21e2	3.76e2	5.29e2	5.38e2	5.31e2	5.64e2
Mareno-OD	Shallow Core	0.10	0.12	252295	3.12e2	1.94e2	1.67e3	1.10e3	1.06e2	1.59e2	7.10e1	8.50e1	2.91e2	3.84e2	4.01e2	3.48e2	4.16e2
Mareno-OD	Shallow Core	0.20	0.23	252296	4.15e2	2.97e2	2.45e3	1.56e3	1.51e2	1.81e2	1.38e2	9.30e1	3.62e2	5.67e2	5.58e2	5.08e2	5.75e2
Mareno-OD	Shallow Core	0.30	0.33	252297	3.49e2	2.27e2	1.97e3	1.36e3	7.70e1	1.72e2	8.90e1	9.40e1	2.97e2	4.58e2	4.82e2	4.11e2	4.71e2
Mareno-OD	Shallow Core	0.70	0.73	252298	3.87e2	2.74e2	2.63e3	1.83e3	1.38e2	2.17e2	1.04e2	1.14e2	4.04e2	5.72e2	5.90e2	6.27e2	6.43e2
Mareno-OD	Shallow Core	1.10	1.13	252299	6.30e2	4.25e2	3.65e3	2.12e3	2.44e2	3.32e2	1.32e2	2.37e2	5.50e2	8.27e2	9.10e2	7.54e2	1.16e3
Mareno-OD	Shallow Core	1.50	1.53	252300	2.98e2	2.08e2	1.56e3	9.78e2	8.70e1	1.45e2	9.00e1	1.05e2	2.71e2	3.63e2	4.27e2	3.64e2	5.26e2
Mareno-OD	Shallow Core	1.90	1.93	252301	3.97e2	2.71e2	1.88e3	1.25e3	1.45e2	1.25e2	9.50e1	9.70e1	3.36e2	4.14e2	3.57e2	3.42e2	4.43e2
Mareno-OD	Shallow Core	2.30	2.33	252302	9.83e2	5.97e2	4.35e3	2.72e3	2.53e2	3.28e2	1.94e2	1.49e2	7.85e2	6.42e2	8.76e2	7.04e2	9.20e2
Mareno-OD	Shallow Core	2.58	2.61	252303	9.03e2	5.81e2	4.04e3	2.58e3	2.19e2	3.16e2	2.40e2	1.67e2	7.35e2	6.42e2	8.83e2	7.60e2	8.06e2

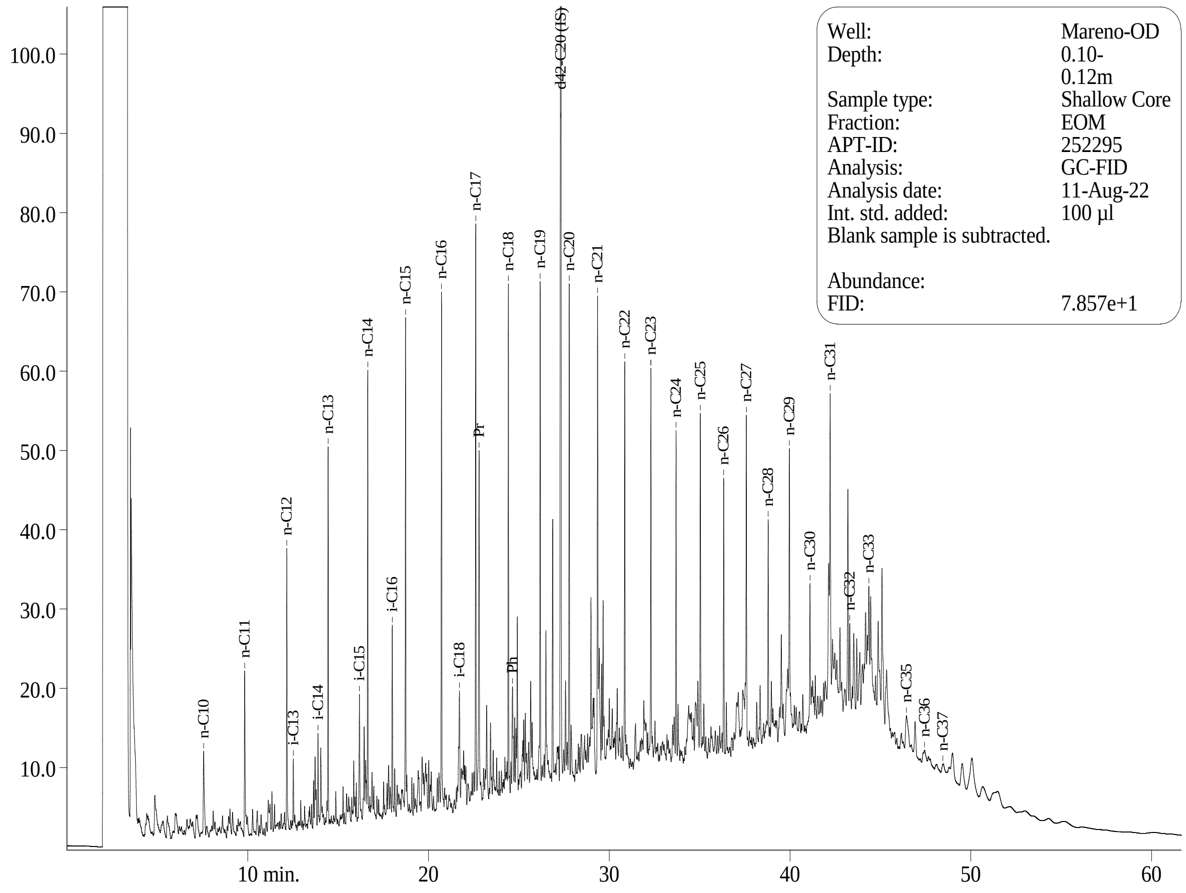
Table 16. Isotopes of fractions (δ¹³C (‰ VPDB))

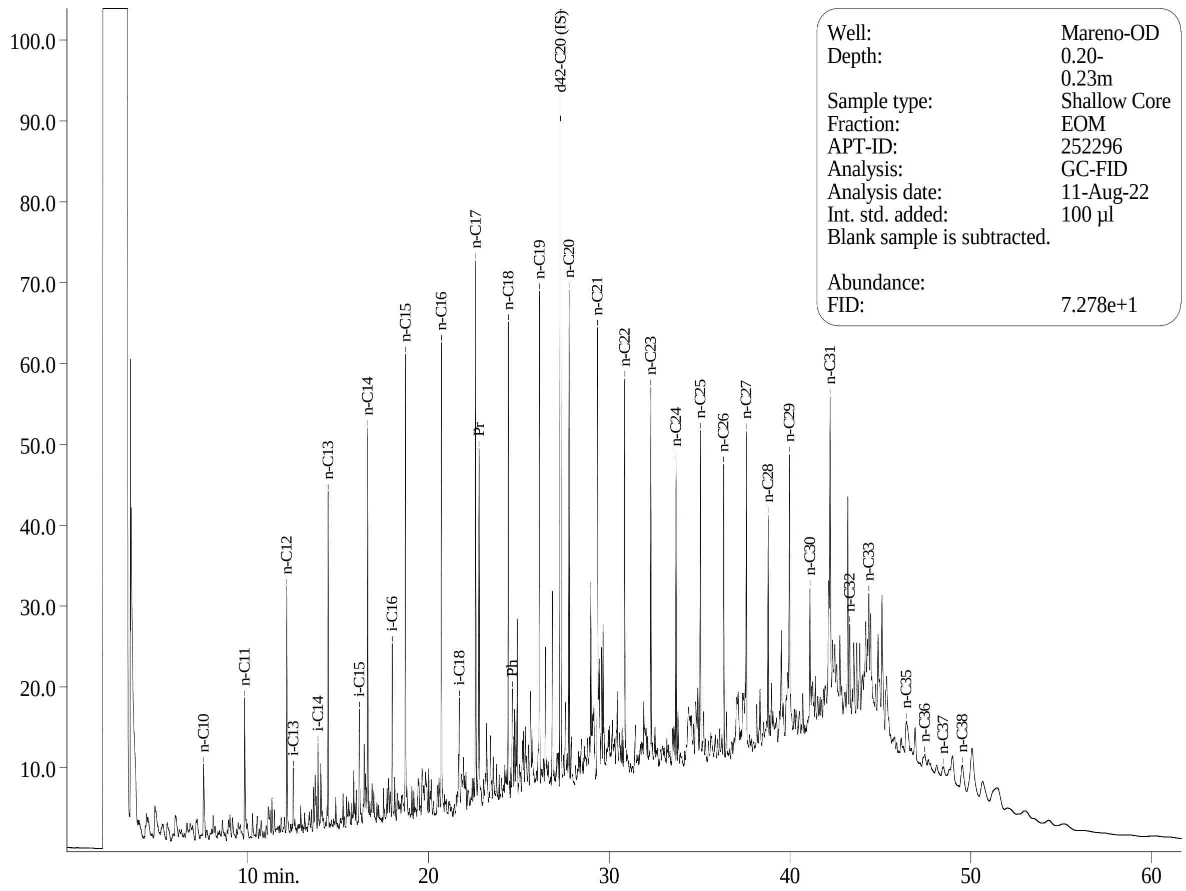
Well	Sample type	Upper Depth (m)	Lower Depth (m)	APT ID	$\delta^{13}C$-Oil/EOM	$\delta^{13}C$-Sat	$\delta^{13}C$-Aro
Mareno-OD	Shallow Core		0.04	252294		-30.2	-27.6
Mareno-OD	Shallow Core	0.10	0.12	252295		-30.2	-27.7
Mareno-OD	Shallow Core	0.20	0.23	252296		-30.3	-27.8
Mareno-OD	Shallow Core	0.30	0.33	252297		-30.2	-27.8
Mareno-OD	Shallow Core	0.70	0.73	252298		-30.4	-28.0
Mareno-OD	Shallow Core	1.10	1.13	252299		-30.3	-27.9
Mareno-OD	Shallow Core	1.50	1.53	252300		-30.0	-27.7
Mareno-OD	Shallow Core	1.90	1.93	252301		-29.9	-27.2
Mareno-OD	Shallow Core	2.30	2.33	252302		-30.3	-28.2
Mareno-OD	Shallow Core	2.58	2.61	252303		-30.4	-28.4

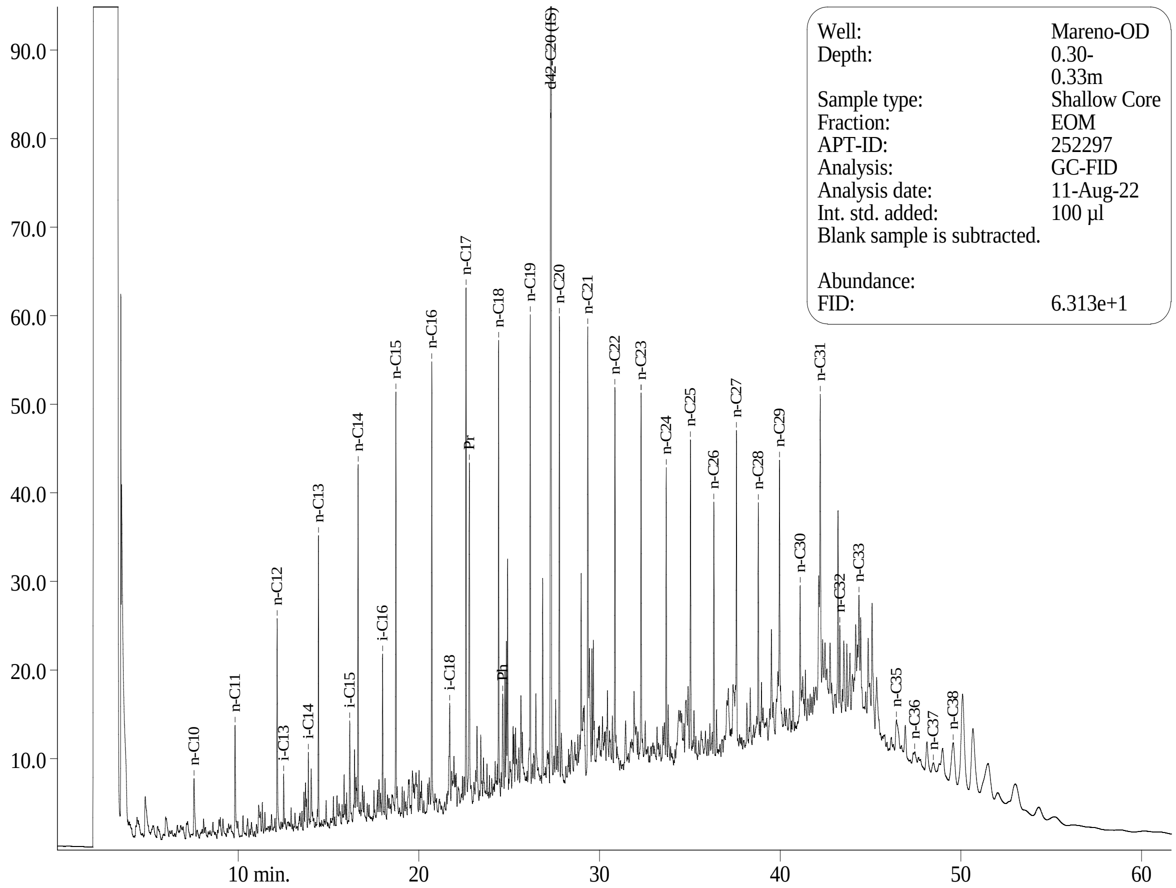
GC Chromatograms of EOM Fractions


Sample: NSO-1
Depth: na
Sample type: Oil
APT-ID: 10042T
Analysis: GC-FID
Analysis date: 11-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 5.489e+2
550.0
500.0
450.0
400.0
350.0
300.0
250.0
200.0
150.0
100.0
50.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
i-C18
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
n-C40
n-C41
n-C42

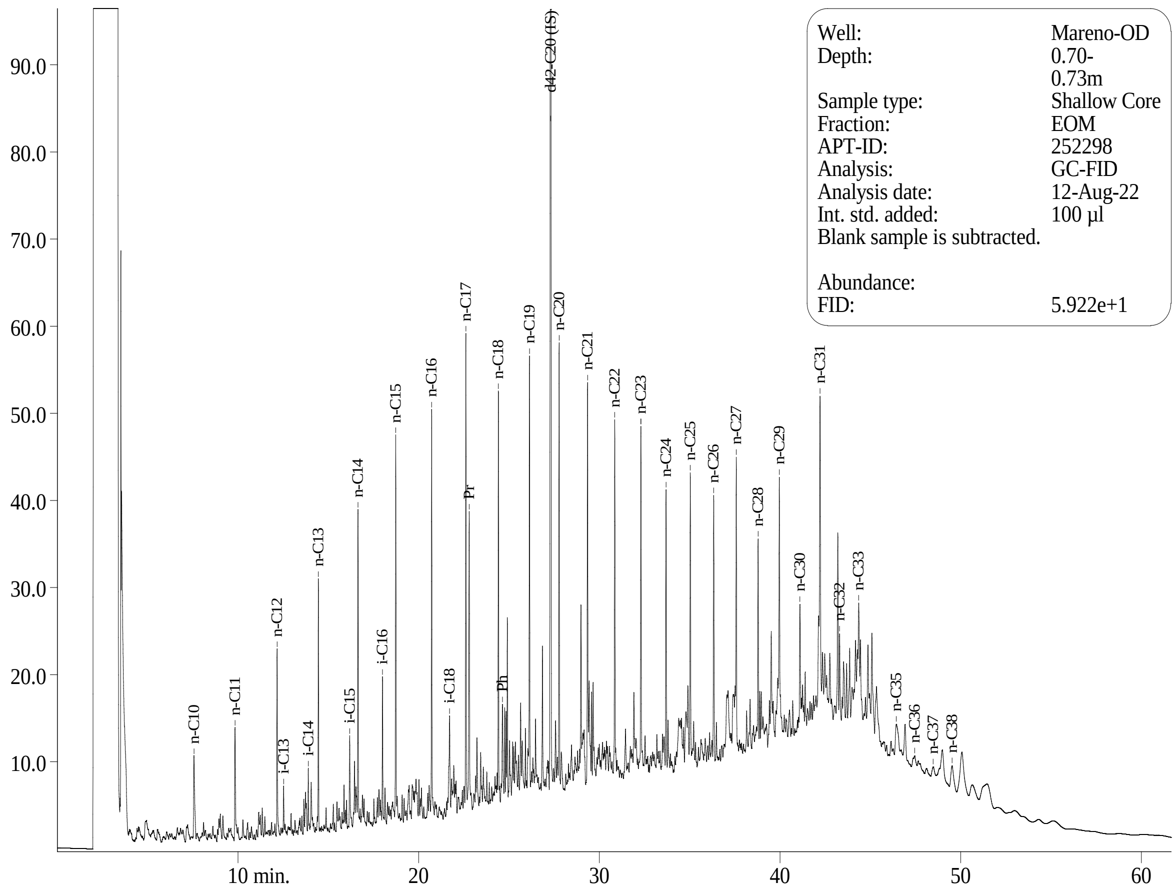

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252294
Analysis: GC-FID
Analysis date: 11-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 7.165e+1
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
i-C18
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33


Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252295
Analysis: GC-FID
Analysis date: 11-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 7.857e+1
d42-C20 (IS)
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
Pr
i-C18
n-C18
Ph
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
10 min.
20
30
40
50
60

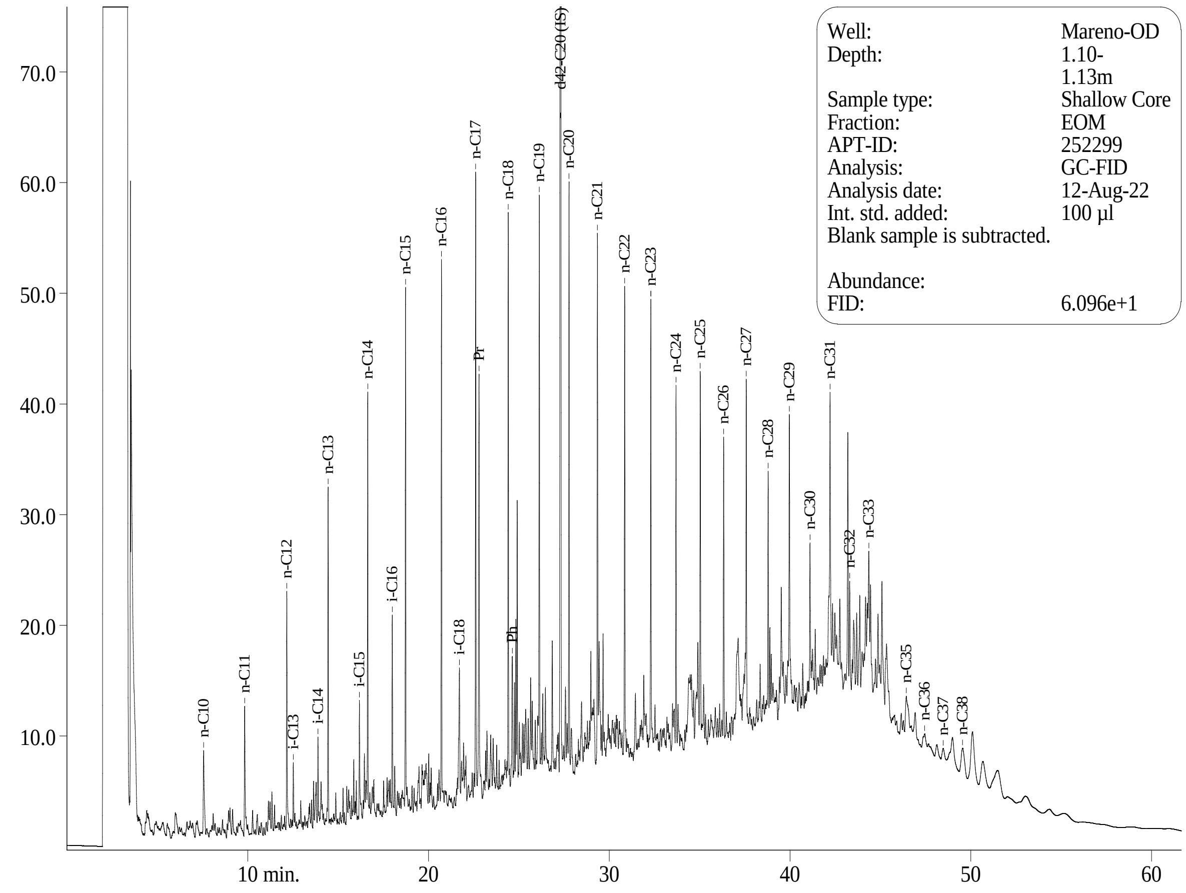

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252296
Analysis: GC-FID
Analysis date: 11-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 7.278e+1
d42-C20 (IS)
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
Pr
i-C18
n-C18
Ph
n-C19
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38
10 min.
20
30
40
50
60

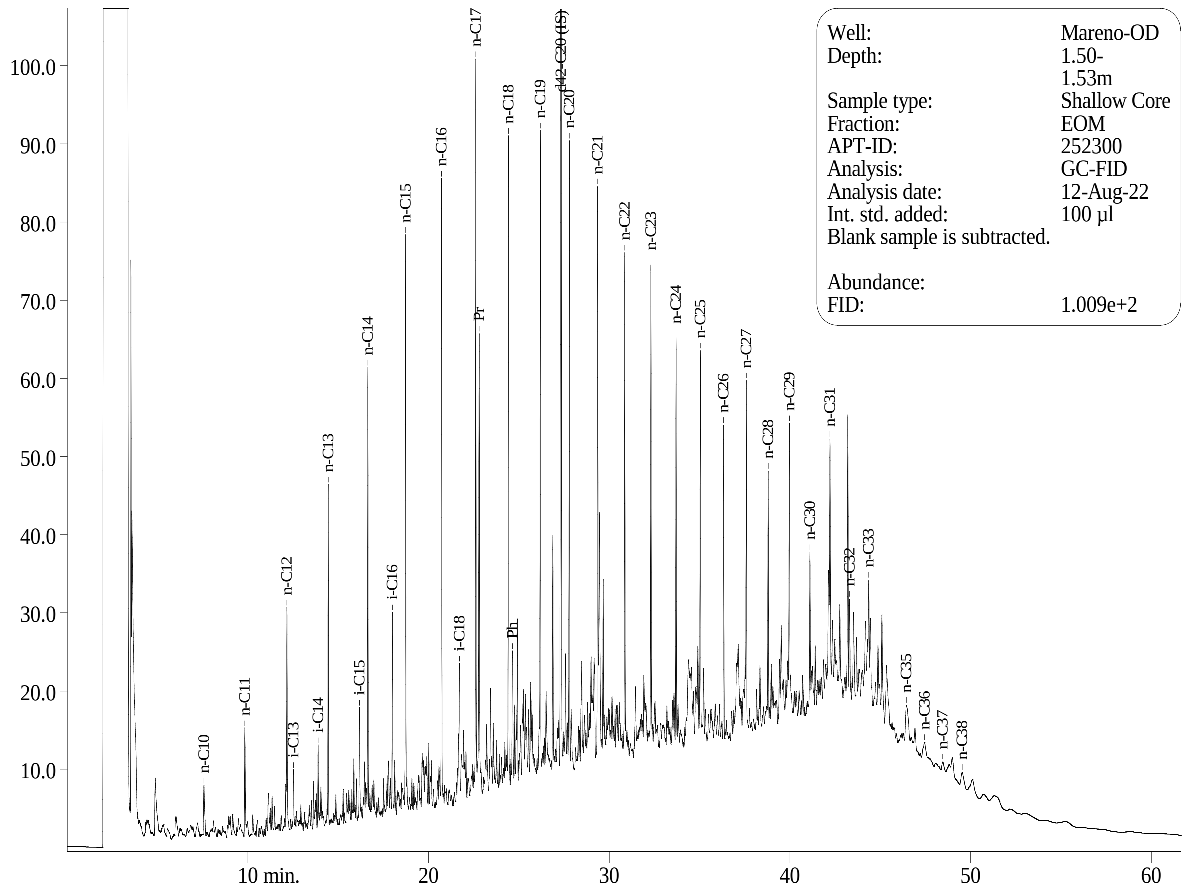


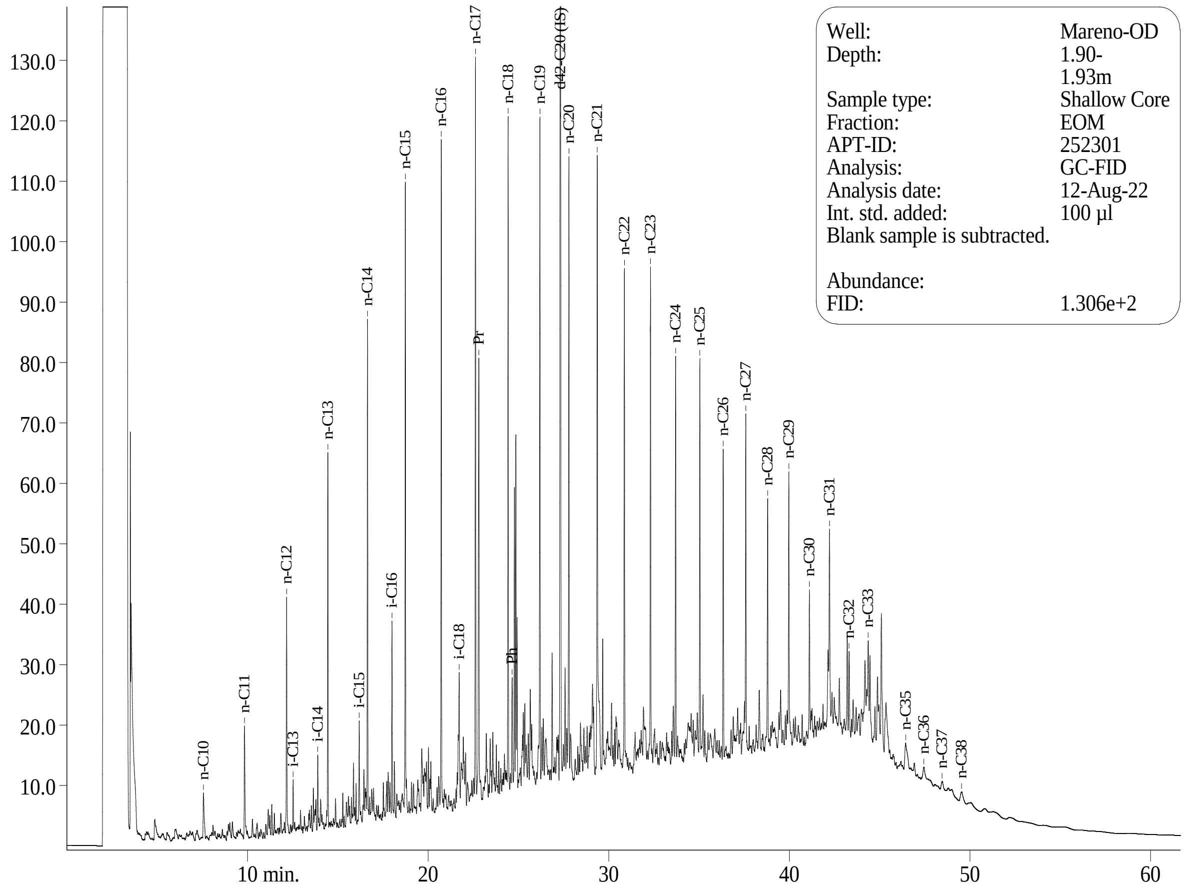
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252297
Analysis: GC-FID
Analysis date: 11-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 6.313e+1
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
i-C18
n-C17
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38

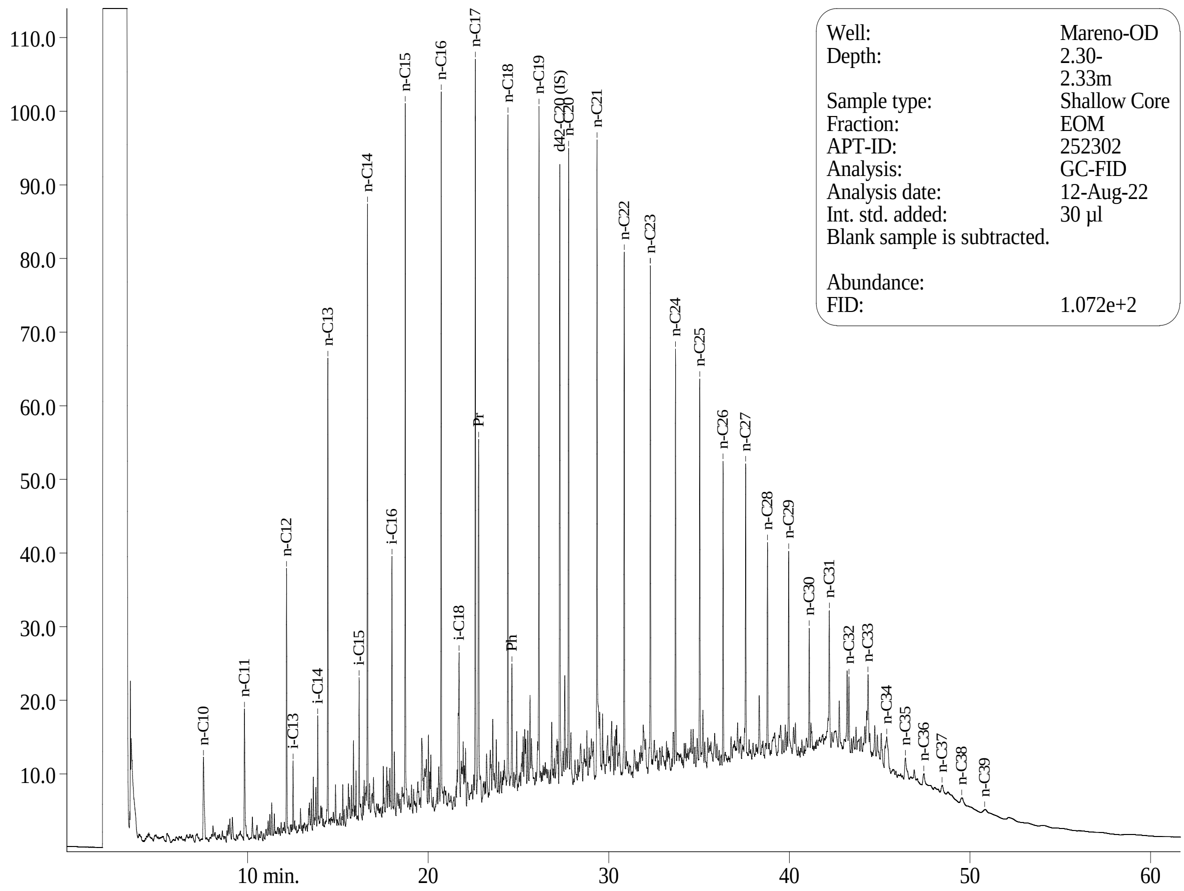


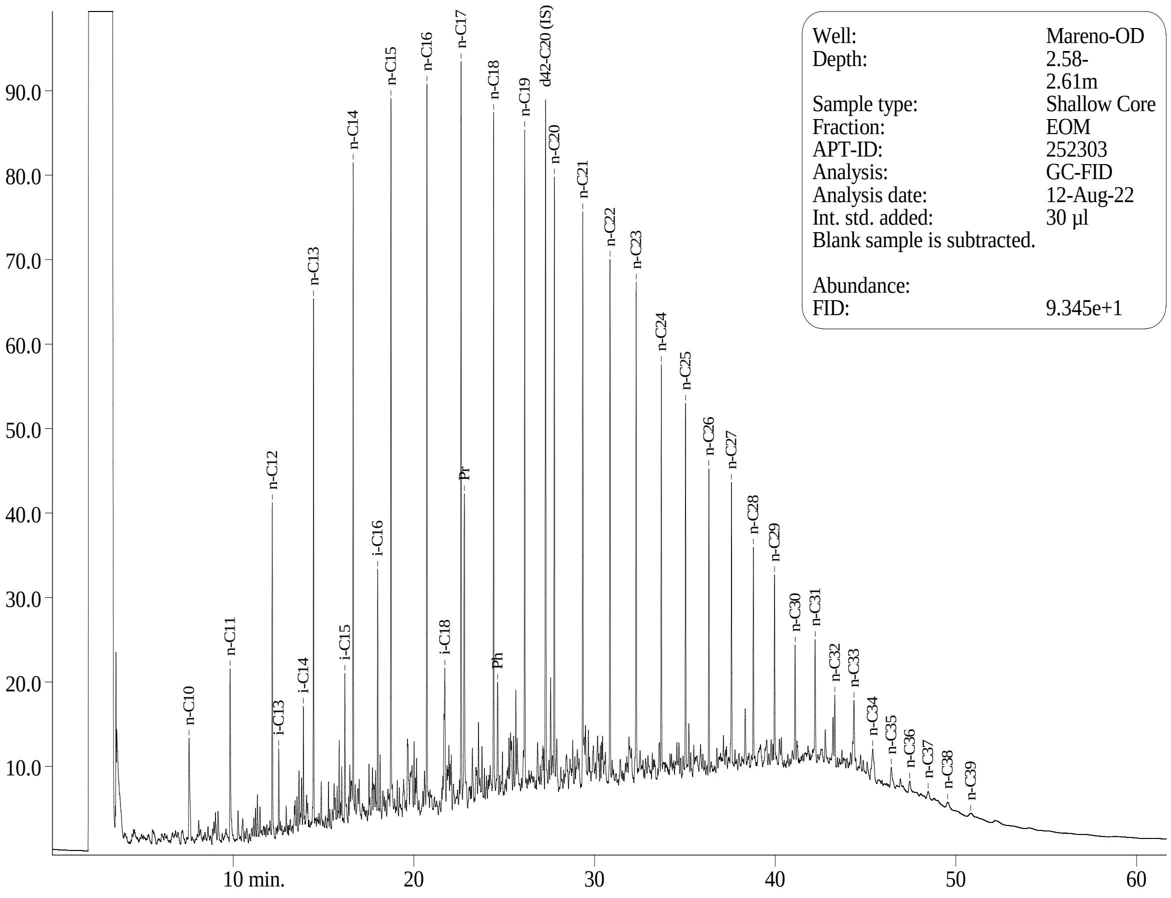
Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252298
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 5.922e+1
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
i-C18
n-C17
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38


Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252299
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 6.096e+1
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
Pr
i-C18
n-C18
Ph
n-C19
n-C20
d42-C20 (IS)
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38

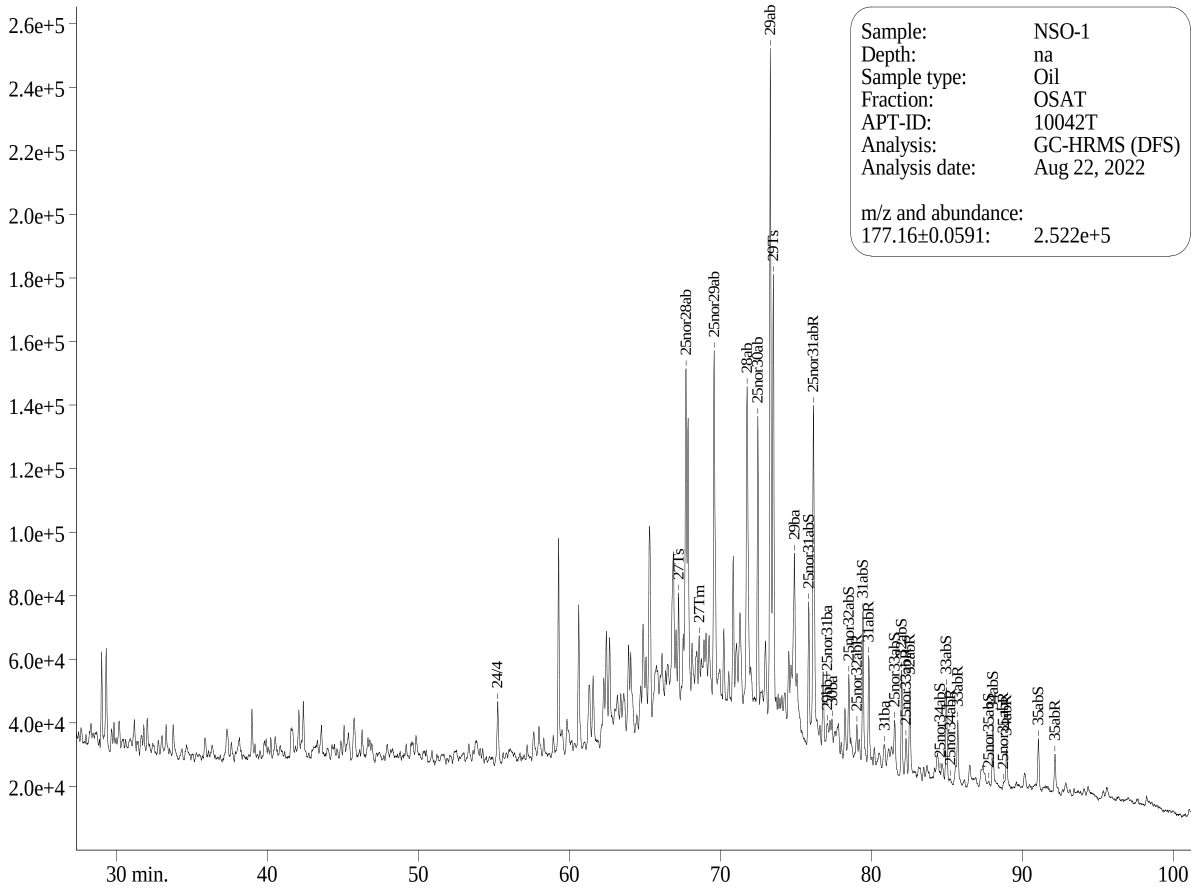

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252300
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 1.009e+2
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
Pr
i-C18
n-C18
Ph
n-C19
n-C20
d42-C20 (IS)
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38

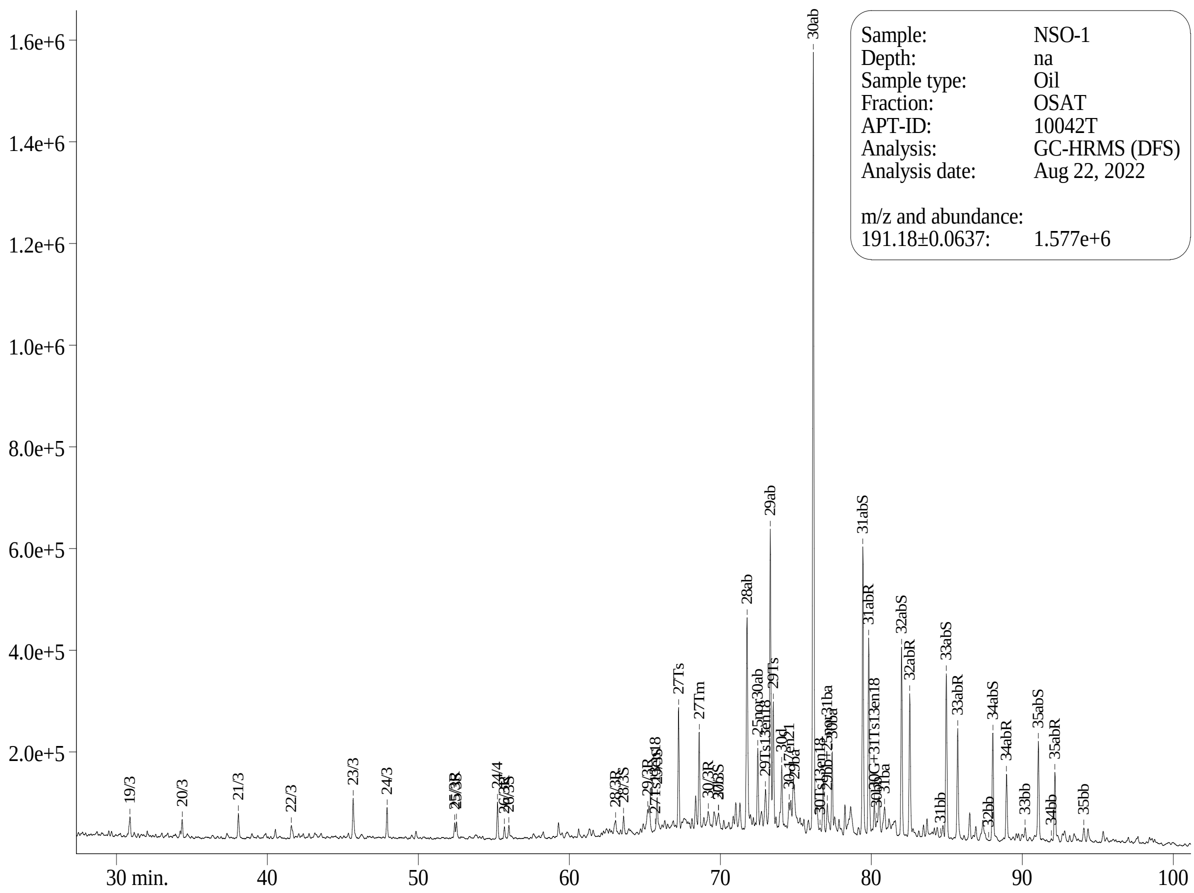

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252301
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 100 µl
Blank sample is subtracted.
Abundance:
FID: 1.306e+2
130.0
120.0
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
i-C18
n-C17
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C35
n-C36
n-C37
n-C38

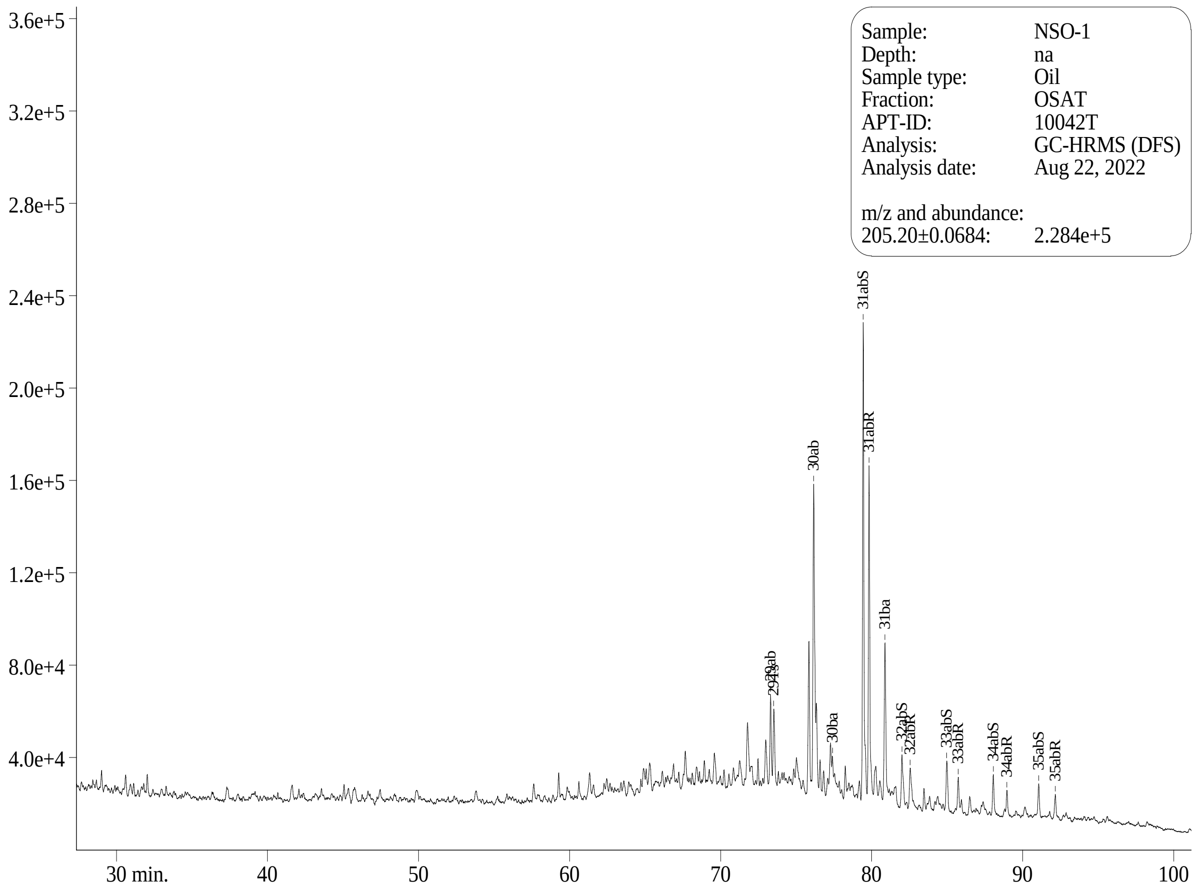

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252302
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 30 µl
Blank sample is subtracted.
Abundance:
FID: 1.072e+2
110.0
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
i-C18
n-C17
Pr
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39

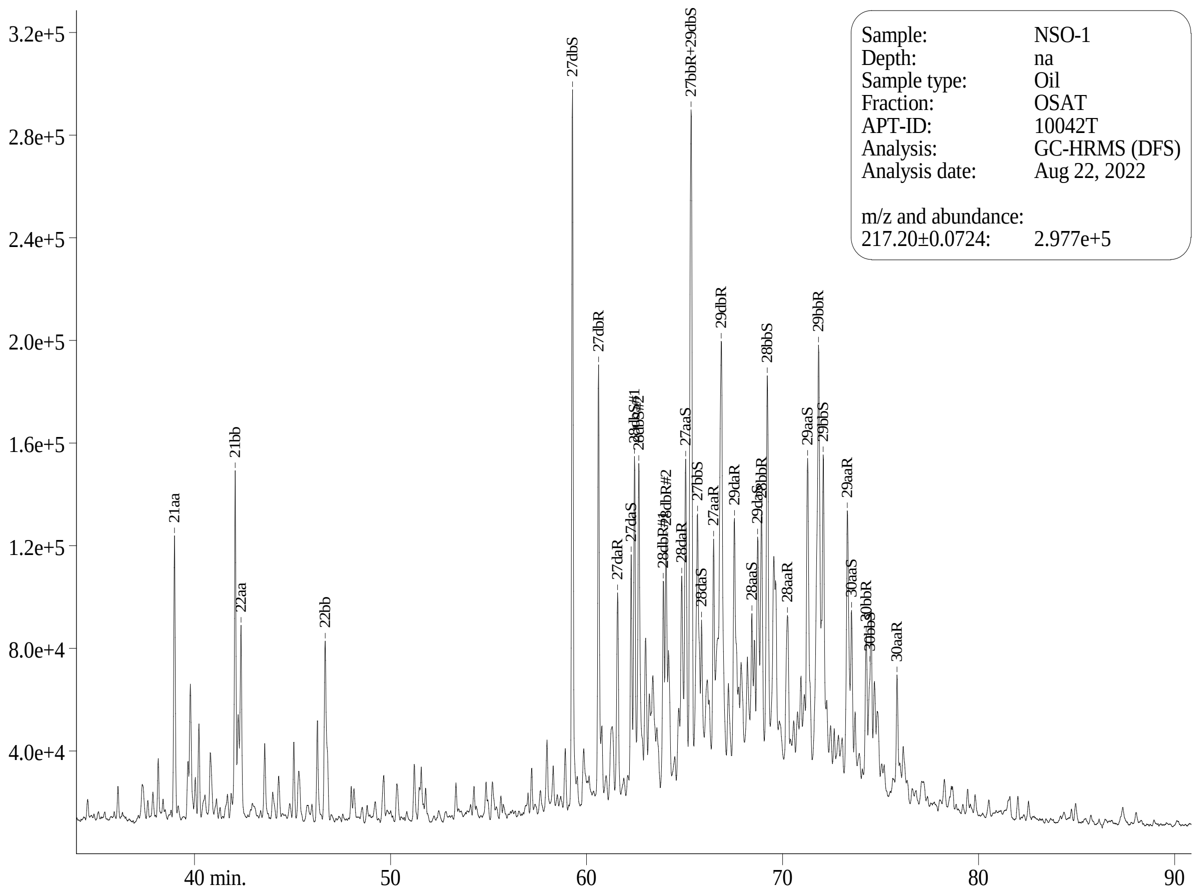

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: EOM
APT-ID: 252303
Analysis: GC-FID
Analysis date: 12-Aug-22
Int. std. added: 30 µl
Blank sample is subtracted.
Abundance:
FID: 9.345e+1
n-C10
n-C11
n-C12
i-C13
n-C13
i-C14
n-C14
i-C15
n-C15
i-C16
n-C16
n-C17
Pr
i-C18
n-C18
Ph
n-C19
d42-C20 (IS)
n-C20
n-C21
n-C22
n-C23
n-C24
n-C25
n-C26
n-C27
n-C28
n-C29
n-C30
n-C31
n-C32
n-C33
n-C34
n-C35
n-C36
n-C37
n-C38
n-C39
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
10 min.
20
30
40
50
60

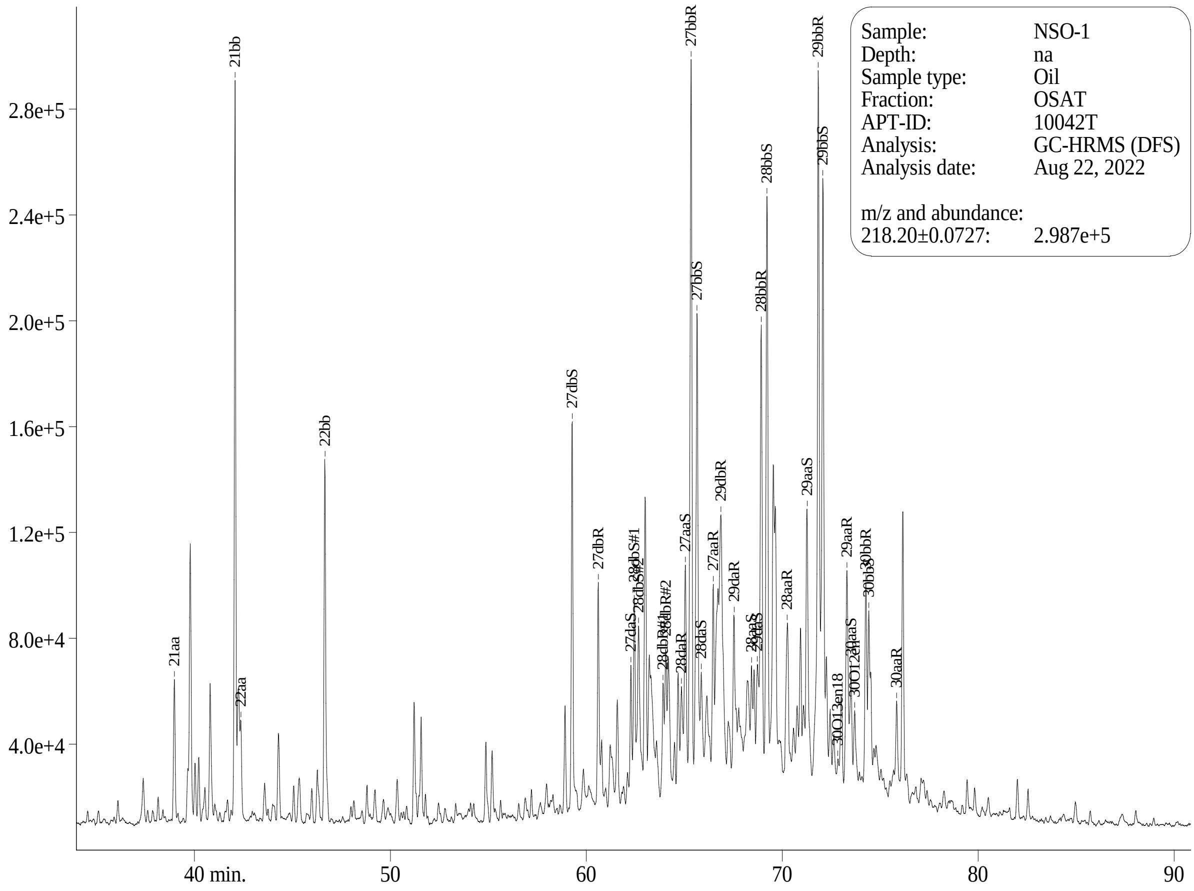
GC-MS Chromatograms of Saturated Hydrocarbons

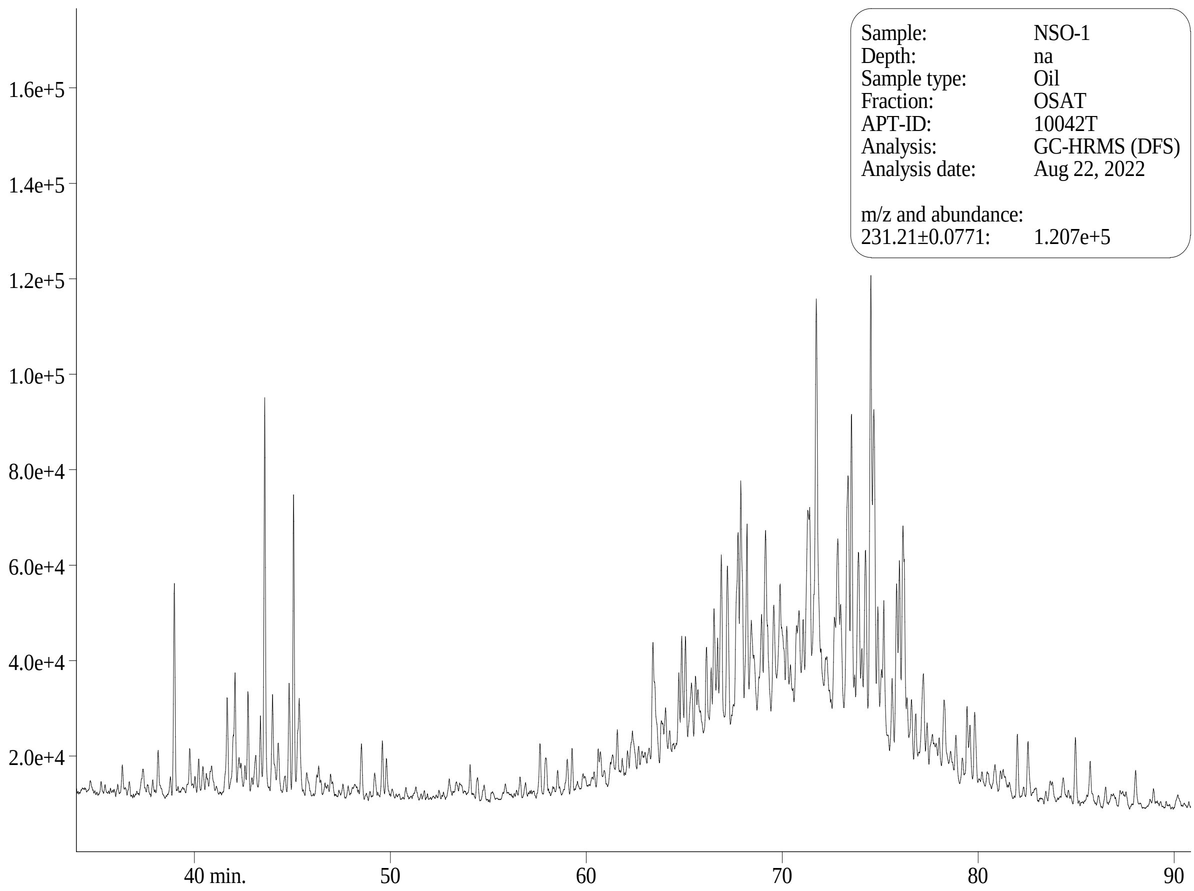

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
177.16±0.0591: 2.522e+5
29ab
29Ts
25nor28ab
25nor29ab
28ab
25nor30ab
25nor31abR
27Ts
27Tm
24/4
29ba
25nor31abS
31abS
31abR
35abS
35abR
30 min.
40
50
60
70
80
90
100

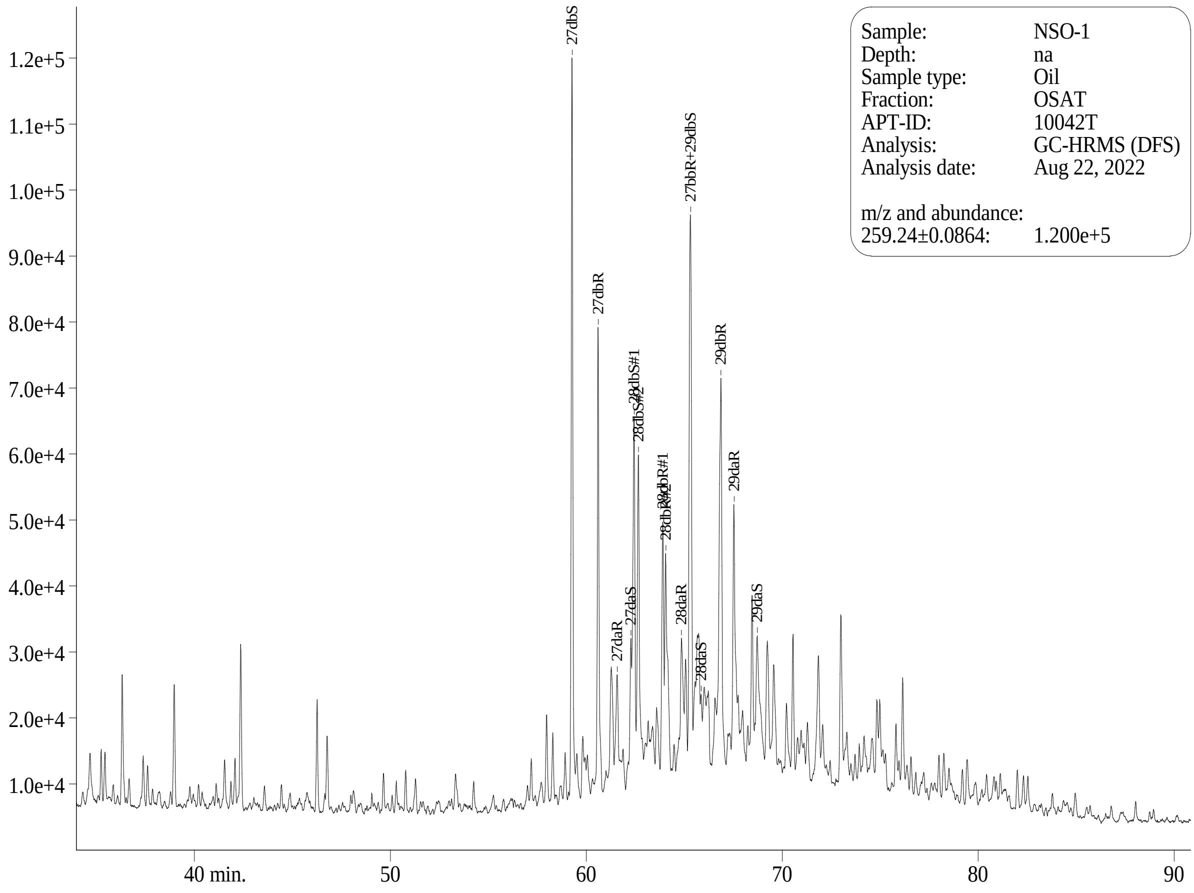

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
191.18±0.0637: 1.577e+6
30ab
29ab
28ab
31abS
31abR
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
27Ts
27Tm
29Ts
19/3
20/3
21/3
22/3
23/3
24/3
24/4
31bb
32bb
33bb
34bb
35bb
30 min.
40
50
60
70
80
90
100

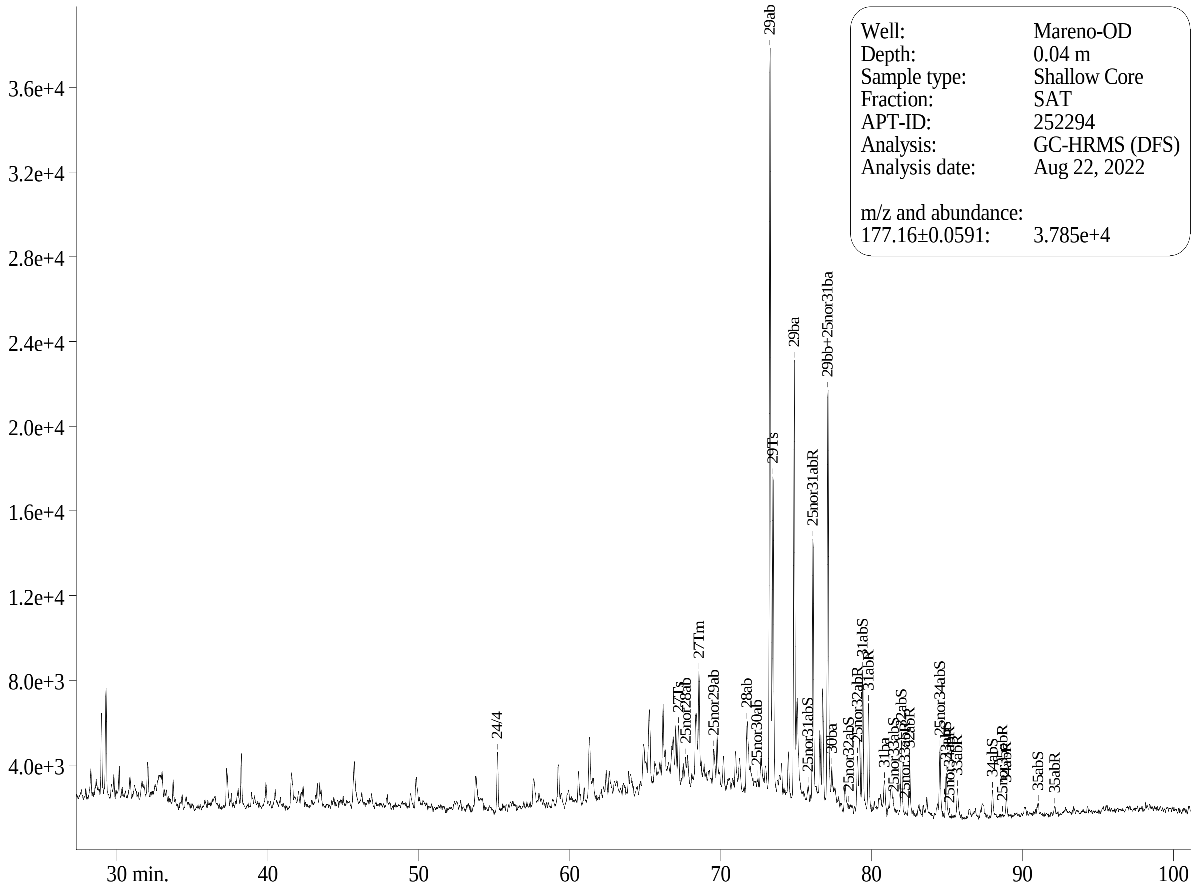

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
205.20±0.0684: 2.284e+5
31abS
31abR
30ab
31ba
30ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
30 min.
40
50
60
70
80
90
100

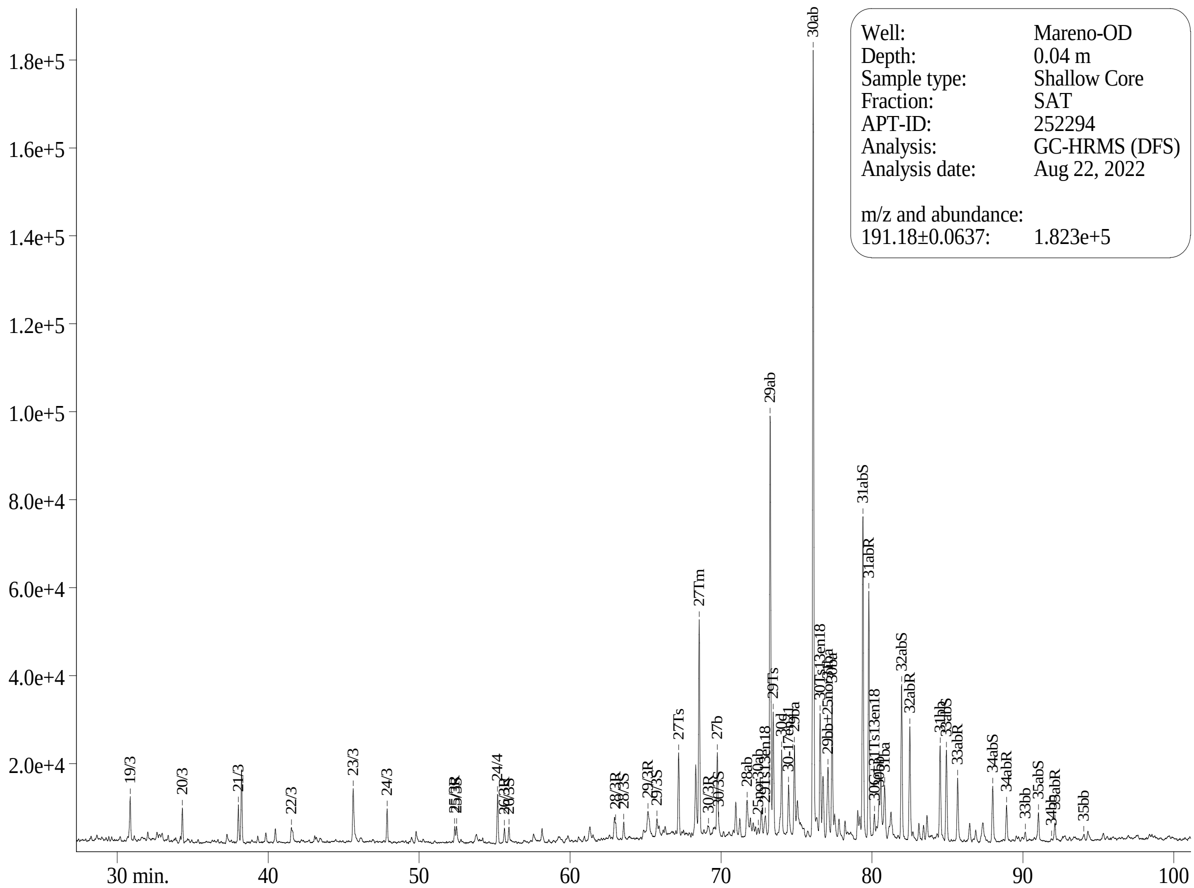

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
217.20±0.0724: 2.977e+5
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27bbS
27aaR
29dbR
29daR
28bbS
28daR
28daS
28aaS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30bbR
30aaR
40 min.
50
60
70
80
90

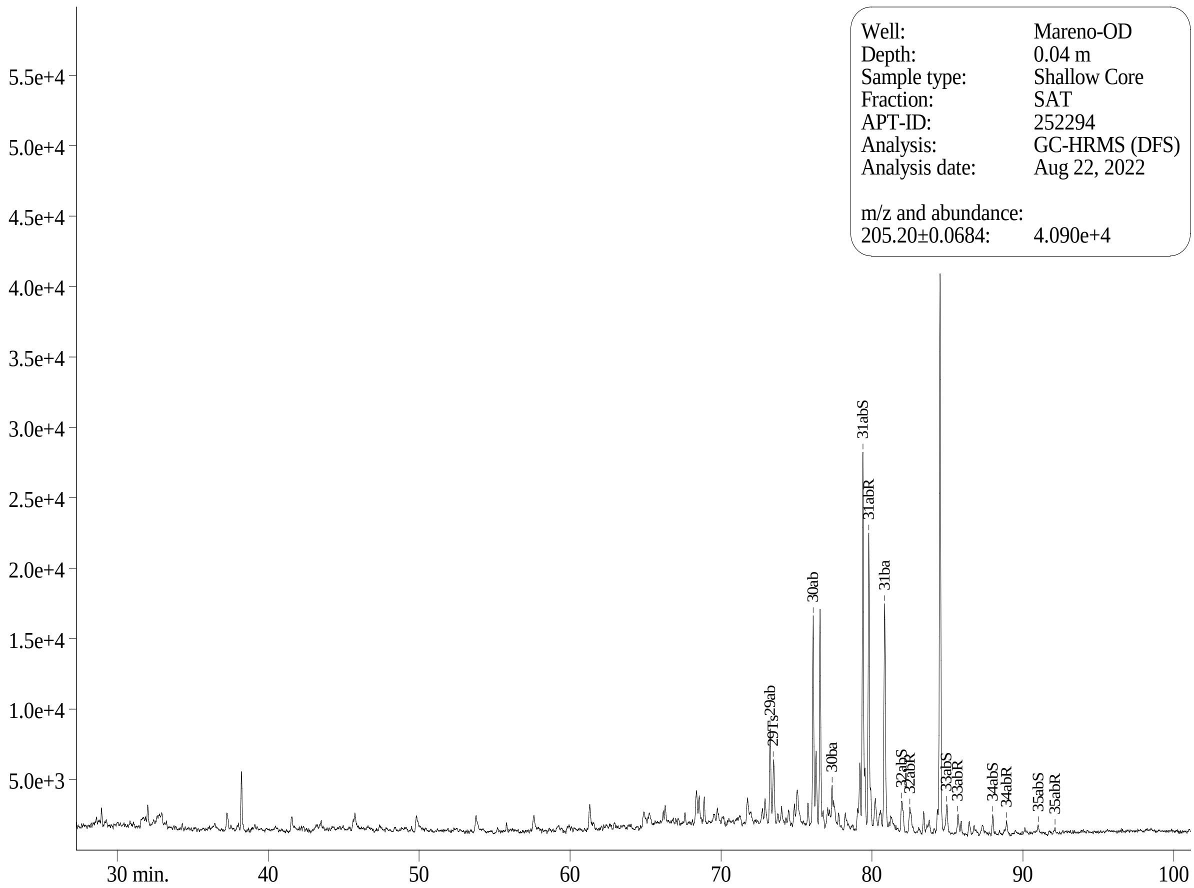

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
218.20±0.0727: 2.987e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daS
27aaS
27bbR
27bbS
28daS
27aaR
29dbR
29daR
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30bbR
30aaR

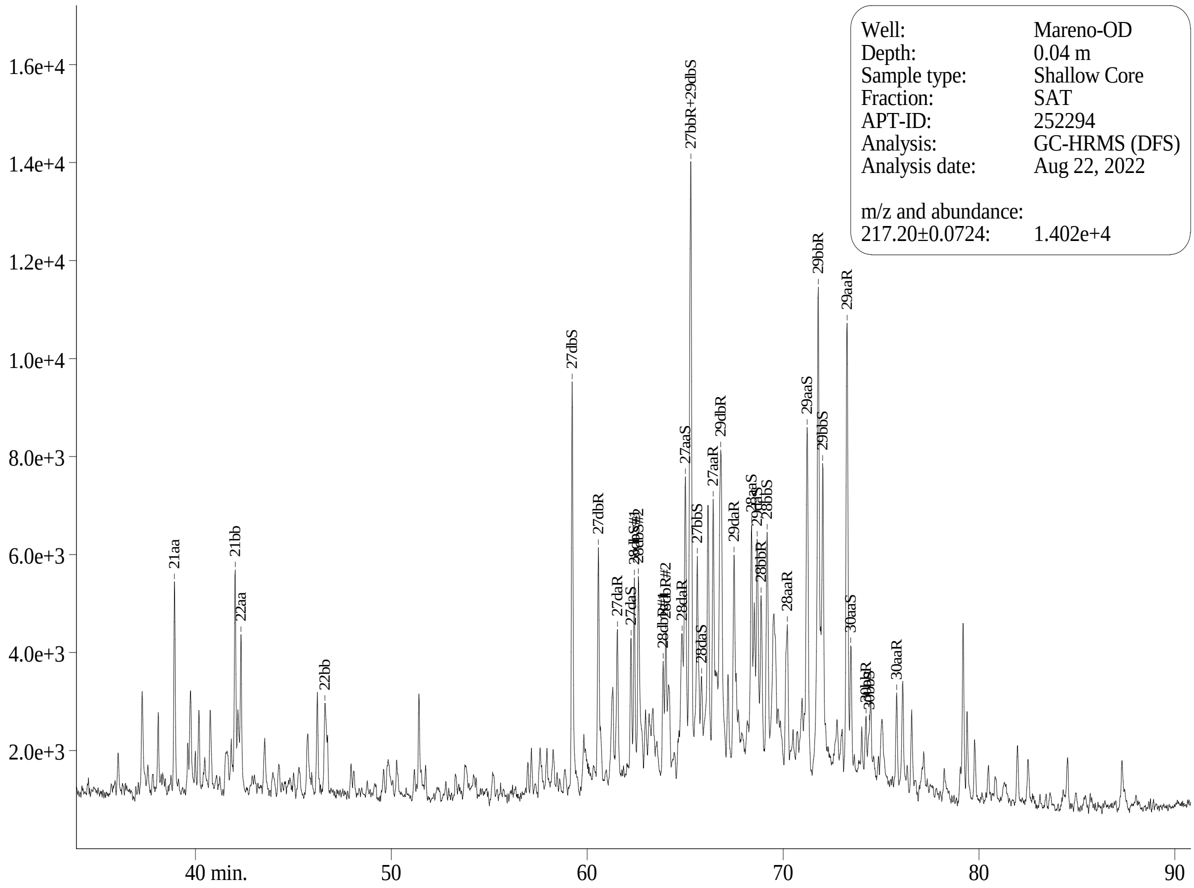

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
231.21±0.0771: 1.207e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
40 min.
50
60
70
80
90

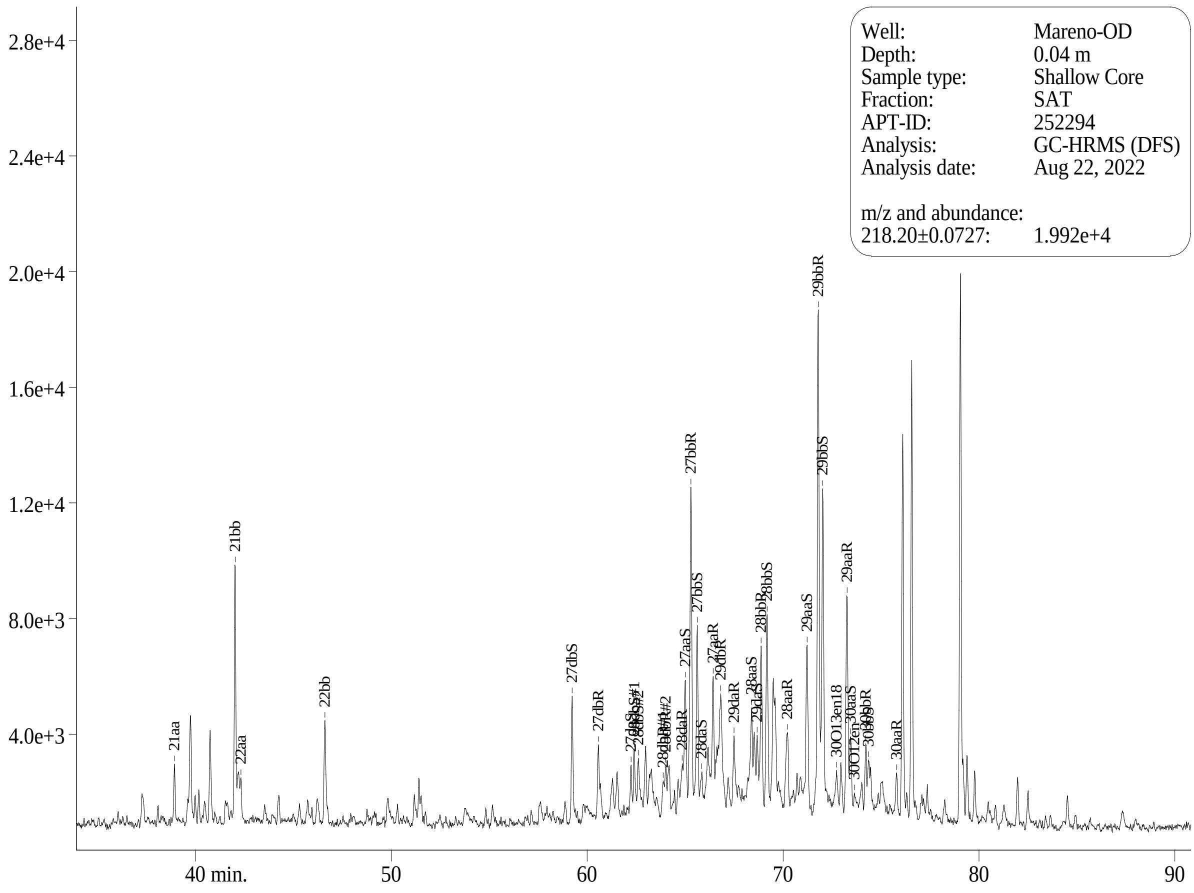

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
259.24±0.0864: 1.200e+5
27dbS
27dbR
27daR
27daS
28dbS#1
28dbS#2
27bbR+29dbS
28dbR#1
28dbR#2
28daR
28daS
29dbR
29daR
29daS
1.2e+5
1.1e+5
1.0e+5
9.0e+4
8.0e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
40 min.
50
60
70
80
90

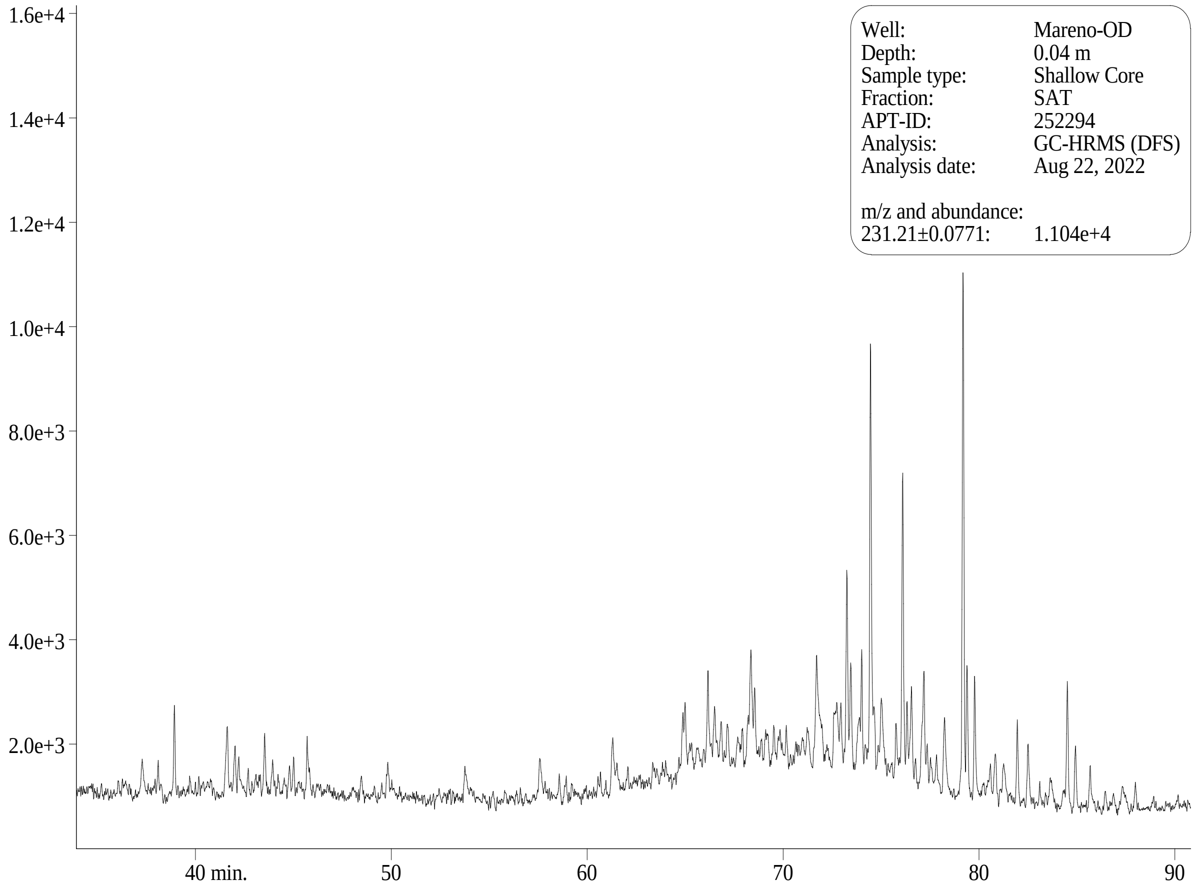

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
177.16±0.0591: 3.785e+4
3.6e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29ba
29bb+25nor31ba
29Ts
25nor31abR
27Tm
24/4
27Ts
25nor28ab
25nor29ab
28ab
25nor30ab
25nor31abS
30ba
31abS
31abR
25nor32abS
31ba
25nor34abS
34abS
35abS
35abR

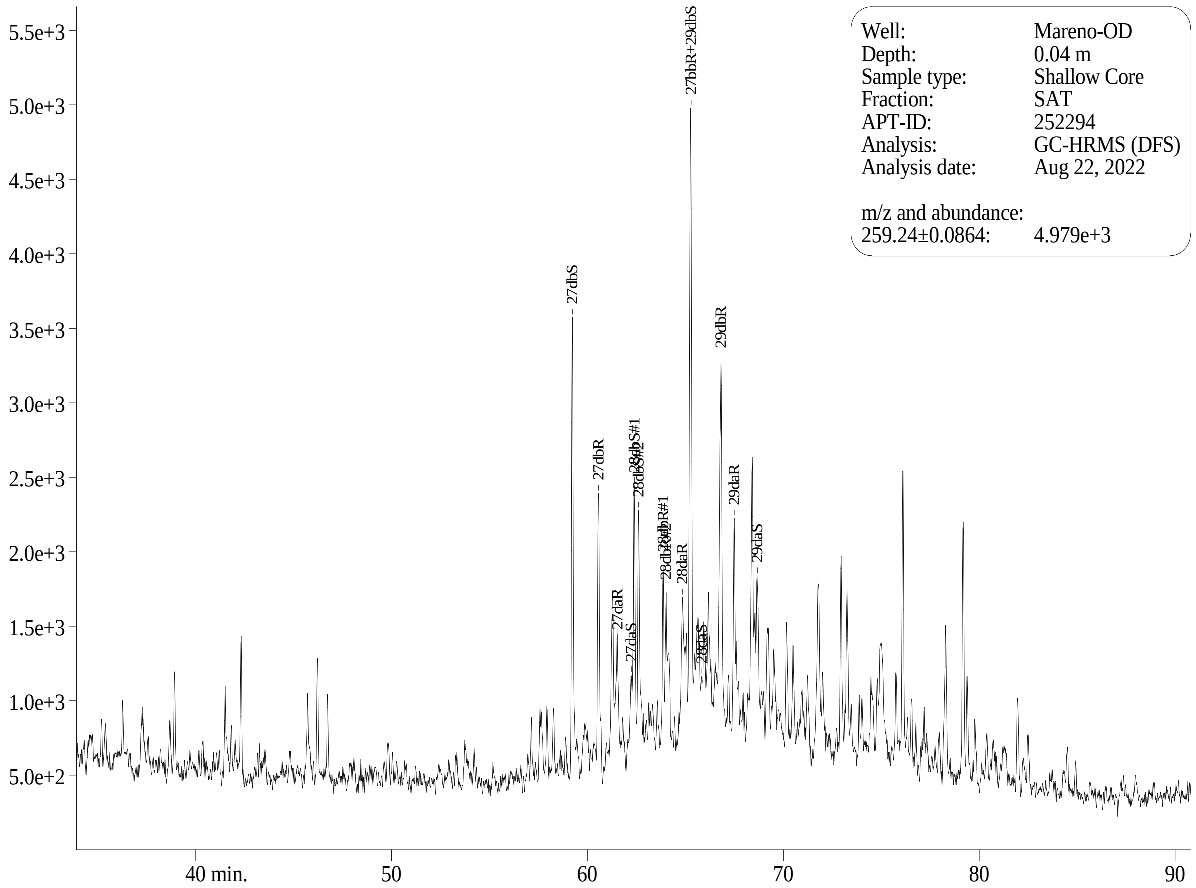

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
191.18±0.0637: 1.823e+5
1.8e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
32abS
32abR
29Ts
27Ts
27b
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
30/3R
30/3S
28ab
31ba
33abS
33abR
34abS
34abR
33bb
35abS
35abR
35bb

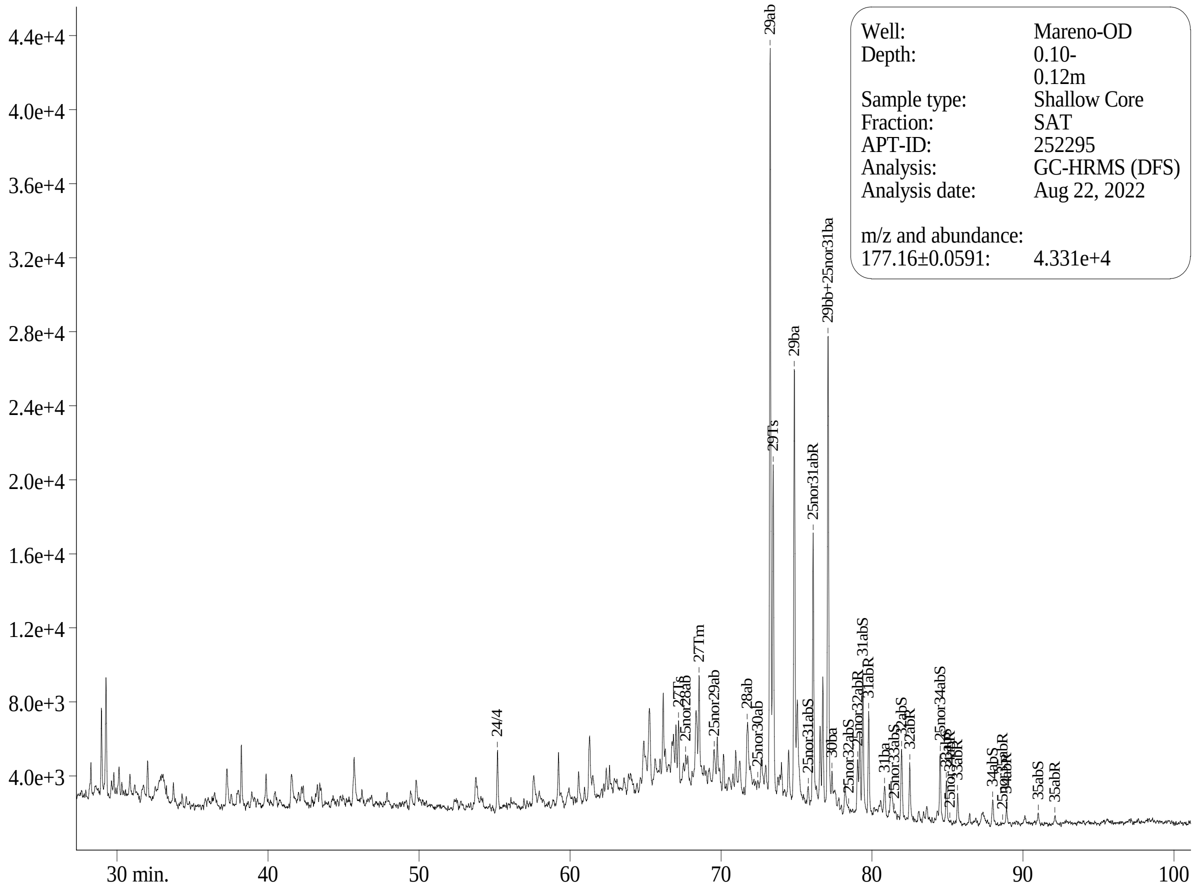

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
205.20±0.0684: 4.090e+4
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
30 min.
40
50
60
70
80
90
100

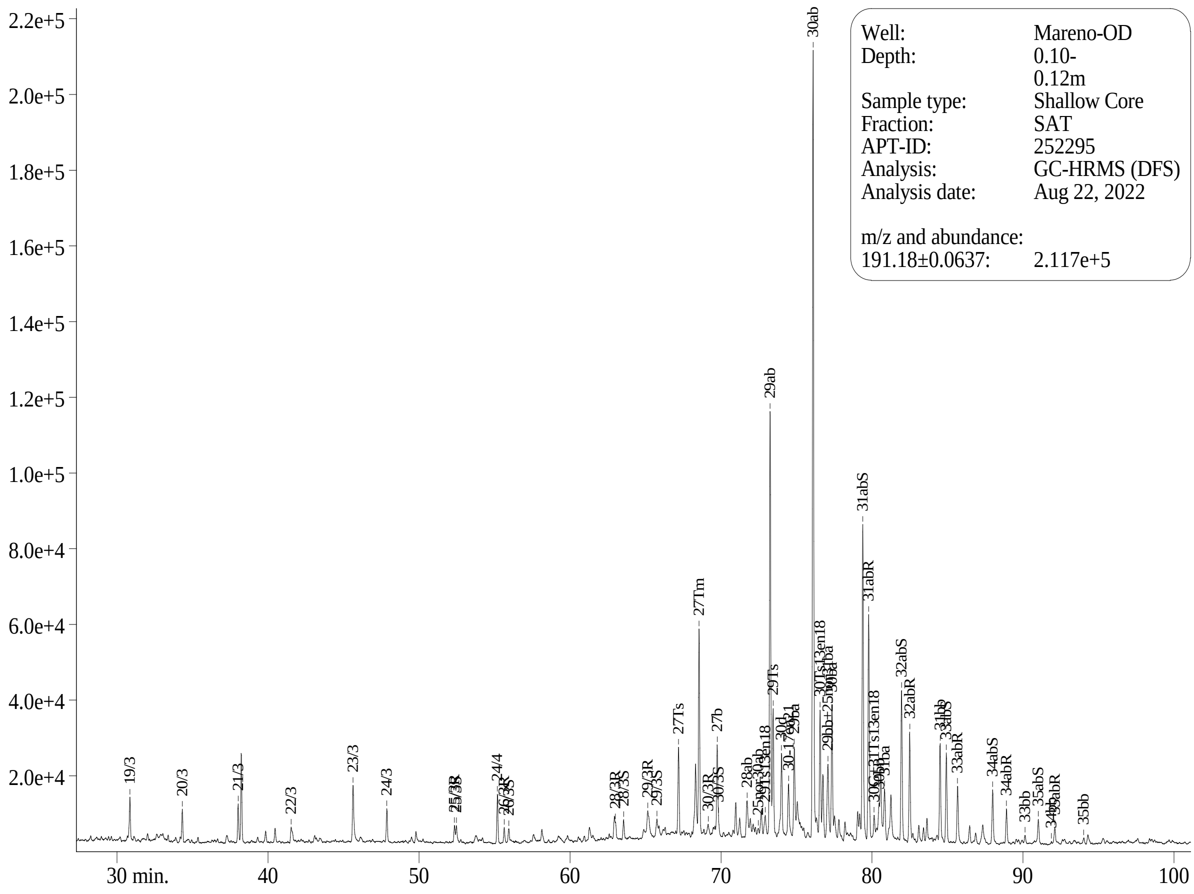

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
217.20±0.0724: 1.402e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27bbS
27aaR
28daS
28daR
29dbR
29daR
28bbR
29aaS
29bbR
29bbS
29aaR
28aaR
30aaS
30aaR
40 min.
50
60
70
80
90

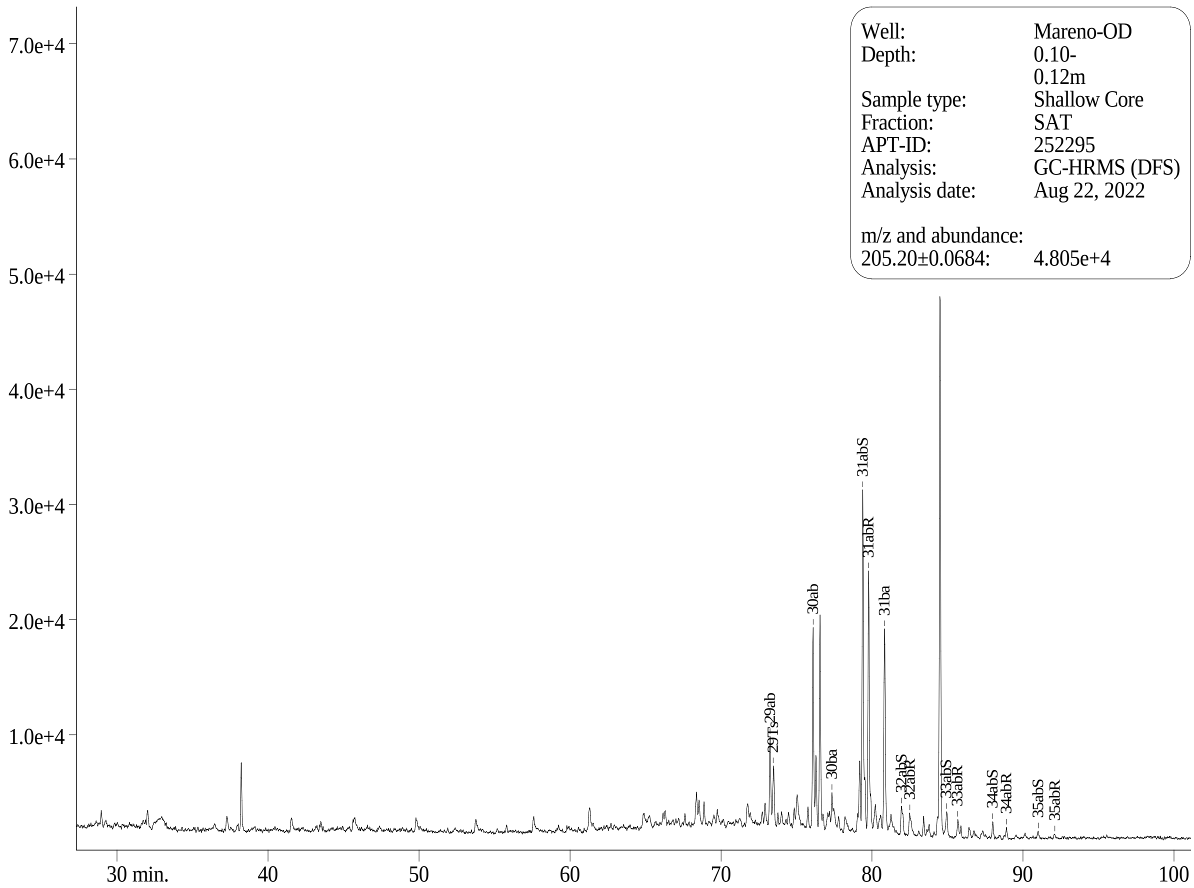

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
218.20±0.0727: 1.992e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daS
28daR
29daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR
40 min.
50
60
70
80
90

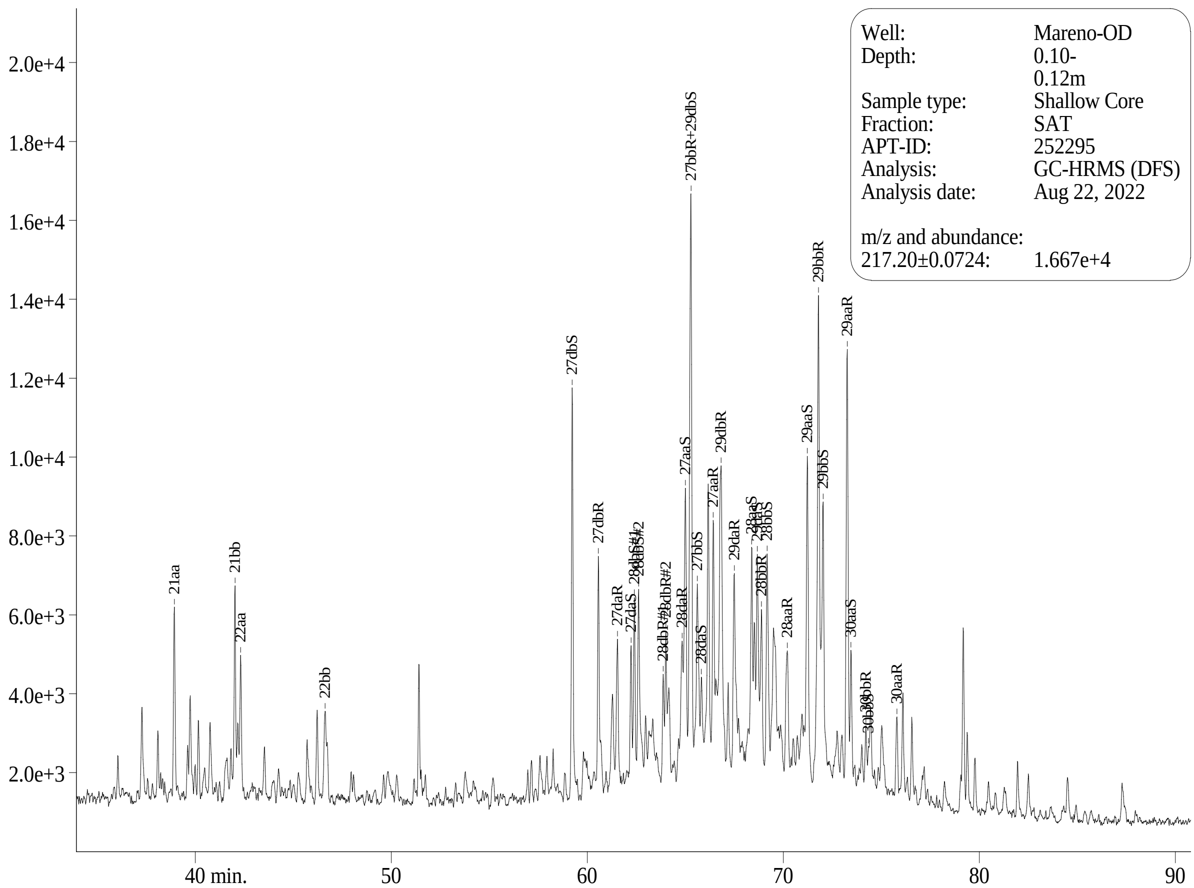

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
231.21±0.0771: 1.104e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90

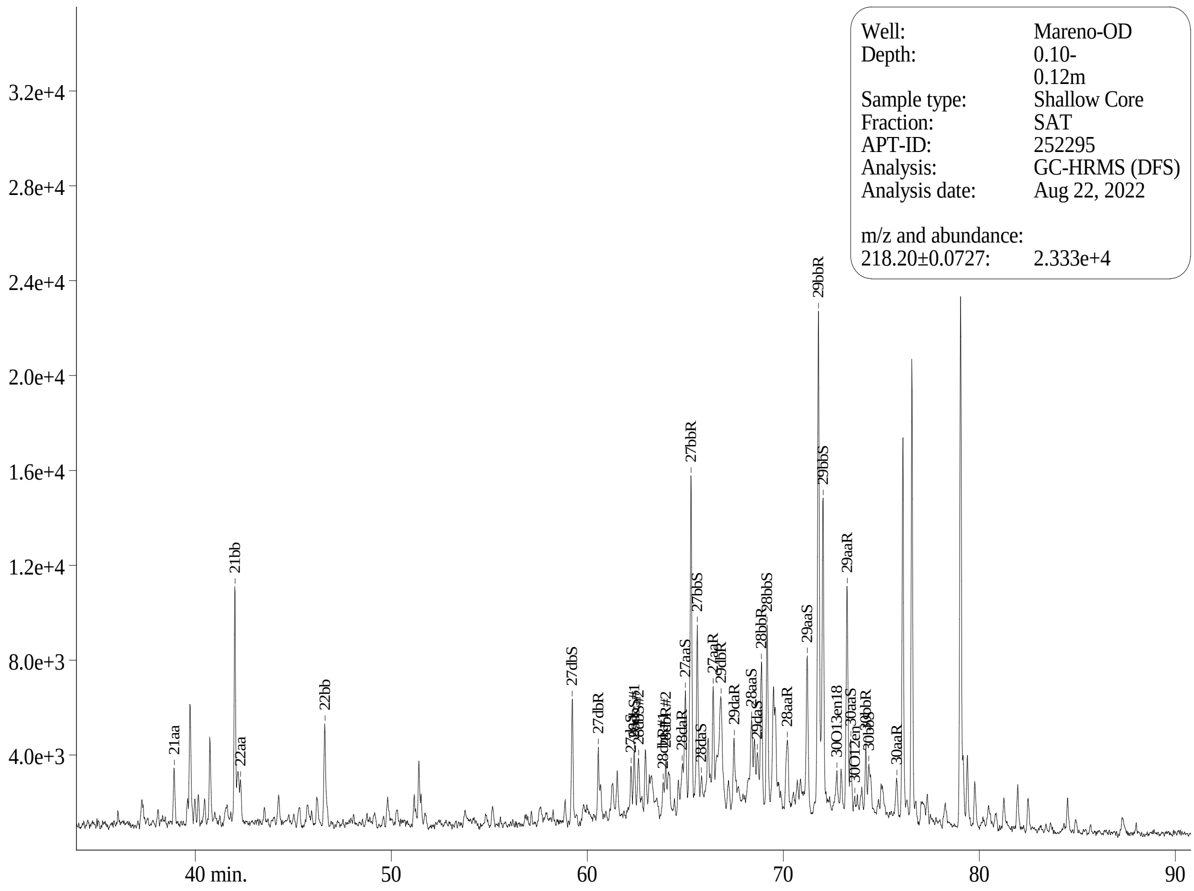

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
259.24±0.0864: 4.979e+3
27bbR+29dbS
27dbS
29dbR
27dbR
28dbS#1
28dbS#2
28dbR#1
28dbR#2
28daR
29daR
29daS
27daR
27daS
28daS
5.5e+3
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2
40 min.
50
60
70
80
90

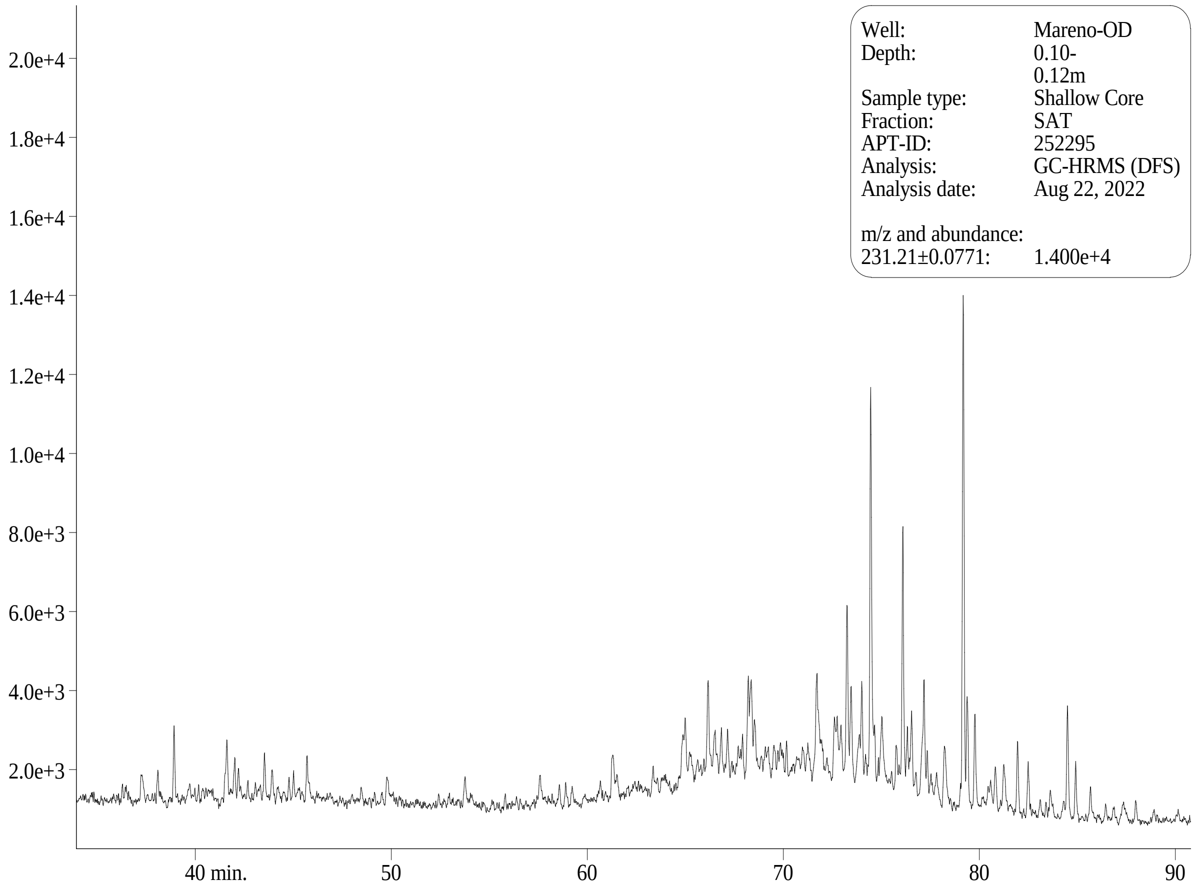

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
177.16±0.0591: 4.331e+4
4.4e+4
4.0e+4
3.6e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29bb+25nor31ba
29ba
29Ts
25nor31abR
27Tm
31abS
31abR
25nor29ab
28ab
25nor30ab
24/4
25nor31abS
30ba
34abS
35abS
35abR

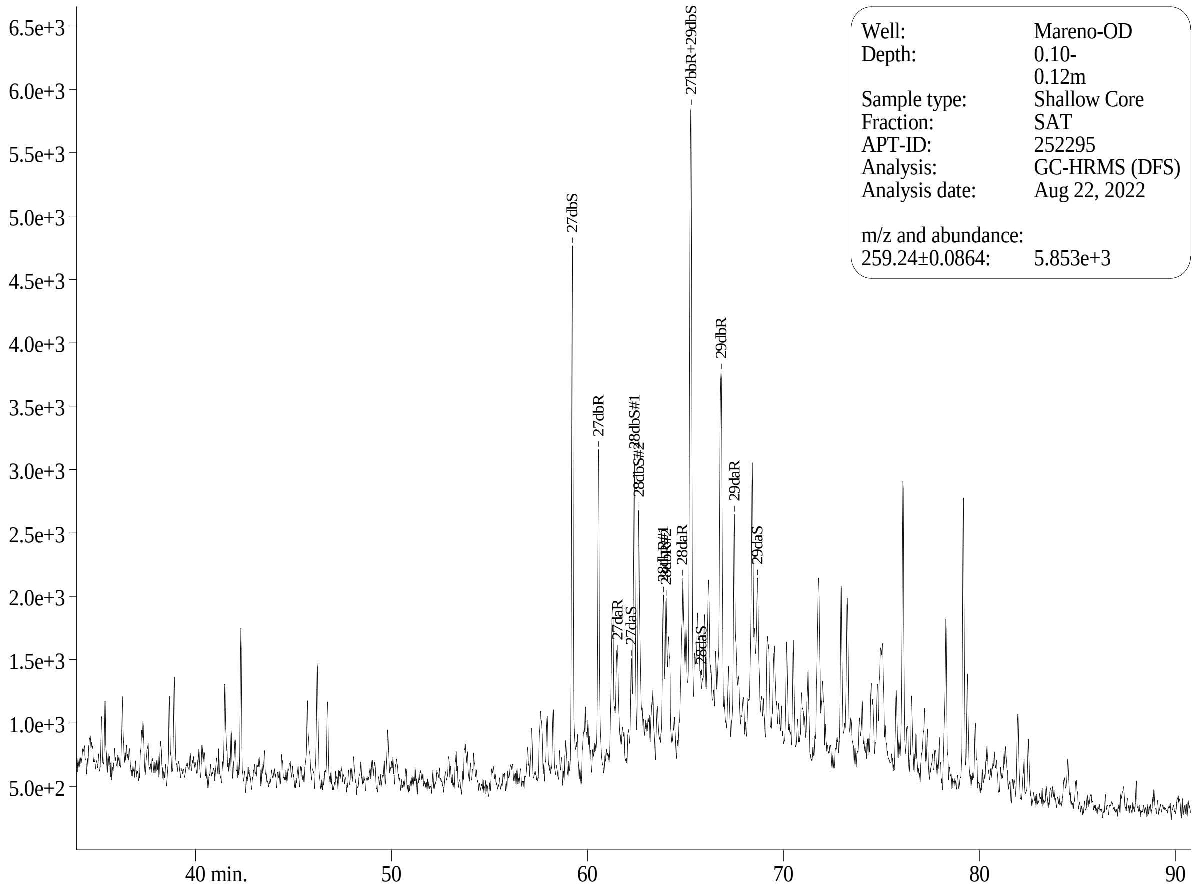

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
191.18±0.0637: 2.117e+5
2.2e+5
2.0e+5
1.8e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
32abS
32abR
29Ts
27Ts
27b
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
33abS
33abR
34abS
34abR
35abS
35abR
33bb
35bb


Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
205.20±0.0684: 4.805e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

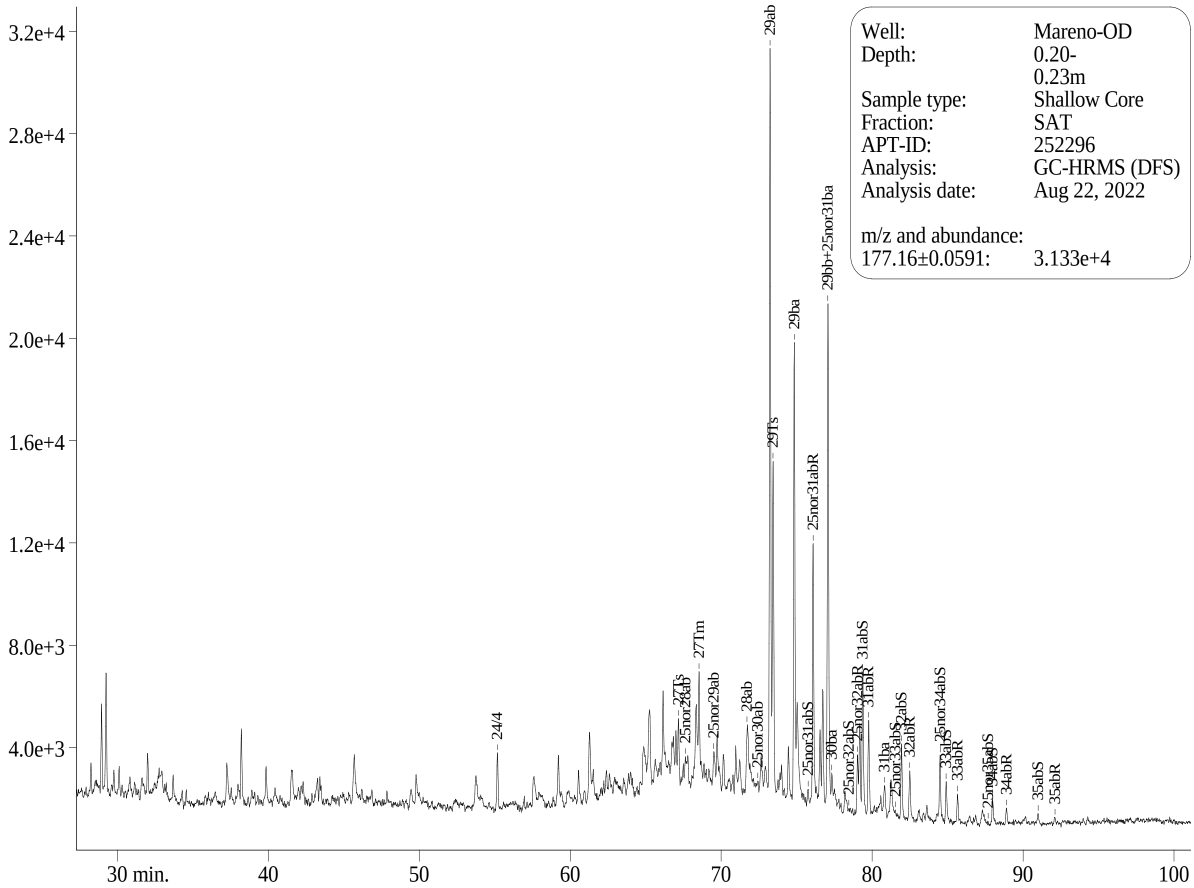

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
217.20±0.0724: 1.667e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27bbS
27aaR
28daS
29dbR
29daR
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR

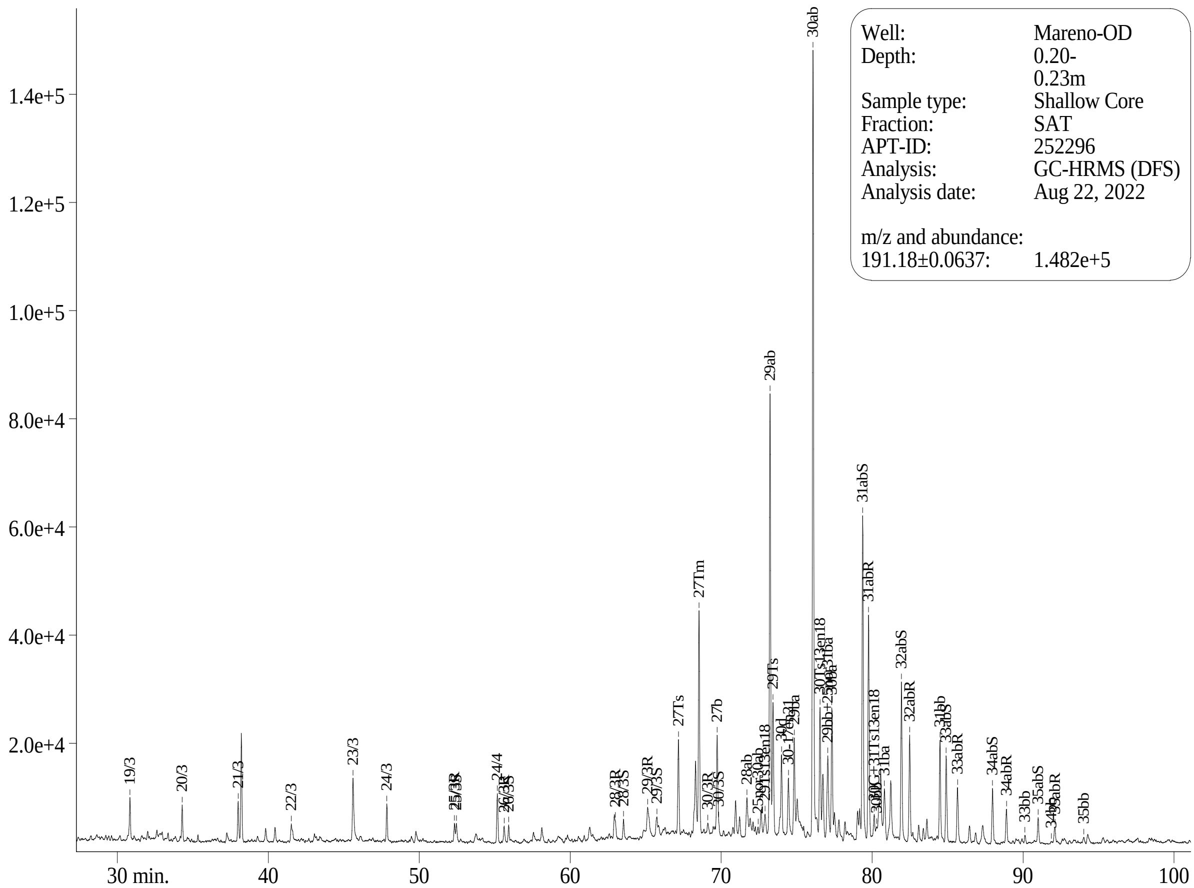

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
218.20±0.0727: 2.333e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daR
28daS
29daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30O13en18
30aaS
30aaR

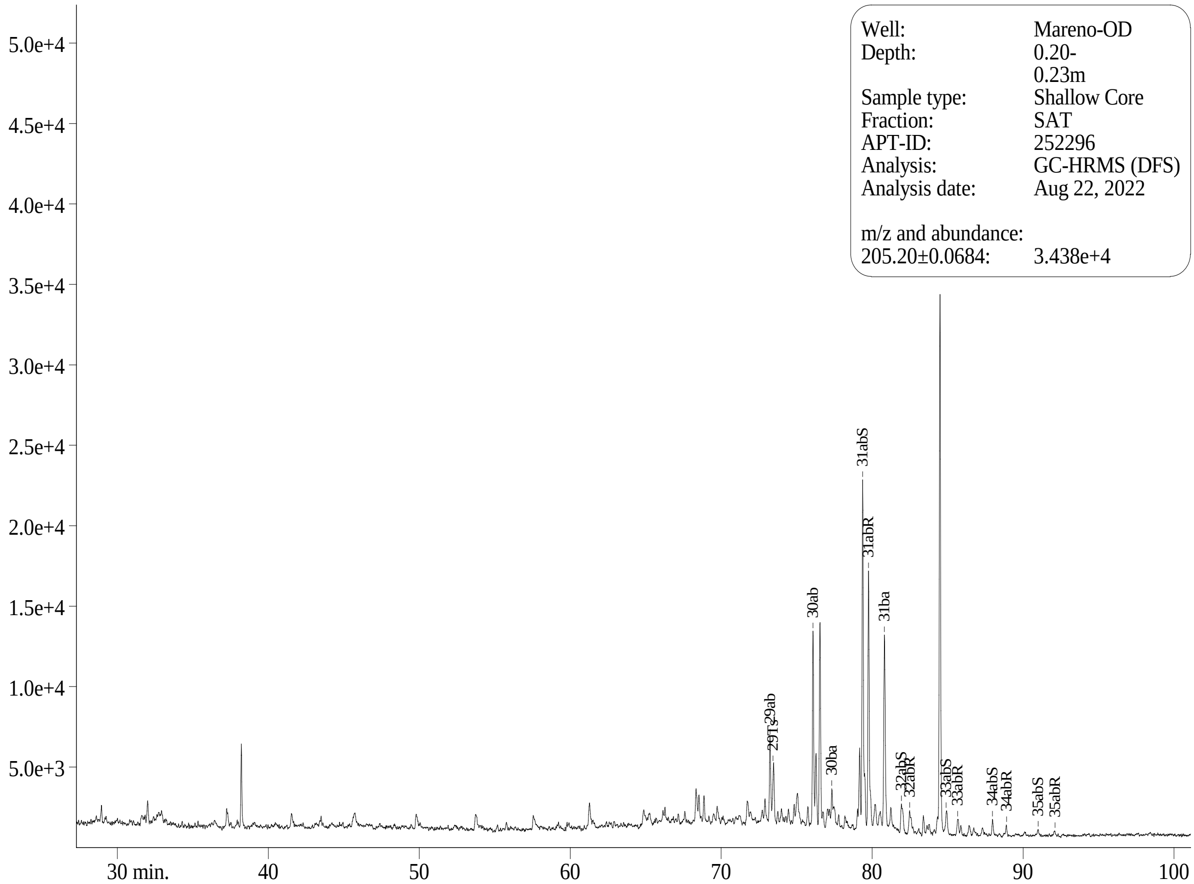

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
231.21±0.0771: 1.400e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90

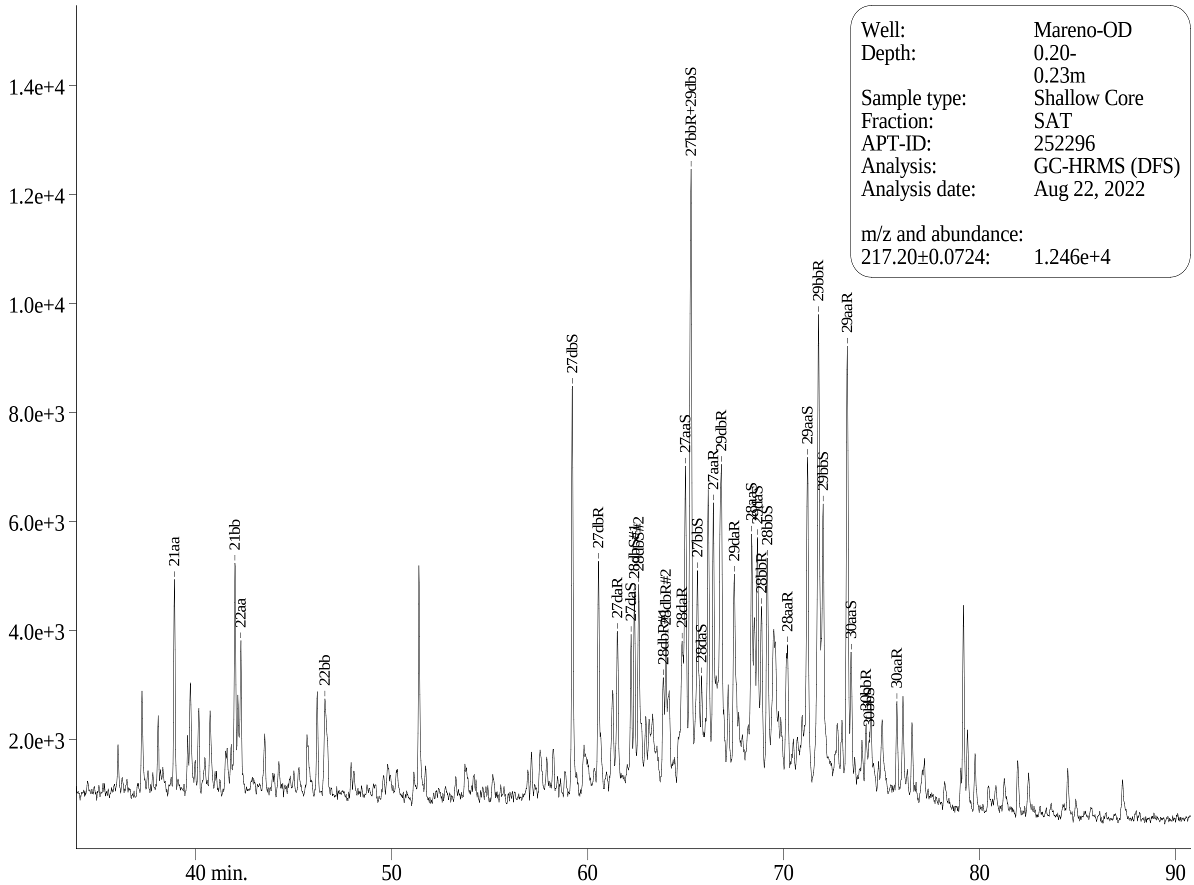


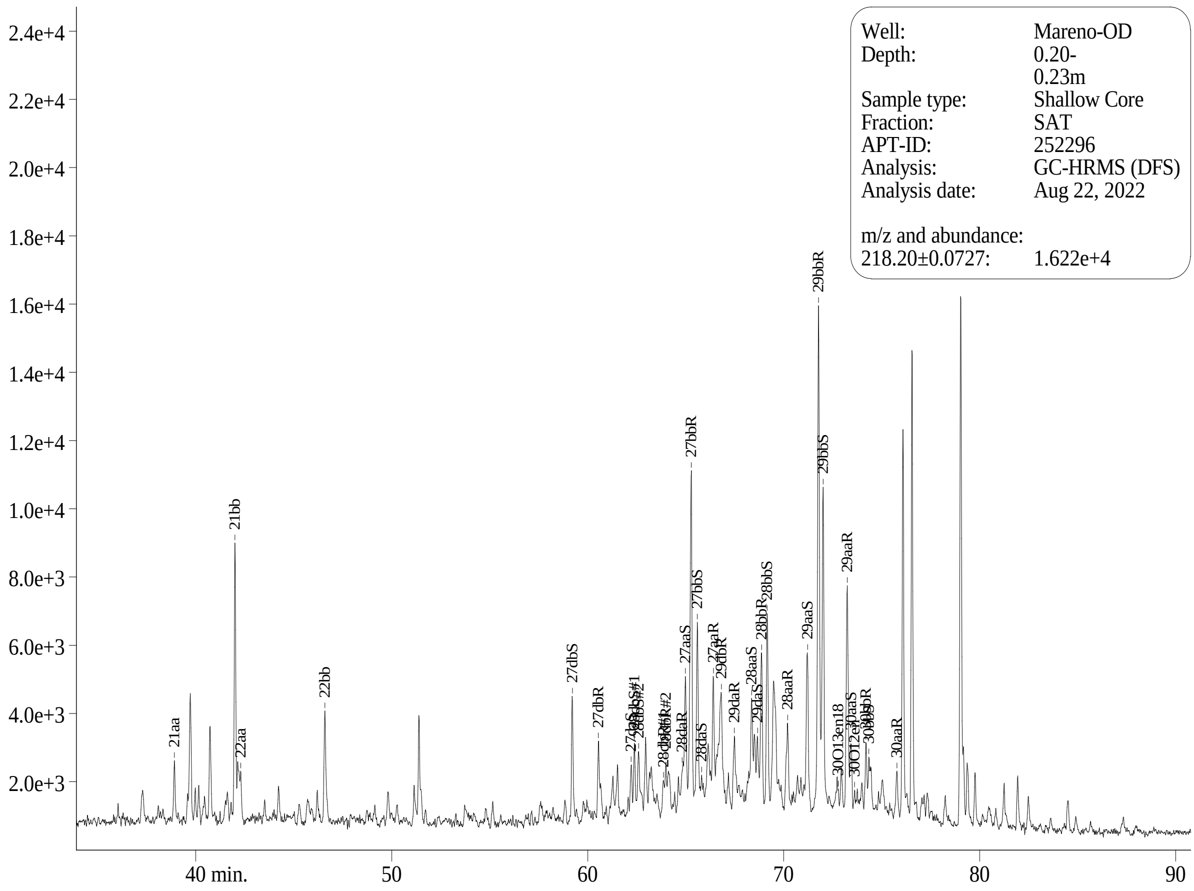
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
259.24±0.0864: 5.853e+3
27dbS
27dbR
27daR
27daS
28dbS#1
28dbS#2
28daR
28daS
27bbR+29dbS
29dbR
29daR
29daS
6.5e+3
6.0e+3
5.5e+3
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2
40 min.
50
60
70
80
90

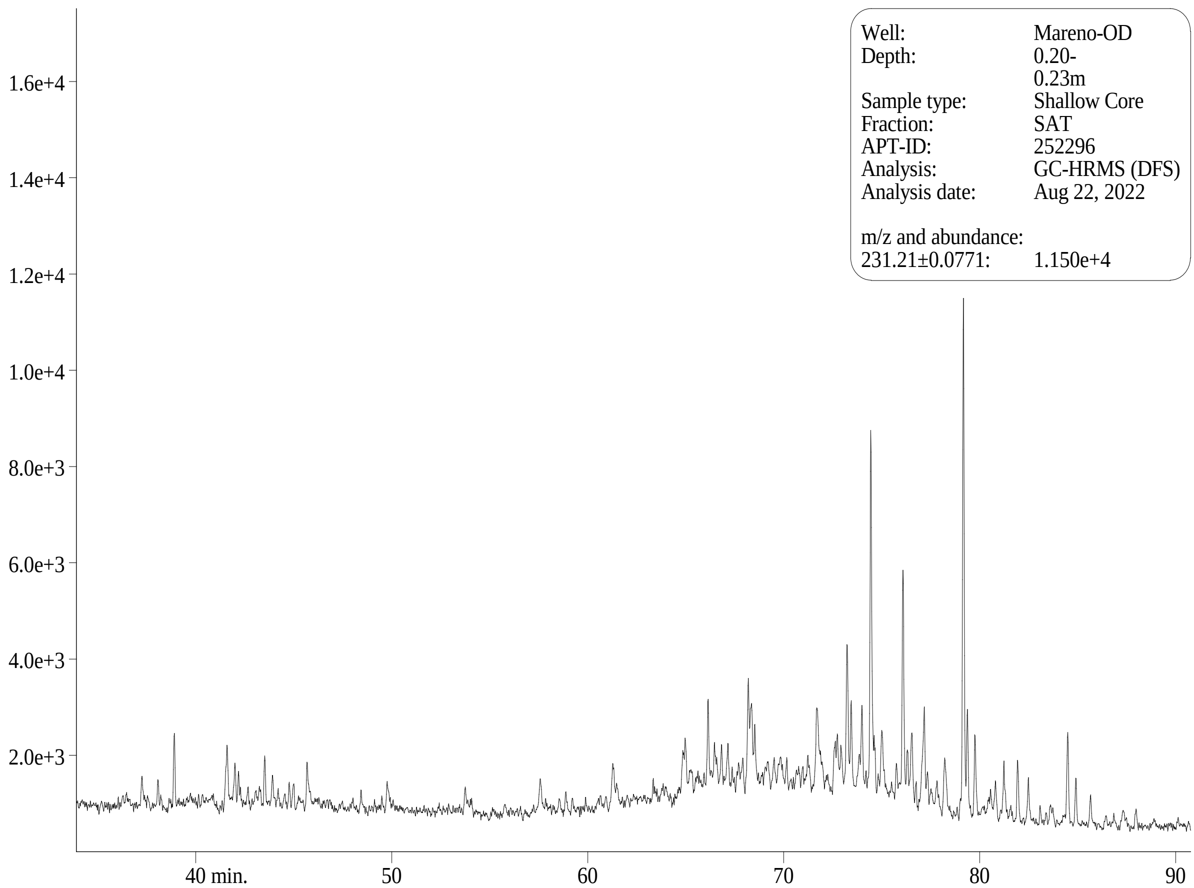

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
177.16±0.0591: 3.133e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29bb+25nor31ba
29ba
29Ts
25nor31abR
27Tm
31abS
24/4
28ab
25nor29ab
30ba
35abS
35abR
34abR
33abR

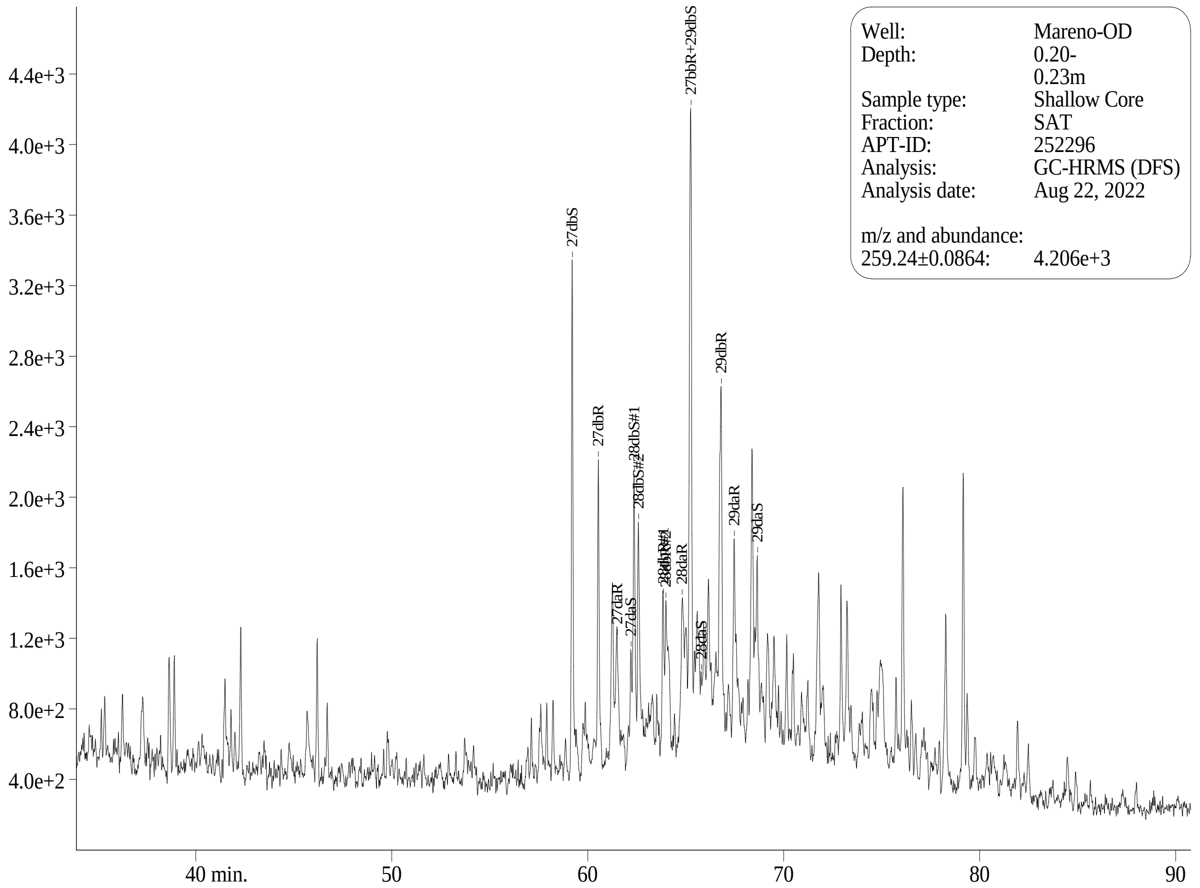

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
191.18±0.0637: 1.482e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
32abS
32abR
29Ts
27Ts
27b
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
30/3R
30/3S
28ab
29ba
31ba
33abR
34abS
34abR
33bb
35abS
35abR
35bb

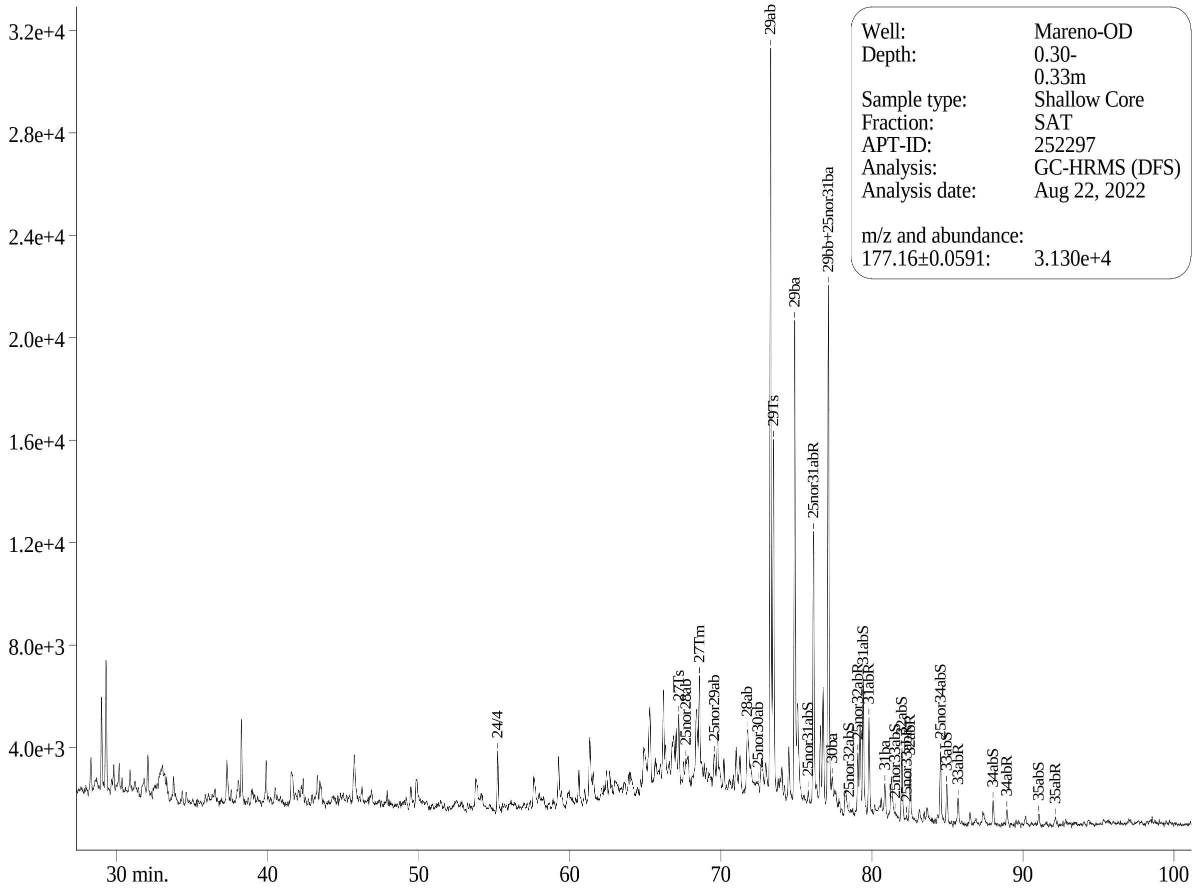

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
205.20±0.0684: 3.438e+4
5.0e+4
4.5e+4
4.0e+4
3.5e+4
3.0e+4
2.5e+4
2.0e+4
1.5e+4
1.0e+4
5.0e+3
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

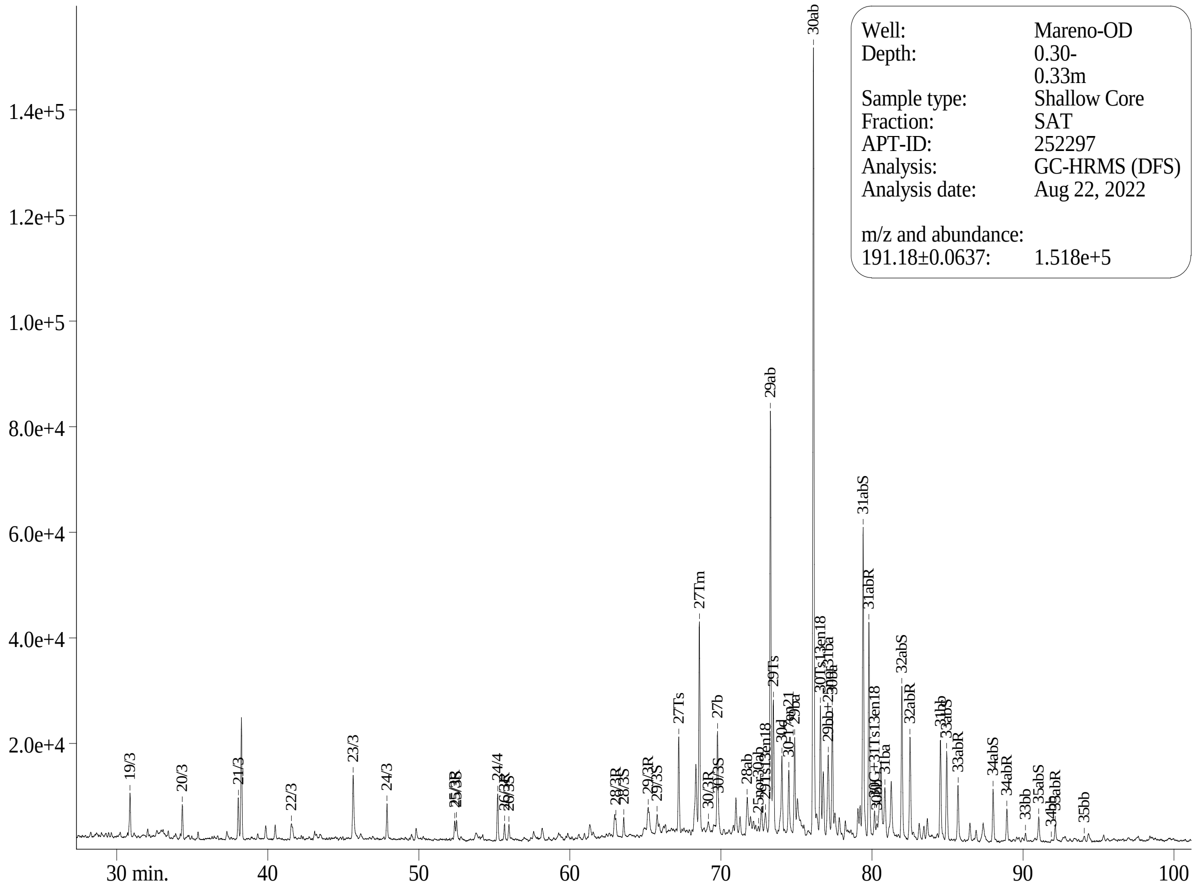

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
217.20±0.0724: 1.246e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27aaR
27bbS
29dbR
29daR
28daS
28daR
28aaS
28aaR
28bbS
28bbR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR

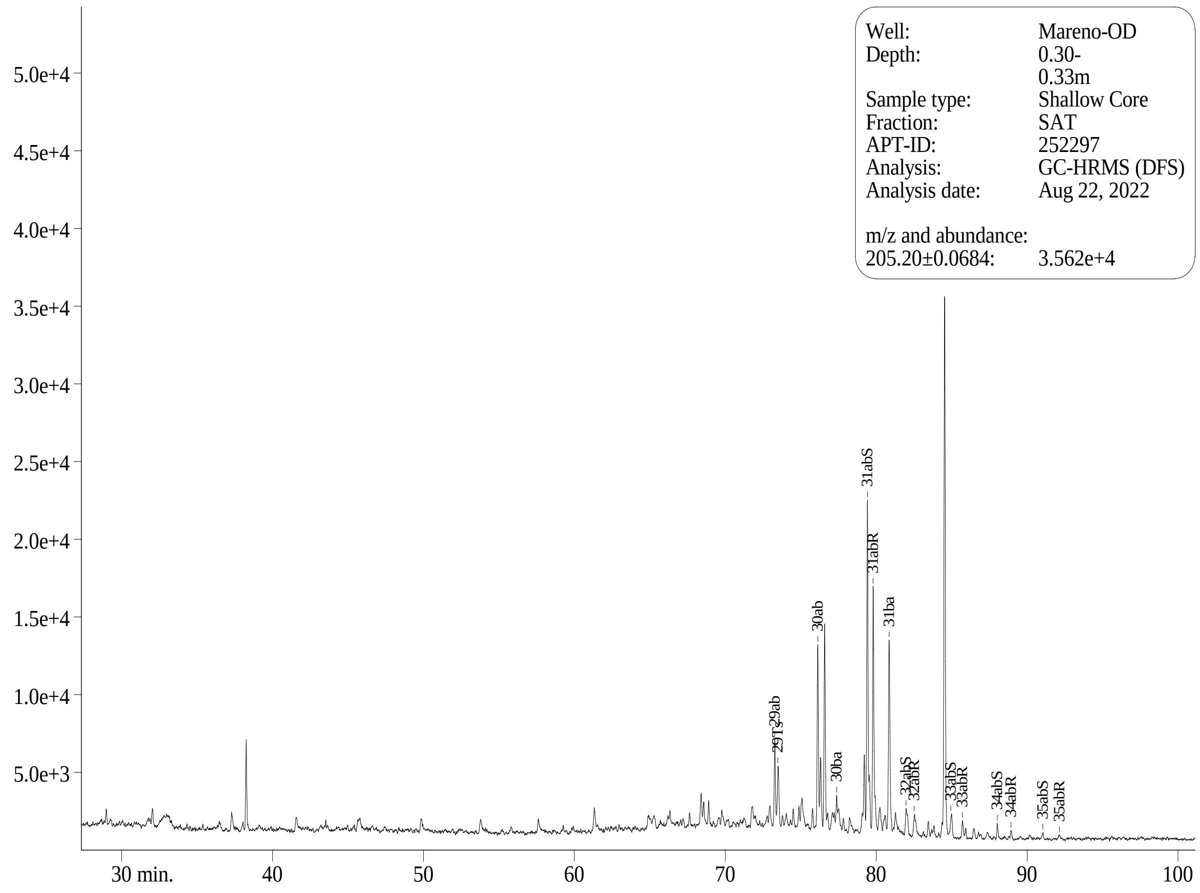

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
218.20±0.0727: 1.622e+4
2.4e+4
2.2e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daR
28daS
29dbR
29daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaR

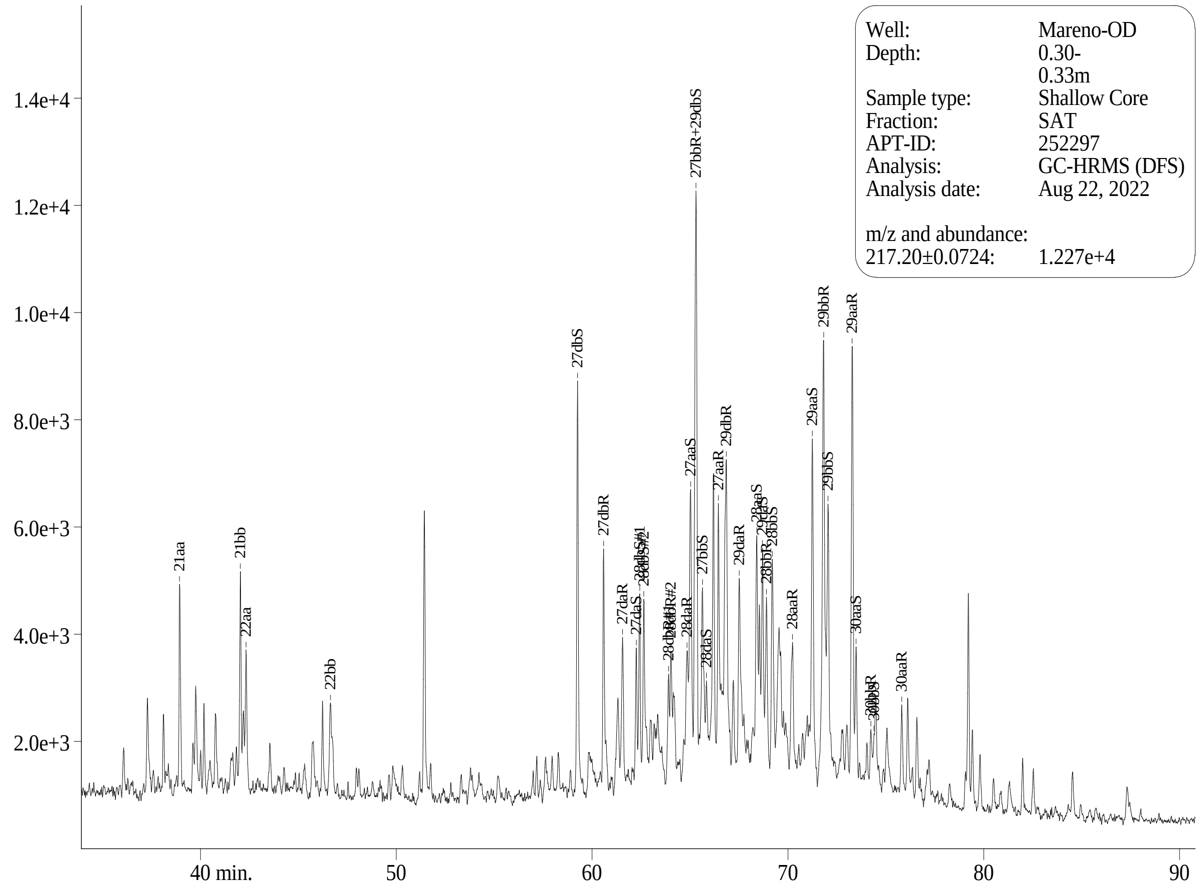

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
231.21±0.0771: 1.150e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90

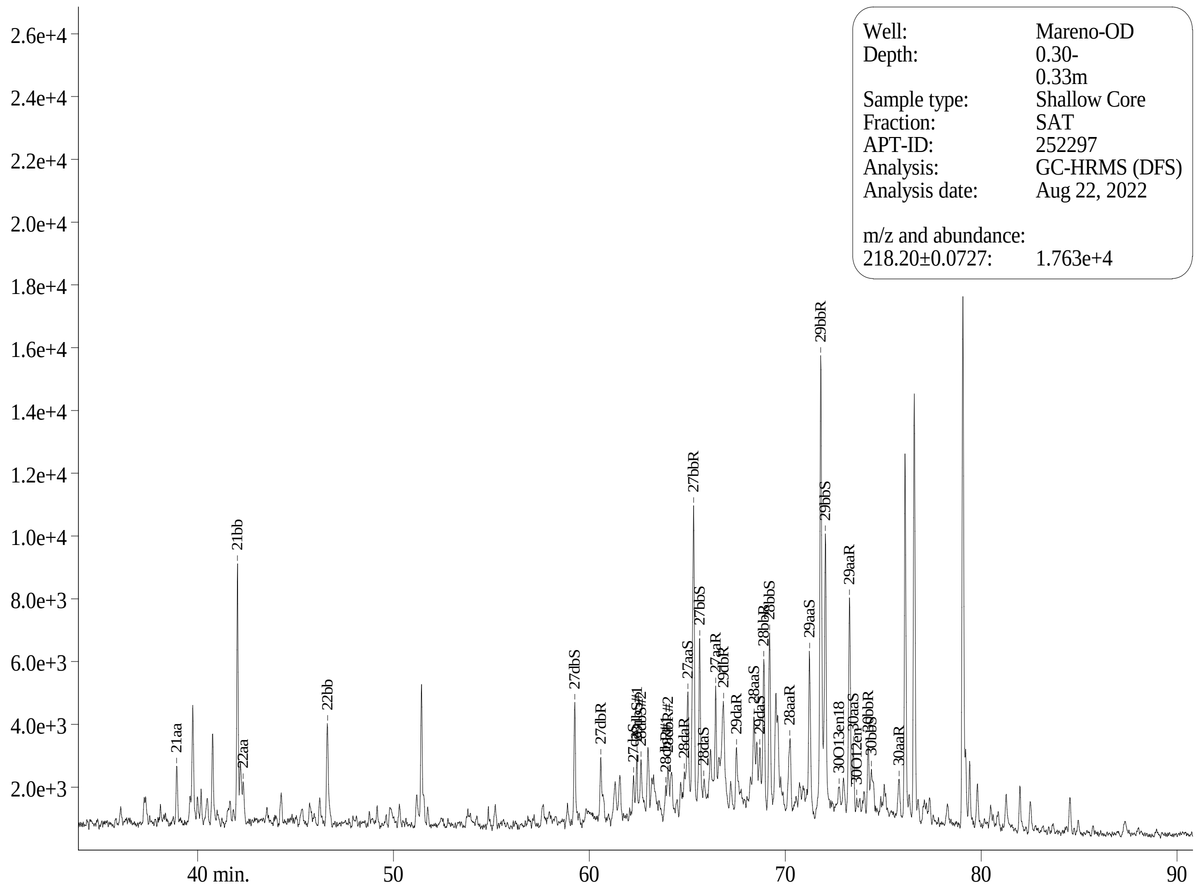

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
259.24±0.0864: 4.206e+3
27dbS
27dbR
27daR
27daS
28dbS#1
28dbS#2
27bbR+29dbS
28daR
28daS
29dbR
29daR
29daS
4.4e+3
4.0e+3
3.6e+3
3.2e+3
2.8e+3
2.4e+3
2.0e+3
1.6e+3
1.2e+3
8.0e+2
4.0e+2
40 min.
50
60
70
80
90

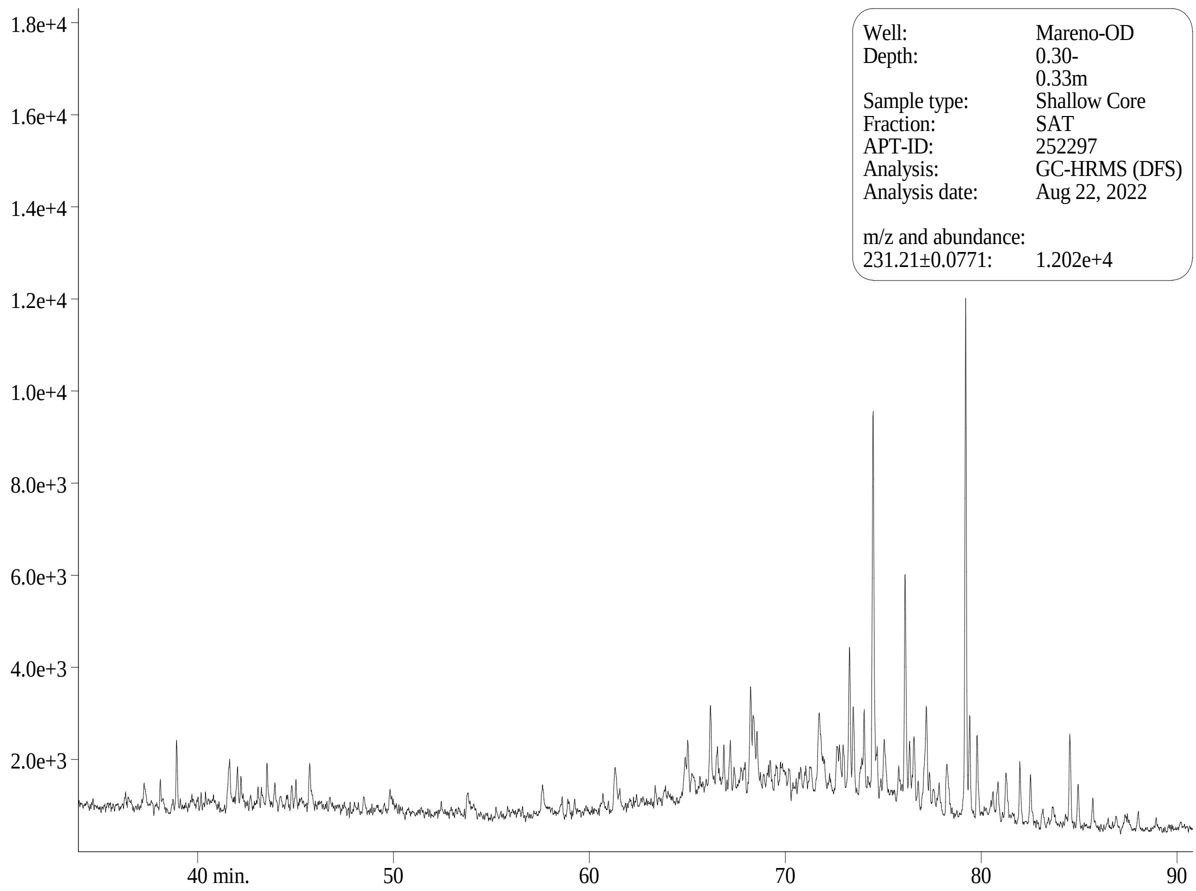

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
177.16±0.0591: 3.130e+4

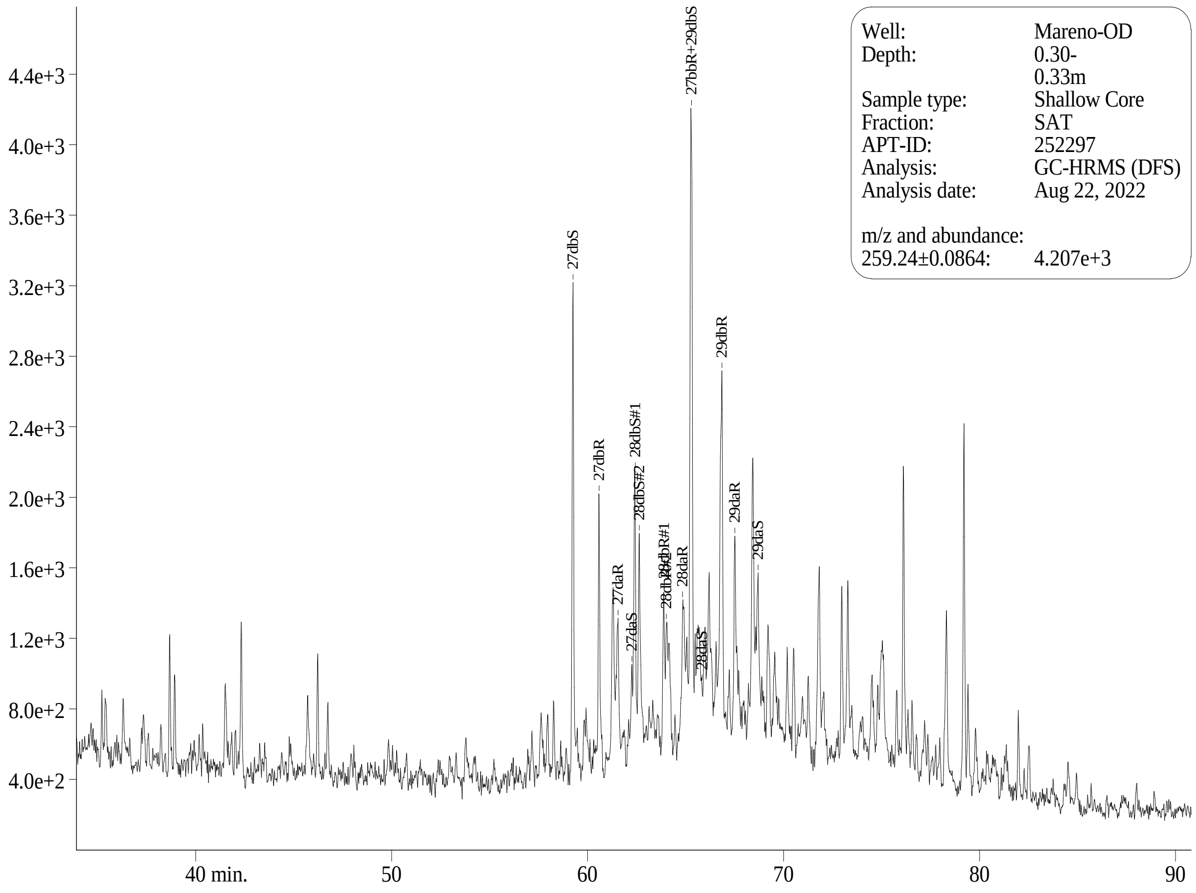

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
191.18±0.0637: 1.518e+5

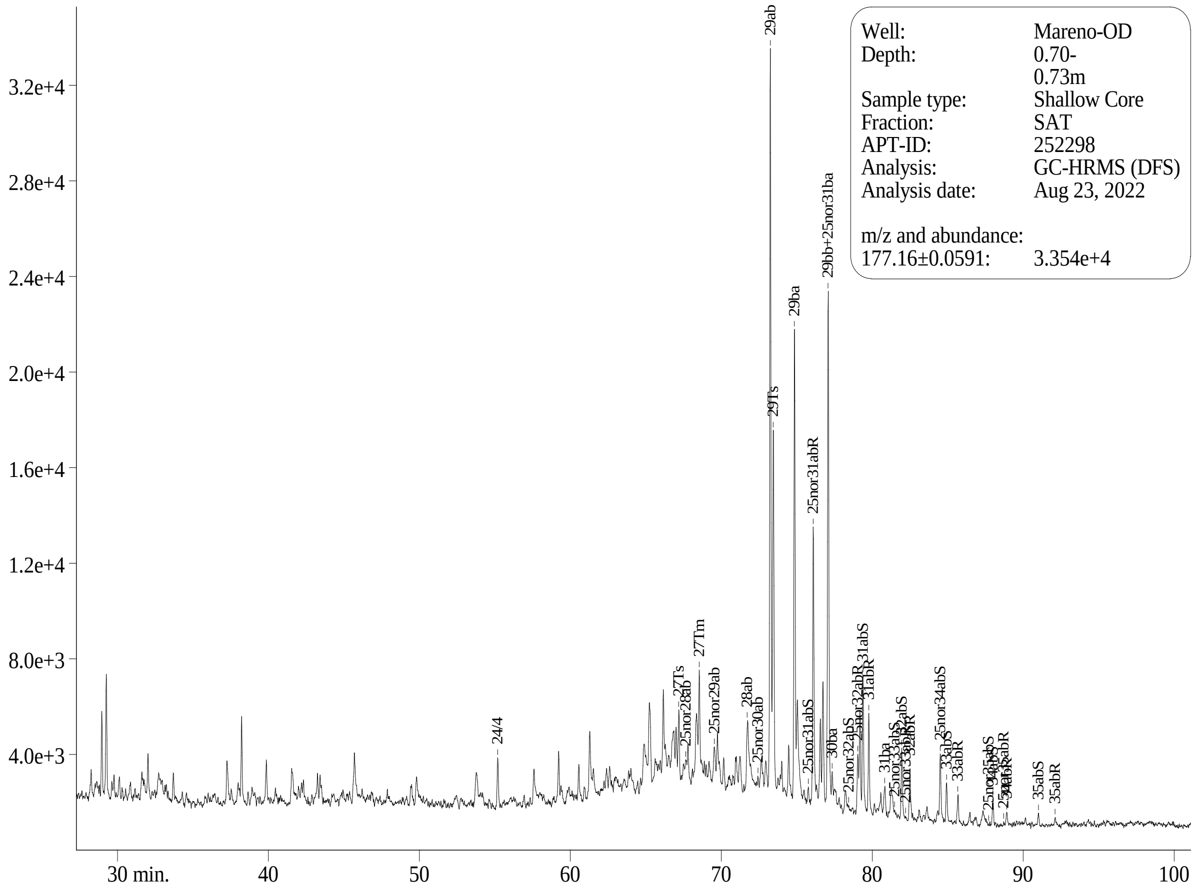

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
205.20±0.0684: 3.562e+4
5.0e+4
4.5e+4
4.0e+4
3.5e+4
3.0e+4
2.5e+4
2.0e+4
1.5e+4
1.0e+4
5.0e+3
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

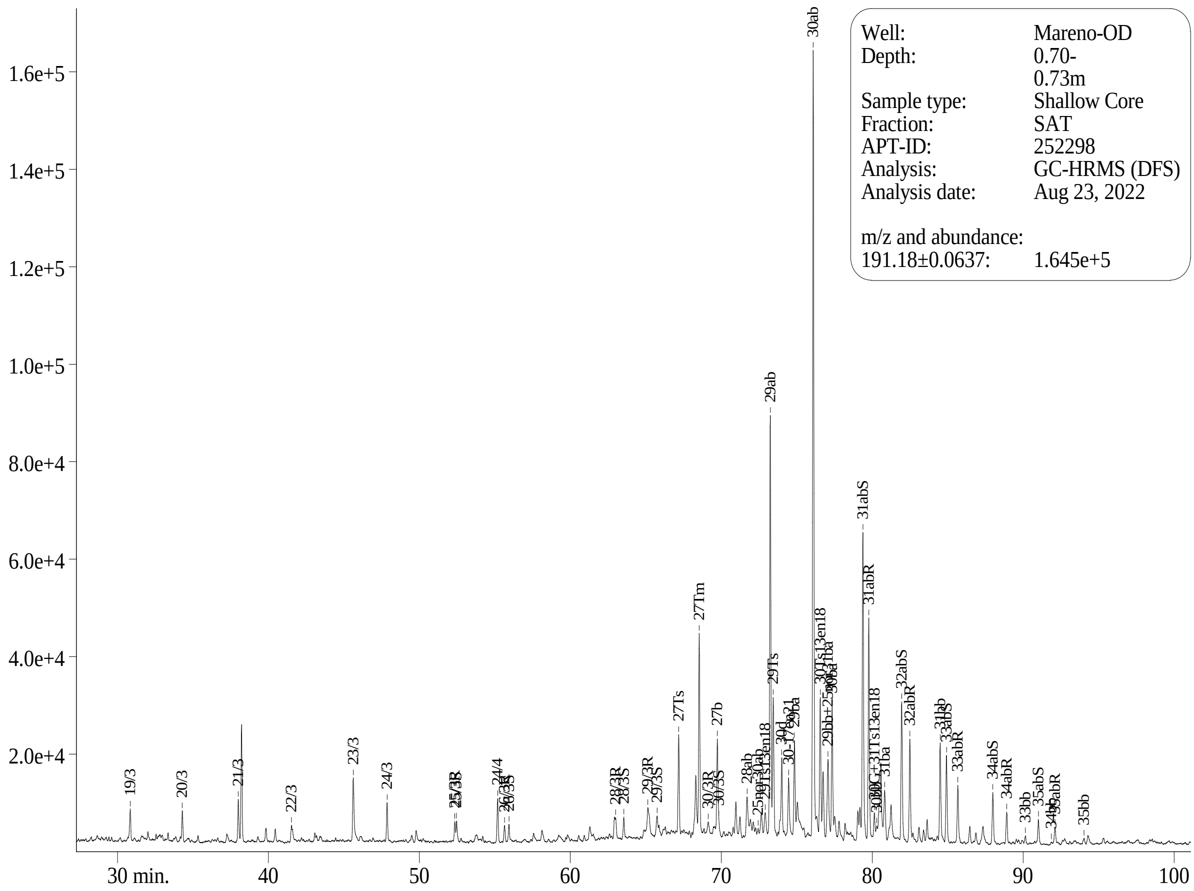

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
217.20±0.0724: 1.227e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27bbS
27aaR
28daR
28daS
29dbR
29daR
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR

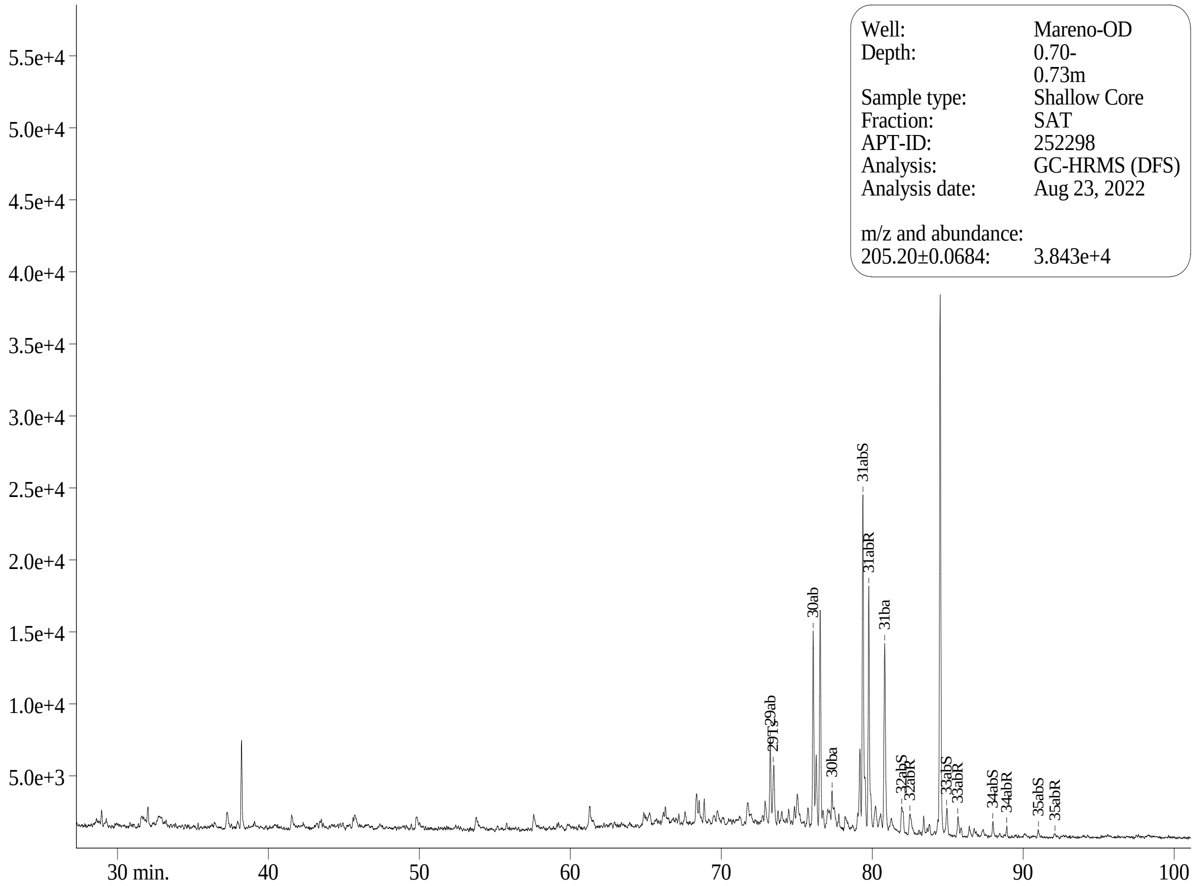

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
218.20±0.0727: 1.763e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daR
28daS
29daR
28aaS
28bbR
28bbS
29aaS
29bbR
29bbS
29aaR
28aaR
30aaR
40 min.
50
60
70
80
90

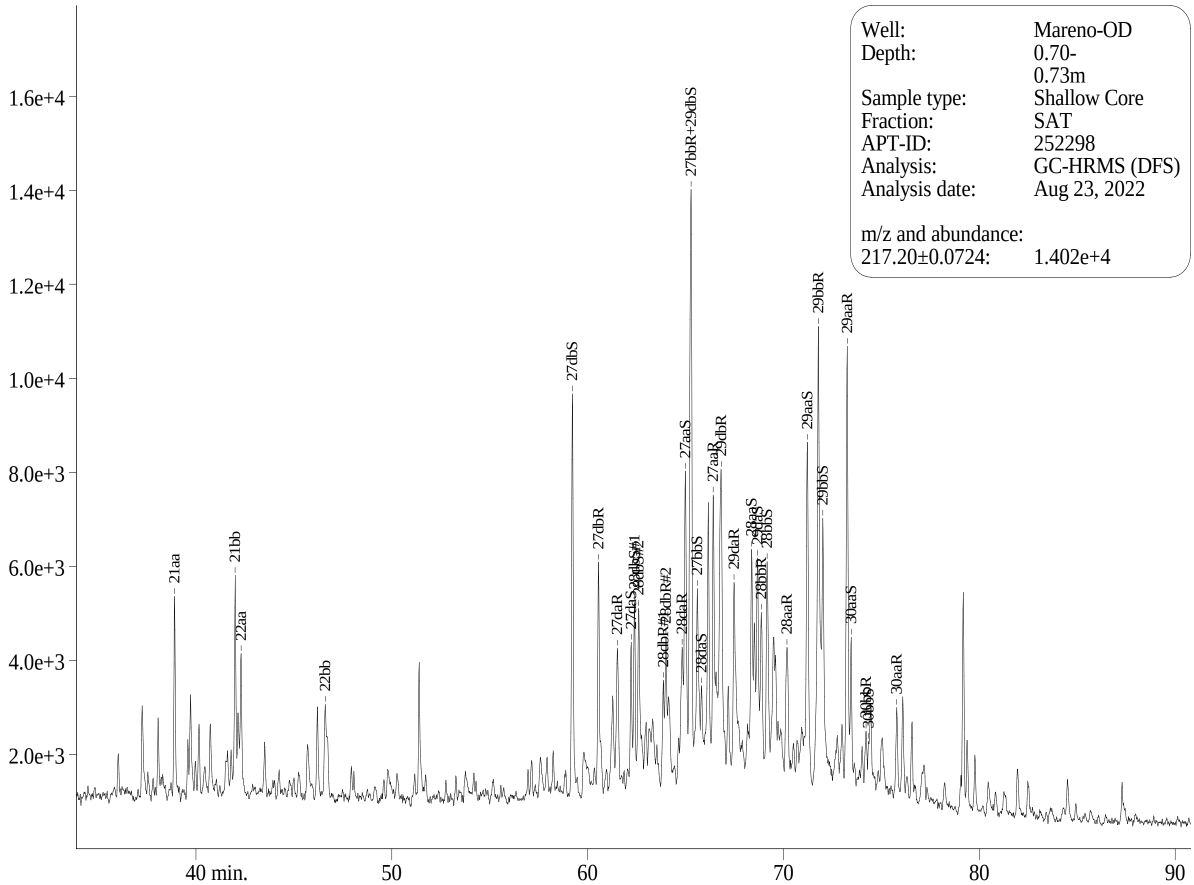

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
231.21±0.0771: 1.202e+4
40 min.
50
60
70
80
90

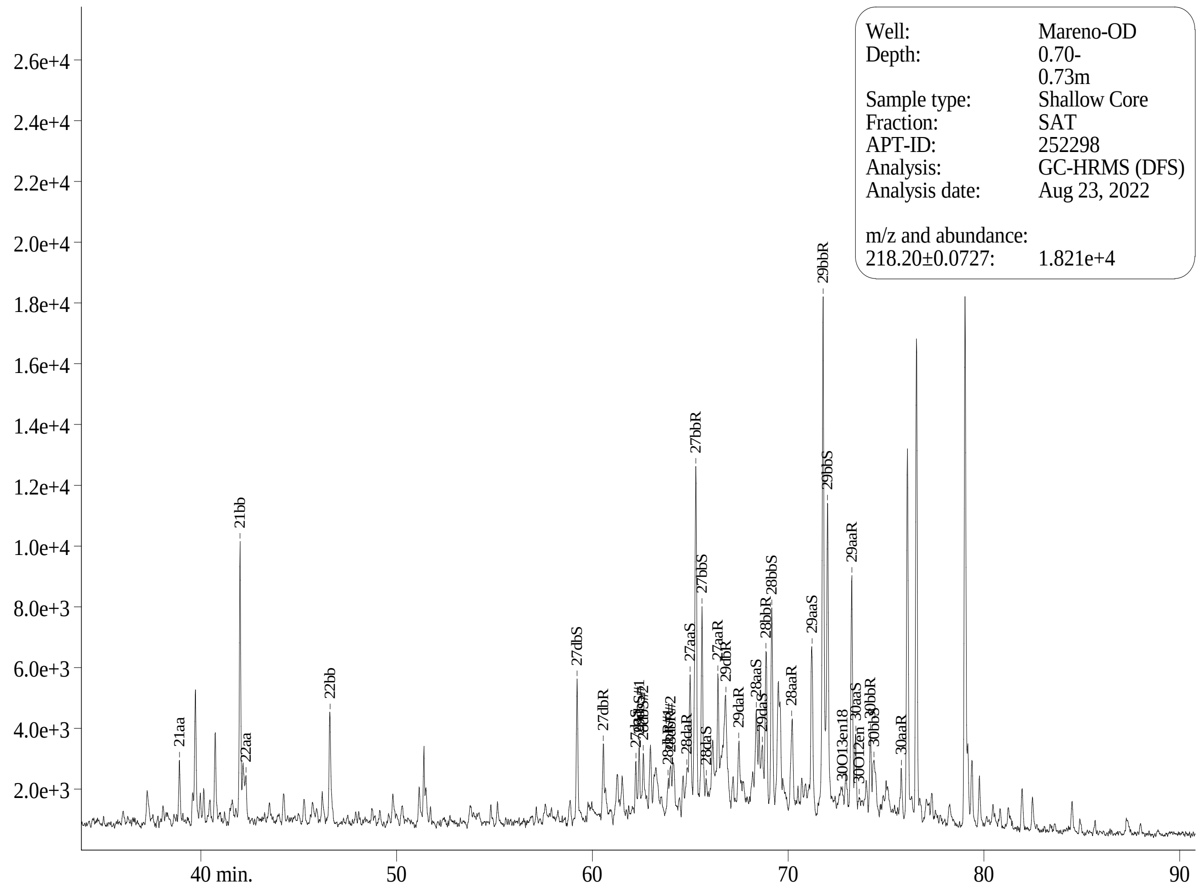

4.4e+3
4.0e+3
3.6e+3
3.2e+3
2.8e+3
2.4e+3
2.0e+3
1.6e+3
1.2e+3
8.0e+2
4.0e+2
40 min.
50
60
70
80
90
27dbS
27dbR
27daR
27daS
28dbS#1
28dbS#2
28dbR#1
28daR
28daS
27bbR+29dbS
29dbR
29daR
29daS
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-HRMS (DFS)
Analysis date: Aug 22, 2022
m/z and abundance:
259.24±0.0864: 4.207e+3

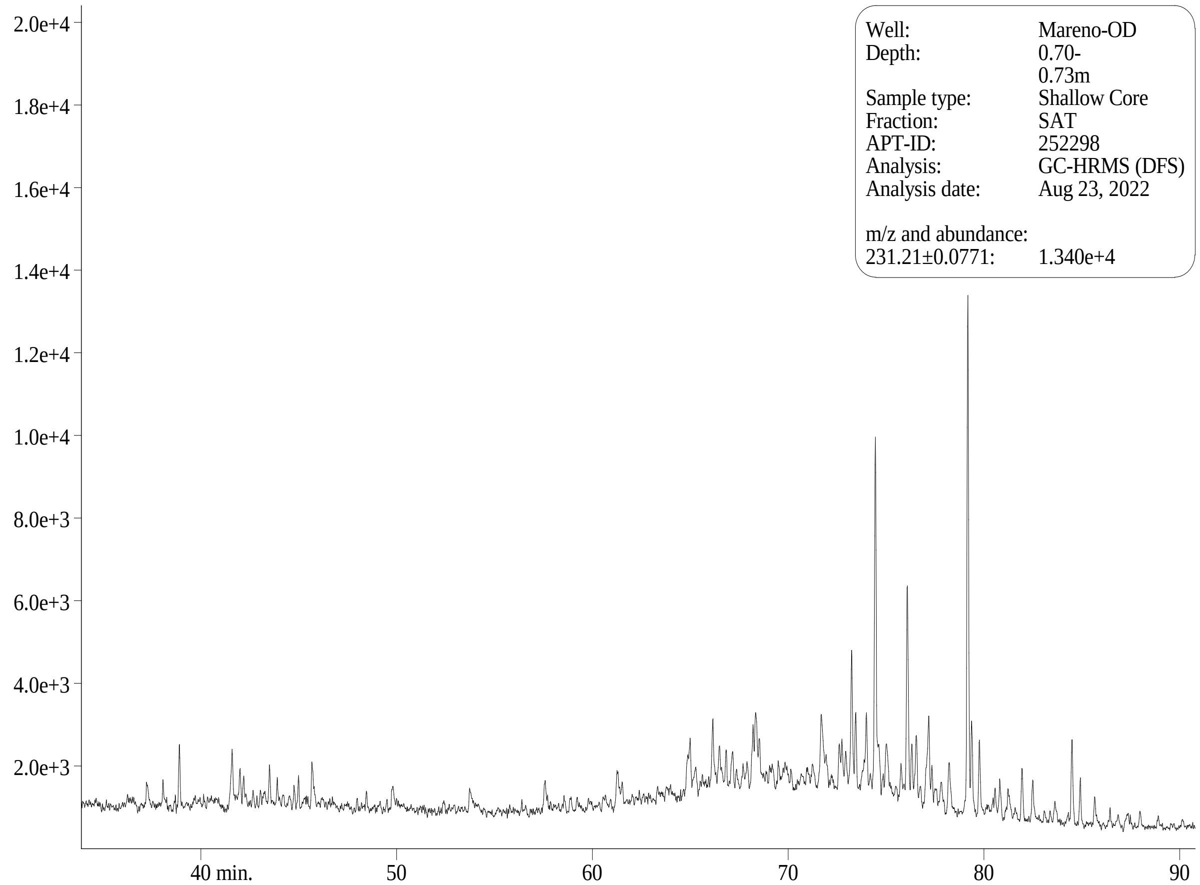

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 3.354e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29bb+25nor31ba
29ba
29Ts
25nor31abR
27Tm
27Ts
25nor29ab
28ab
25nor30ab
25nor31abS
30ba
31abS
31abR
24/4
25abS
35abR

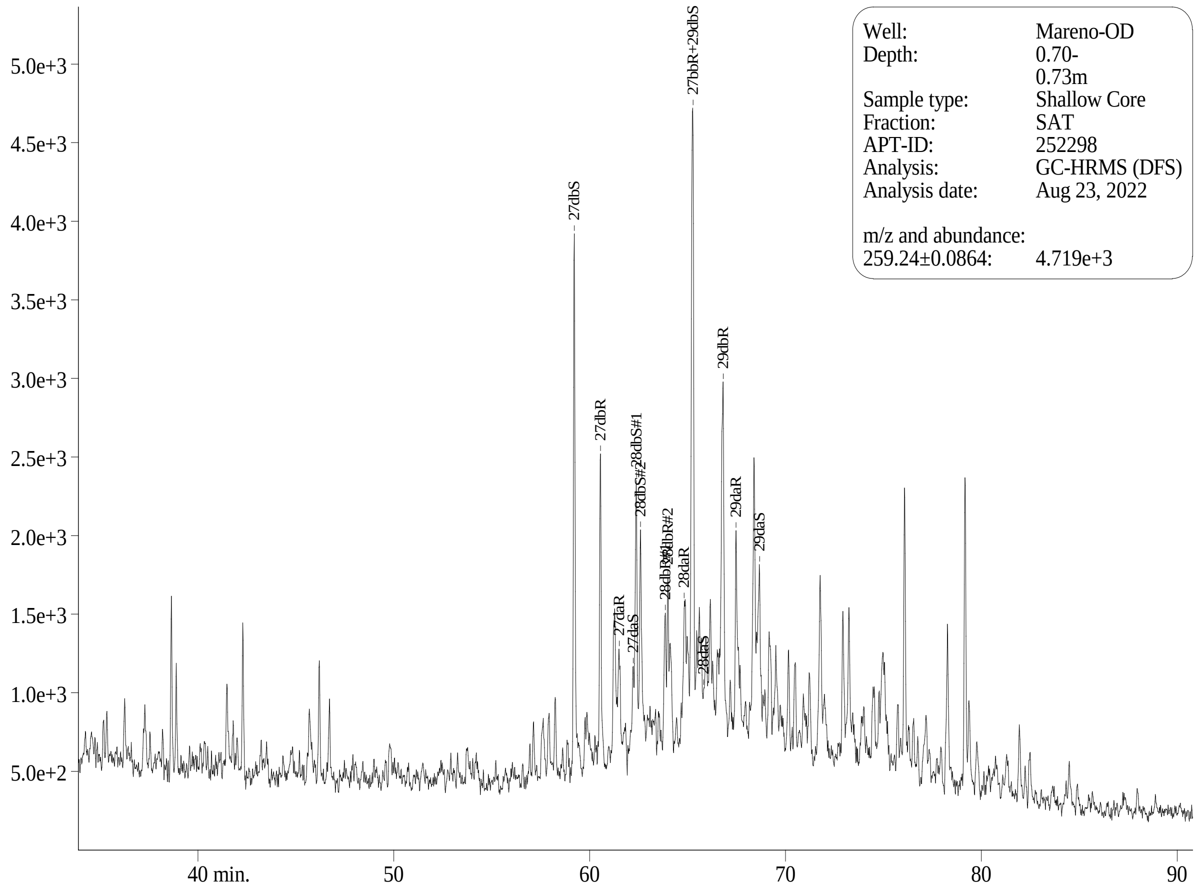

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 1.645e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
27Ts
27b
29Ts
32abS
32abR
33abR
34abS
34abR
35abS
35abR
35bb
33bb
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
30/3R
30/3S
28ab
31ba
29ba


Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 3.843e+4
5.5e+4
5.0e+4
4.5e+4
4.0e+4
3.5e+4
3.0e+4
2.5e+4
2.0e+4
1.5e+4
1.0e+4
5.0e+3
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

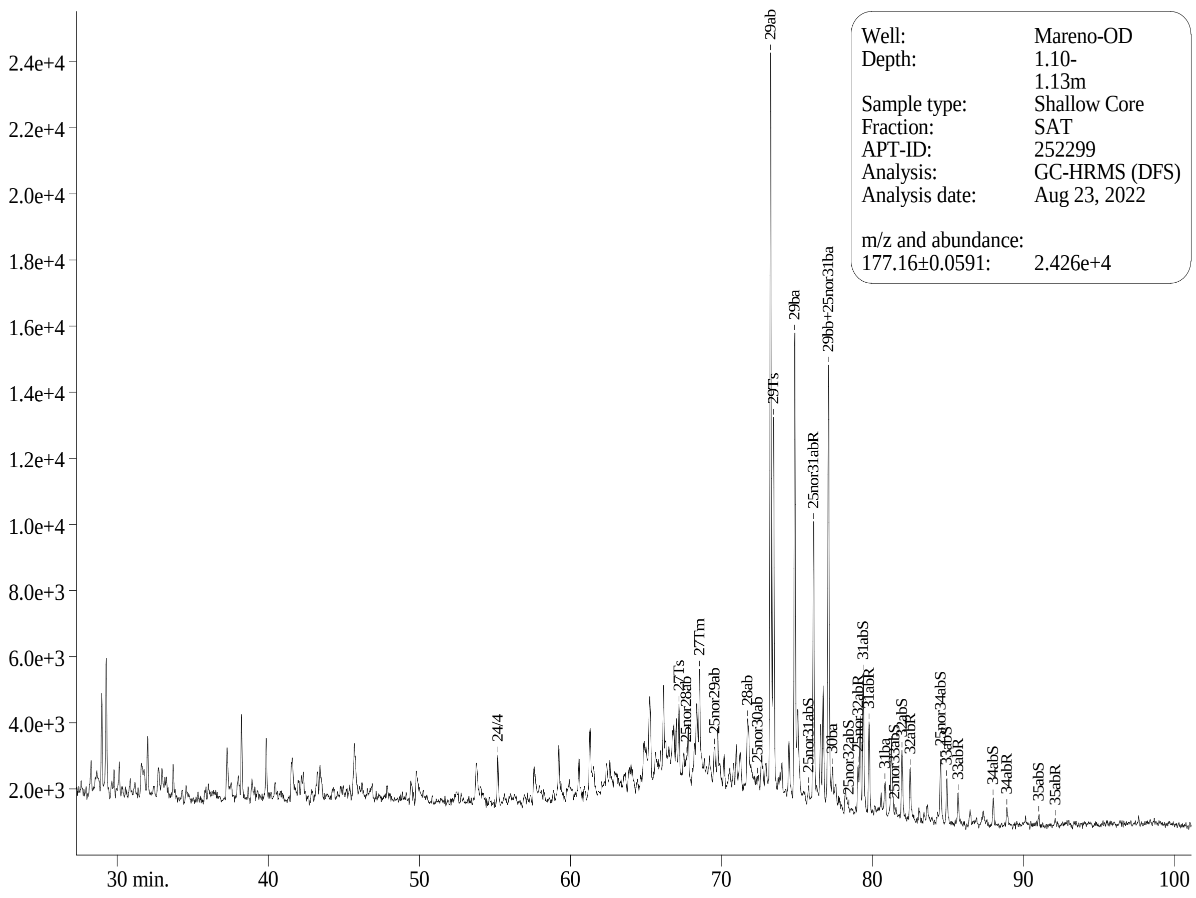

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 1.402e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27bbR+29dbS
27aaS
27aaR
27bbS
29dbR
29daR
28daR
28daS
29aaS
29bbR
29bbS
29aaR
28aaR
28bbR
30aaS
30aaR

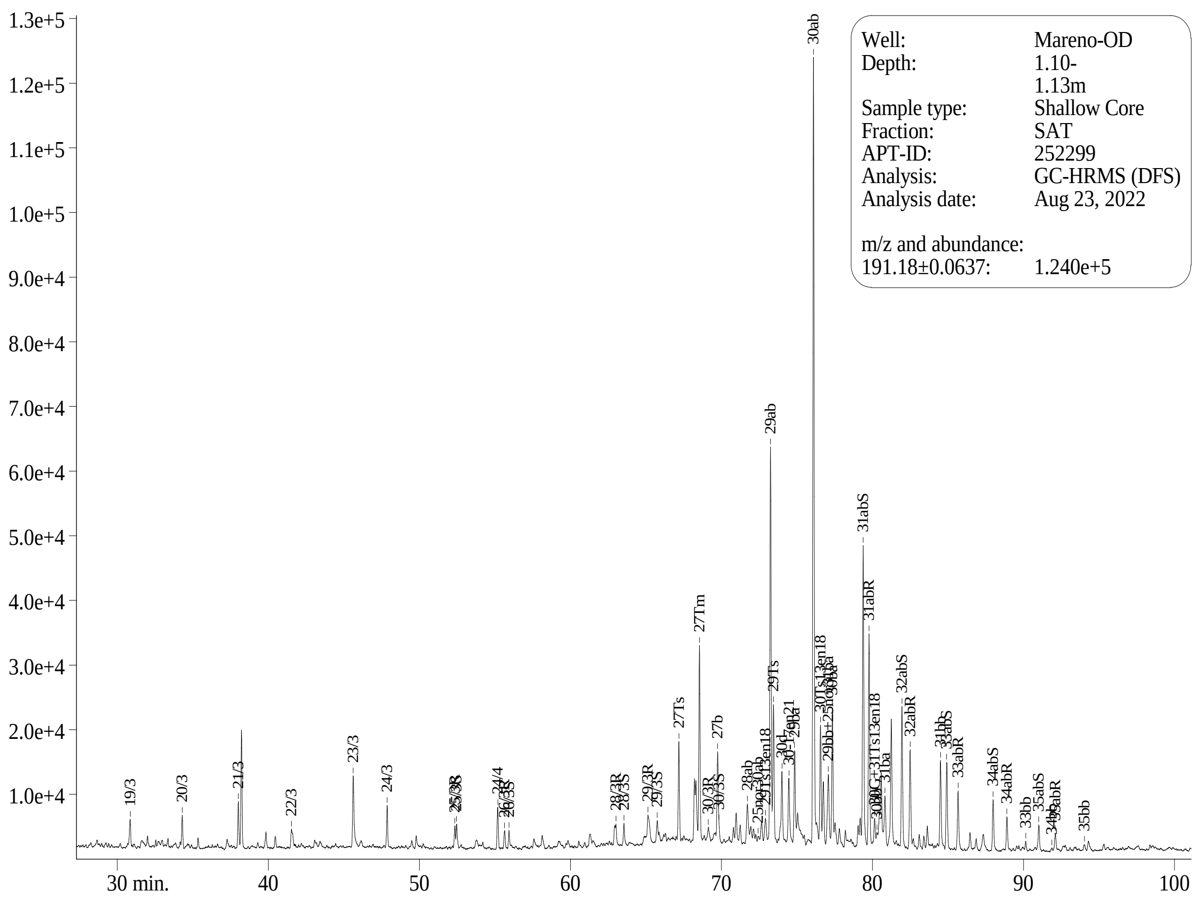

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 1.821e+4
2.6e+4
2.4e+4
2.2e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27aaS
27bbR
27bbS
27aaR
28daR
28daS
29dbR
29daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30O13en18
30O12en
30aaS
30bbR
30aaR

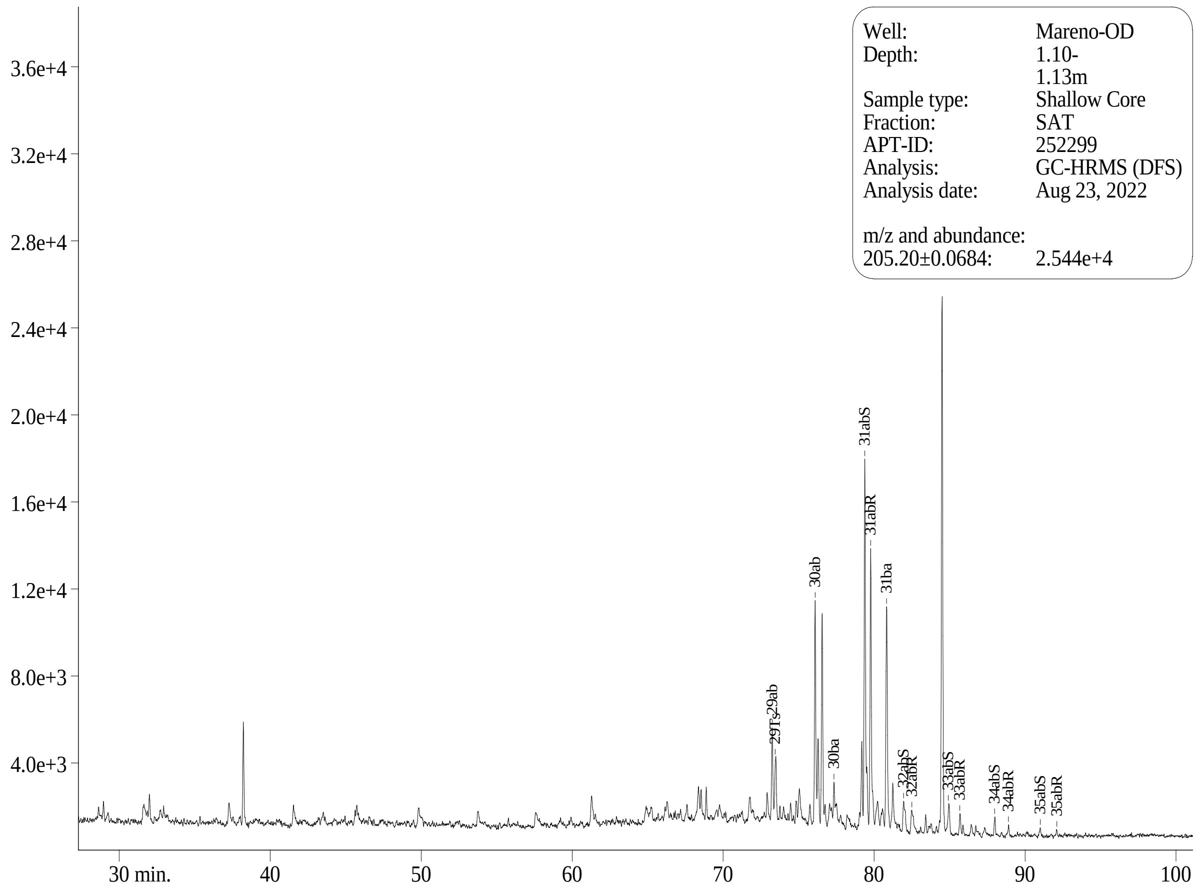

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 1.340e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90

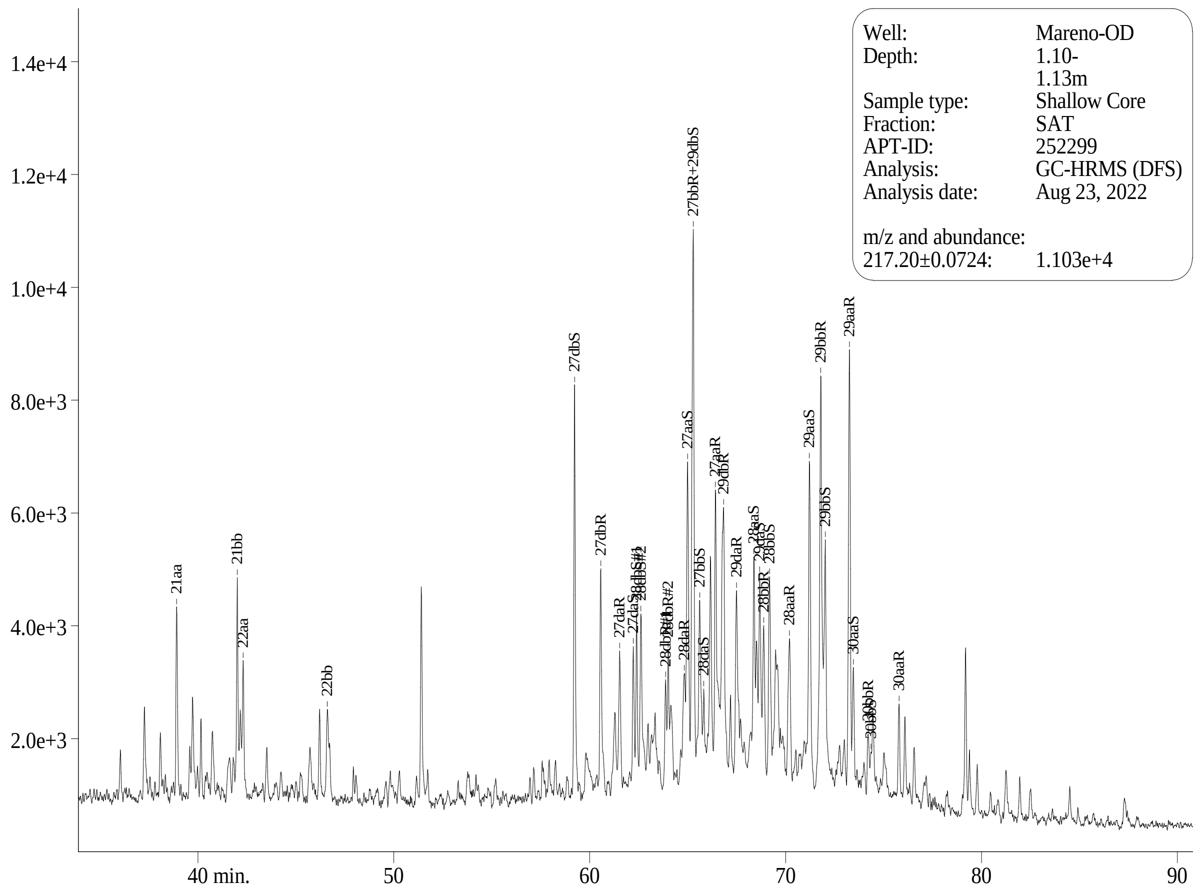


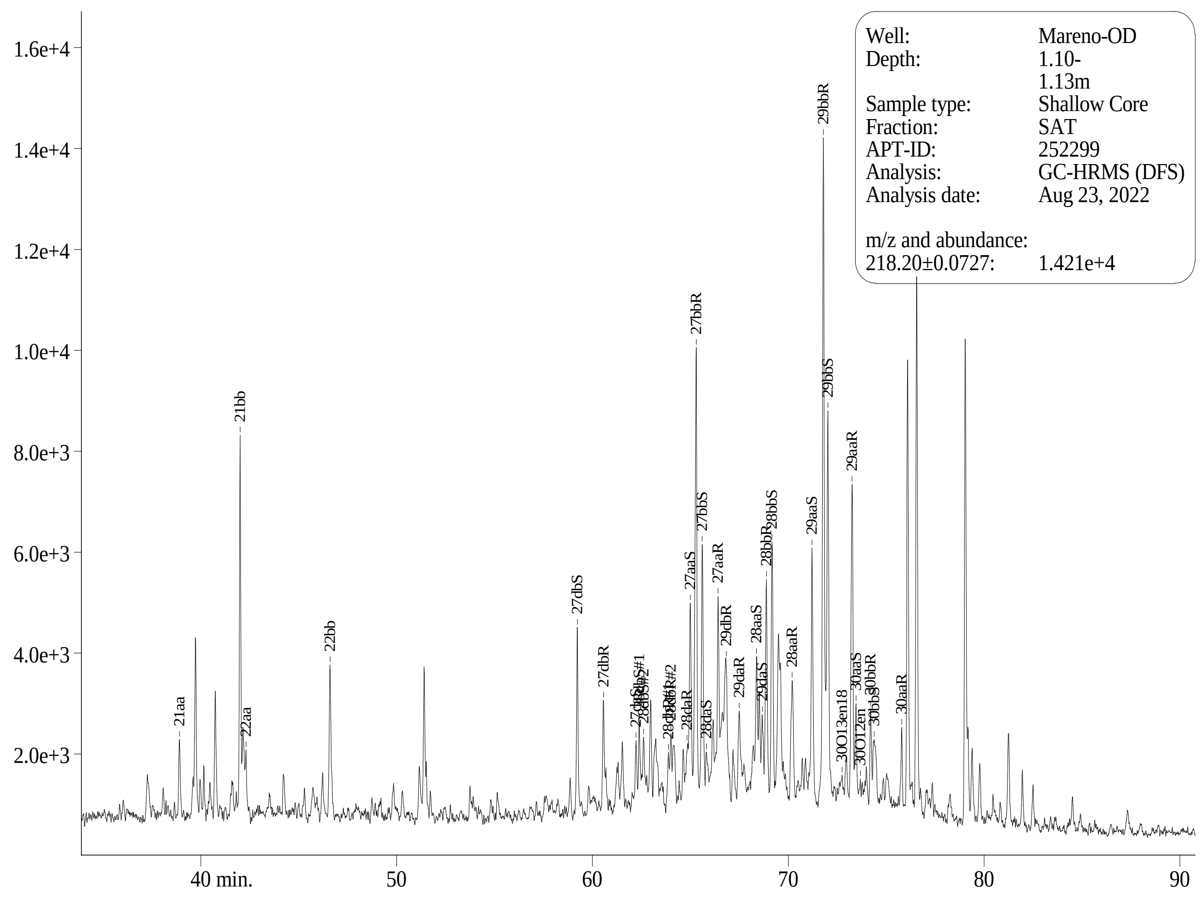
Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 4.719e+3
27dbS
27dbR
27daR
27daS
28dbS#2
28dbS#1
28dbR#2
28daR
28daS
27bbR+29dbS
29dbR
29daR
29daS
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2
40 min.
50
60
70
80
90

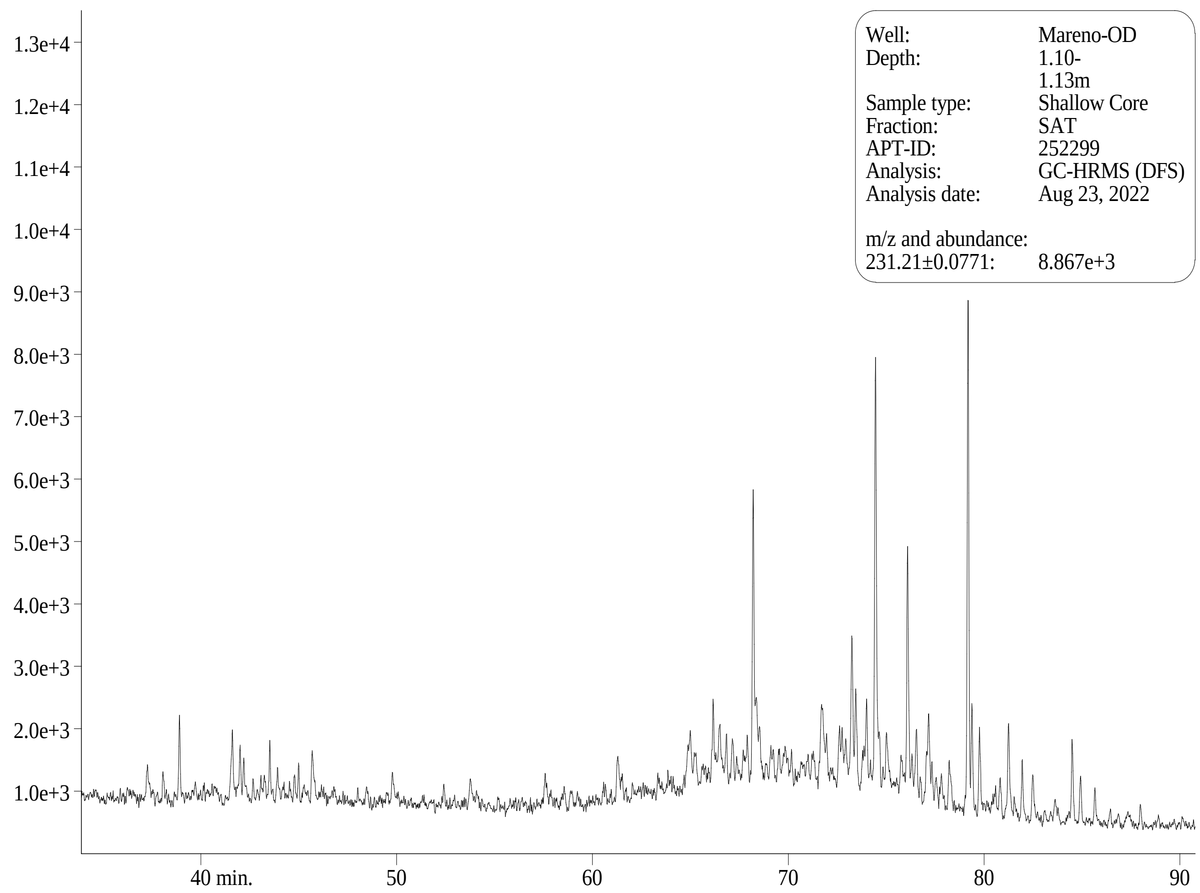

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 2.426e+4

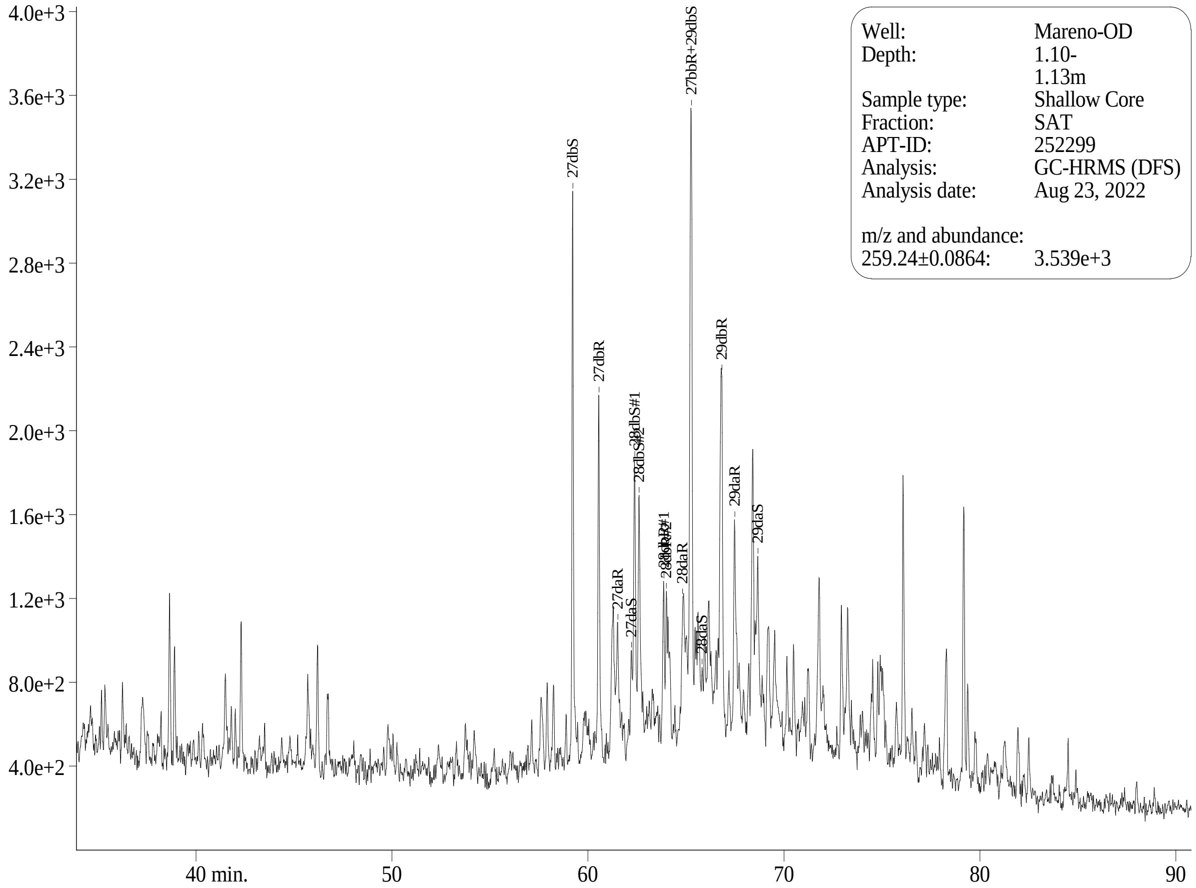

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 1.240e+5

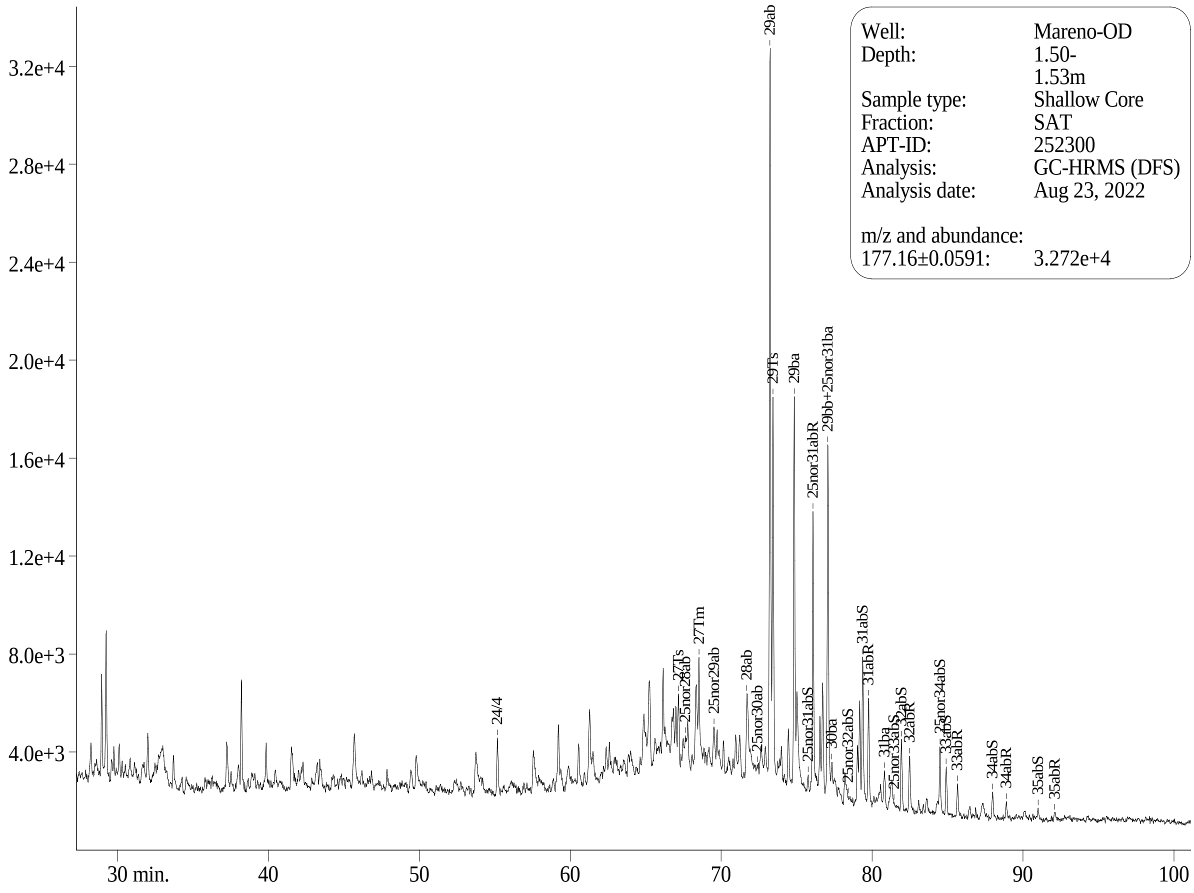

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 2.544e+4
3.6e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

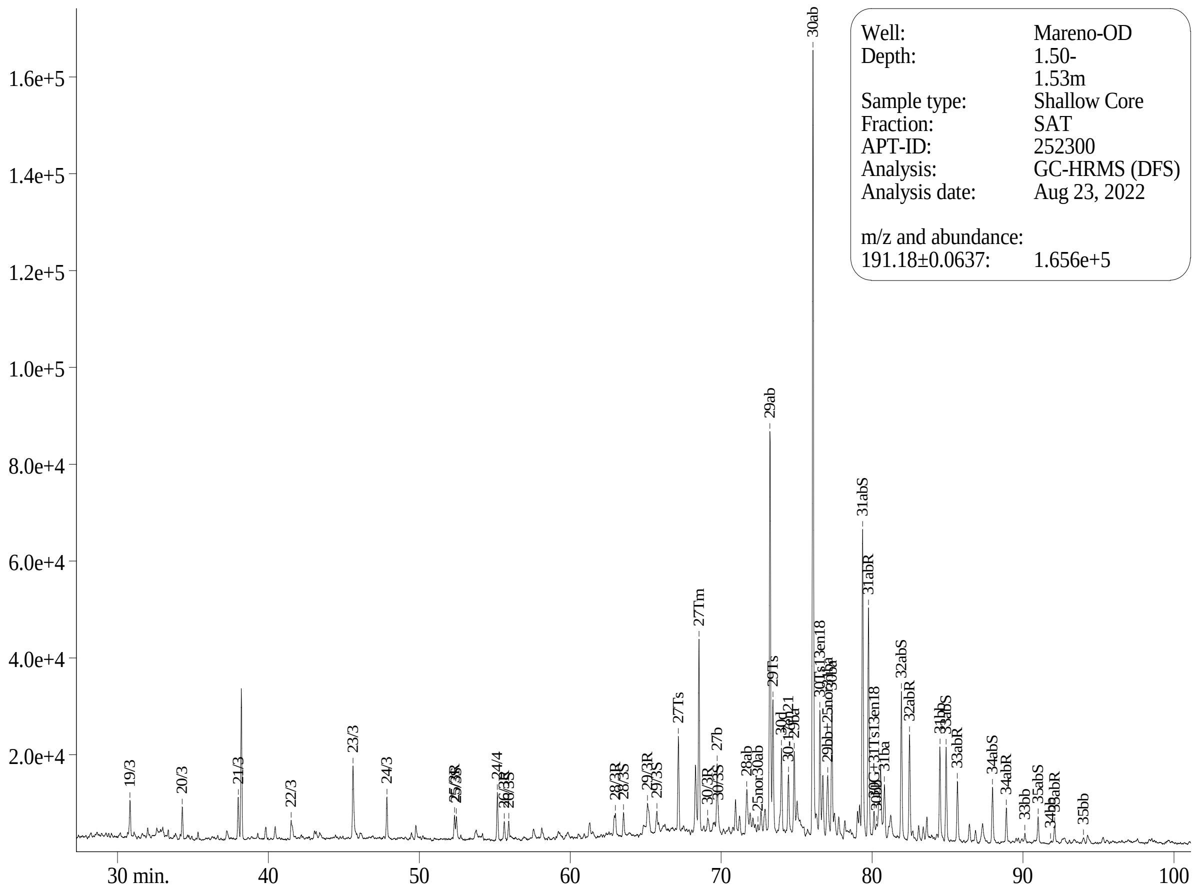

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 1.103e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27bbR+29dbS
27aaS
27bbS
27aaR
28daS
28daR
29dbR
29daR
28aaR
28bbR
28bbS
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR

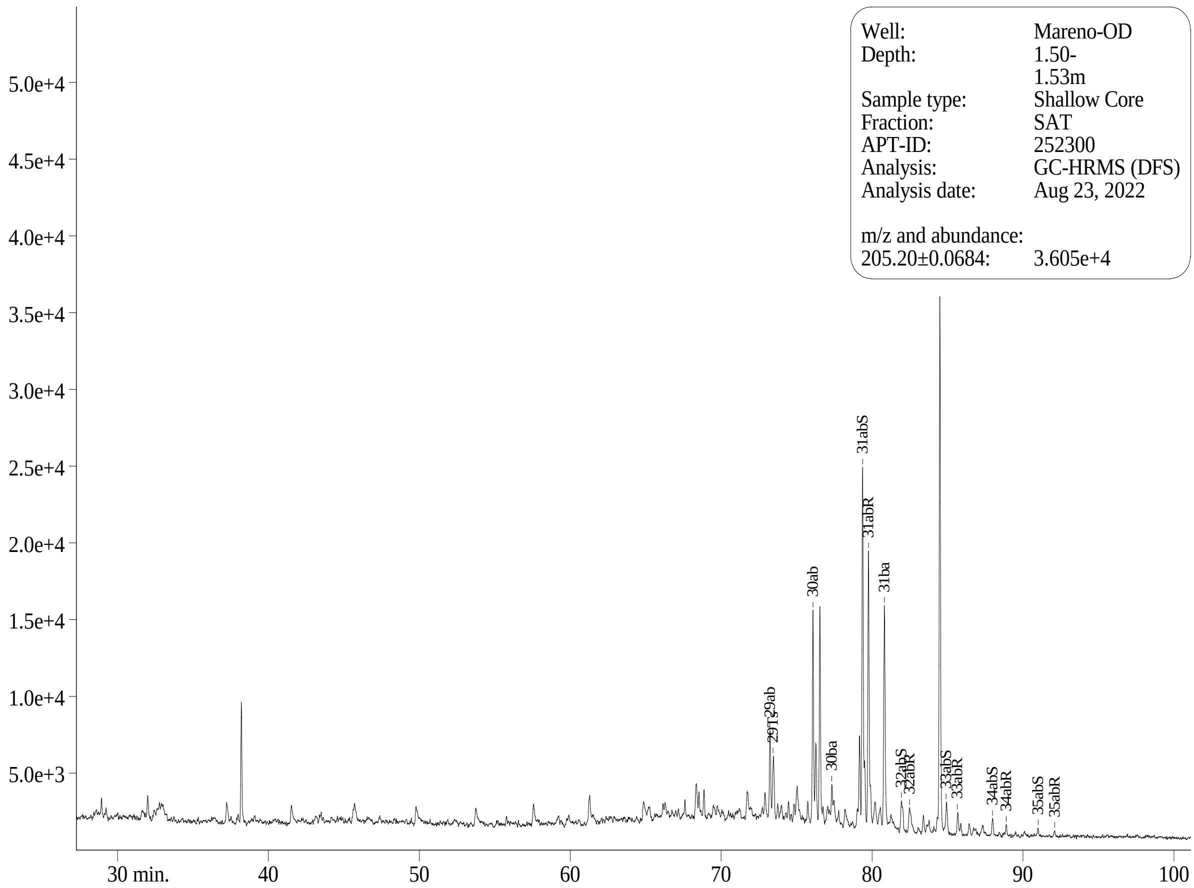

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 1.421e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27aaS
27bbR
27bbS
27aaR
29dbR
29daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30bbR
30aaR
30O13en18
40 min.
50
60
70
80
90
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3

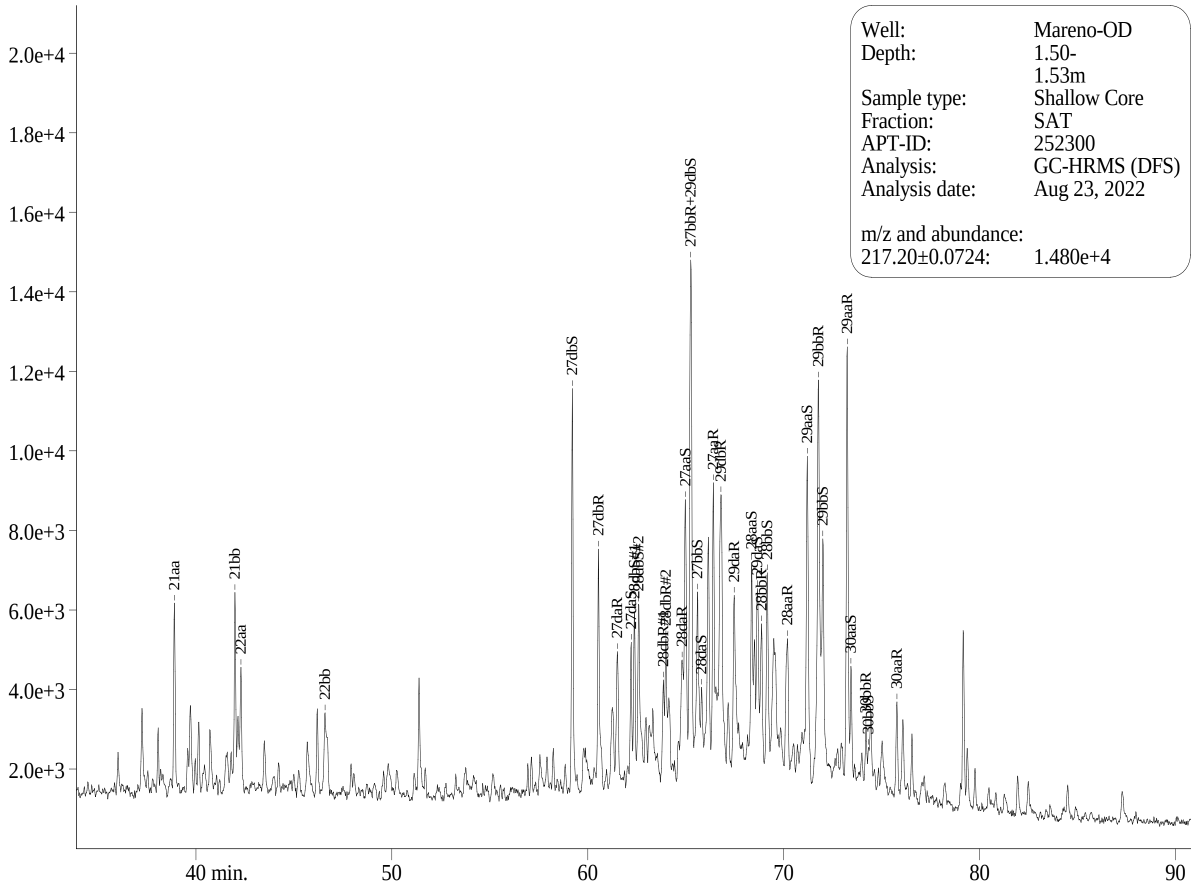

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 8.867e+3
40 min.
50
60
70
80
90
1.3e+4
1.2e+4
1.1e+4
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3

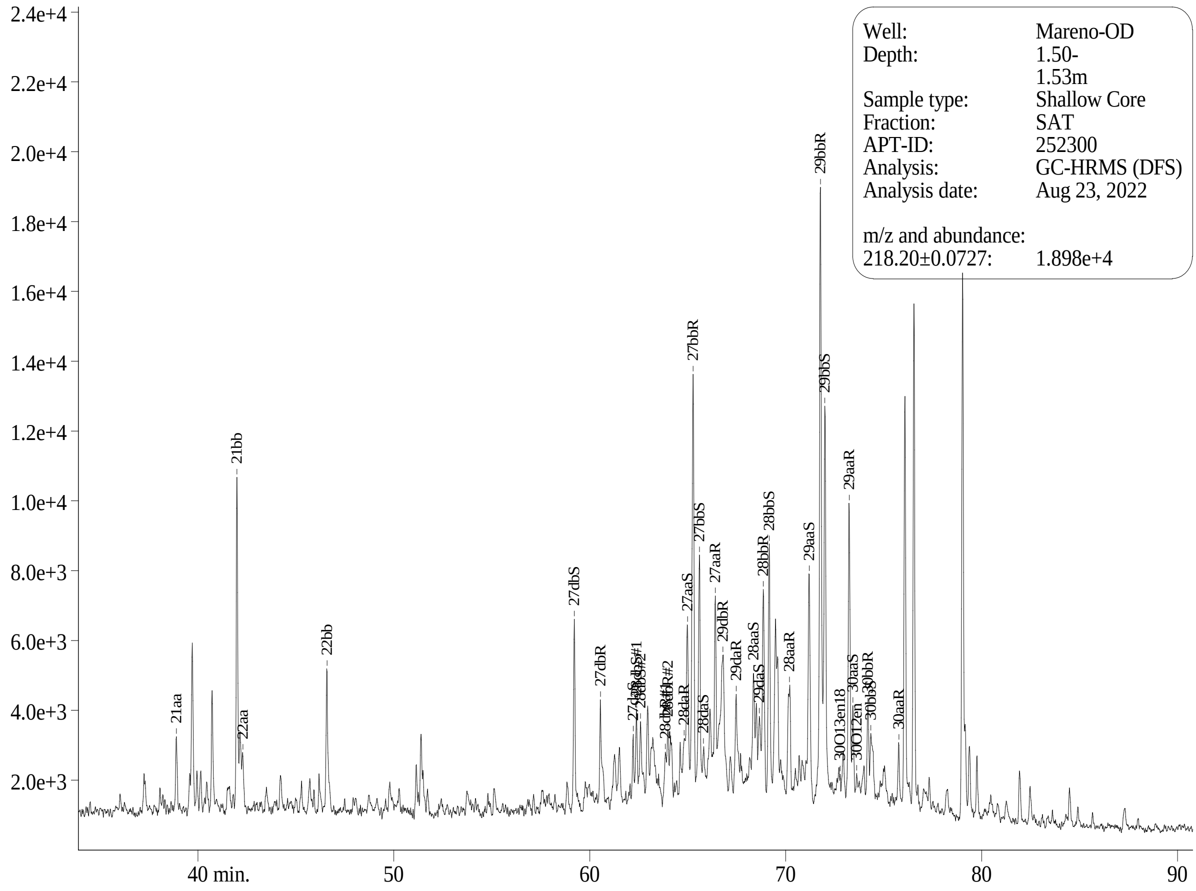

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 3.539e+3
27dbS
27dbR
27daR
27daS
28dbS#1
28dbS#2
28daR
28daS
27bbR+29dbS
29dbR
29daR
29daS
4.0e+3
3.6e+3
3.2e+3
2.8e+3
2.4e+3
2.0e+3
1.6e+3
1.2e+3
8.0e+2
4.0e+2
40 min.
50
60
70
80
90

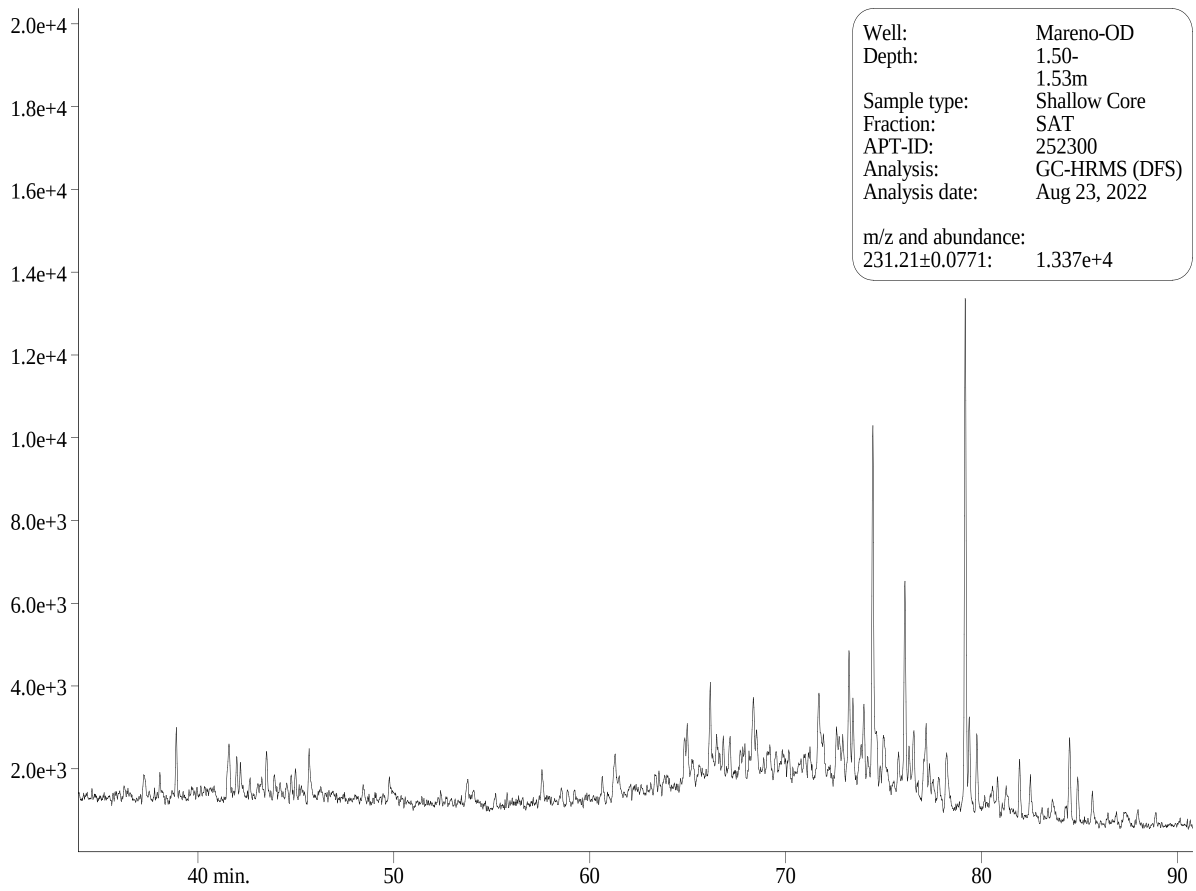

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 3.272e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29Ts
29ba
29bb+25nor31ba
25nor31abR
24/4
27Ts
25nor28ab
27Tm
25nor29ab
28ab
25nor30ab
25nor31abS
30ba
25nor32abS
31abS
31abR
31ba
25nor33abS
32abS
32abR
25nor34abS
33abS
33abR
34abS
34abR
35abS
35abR

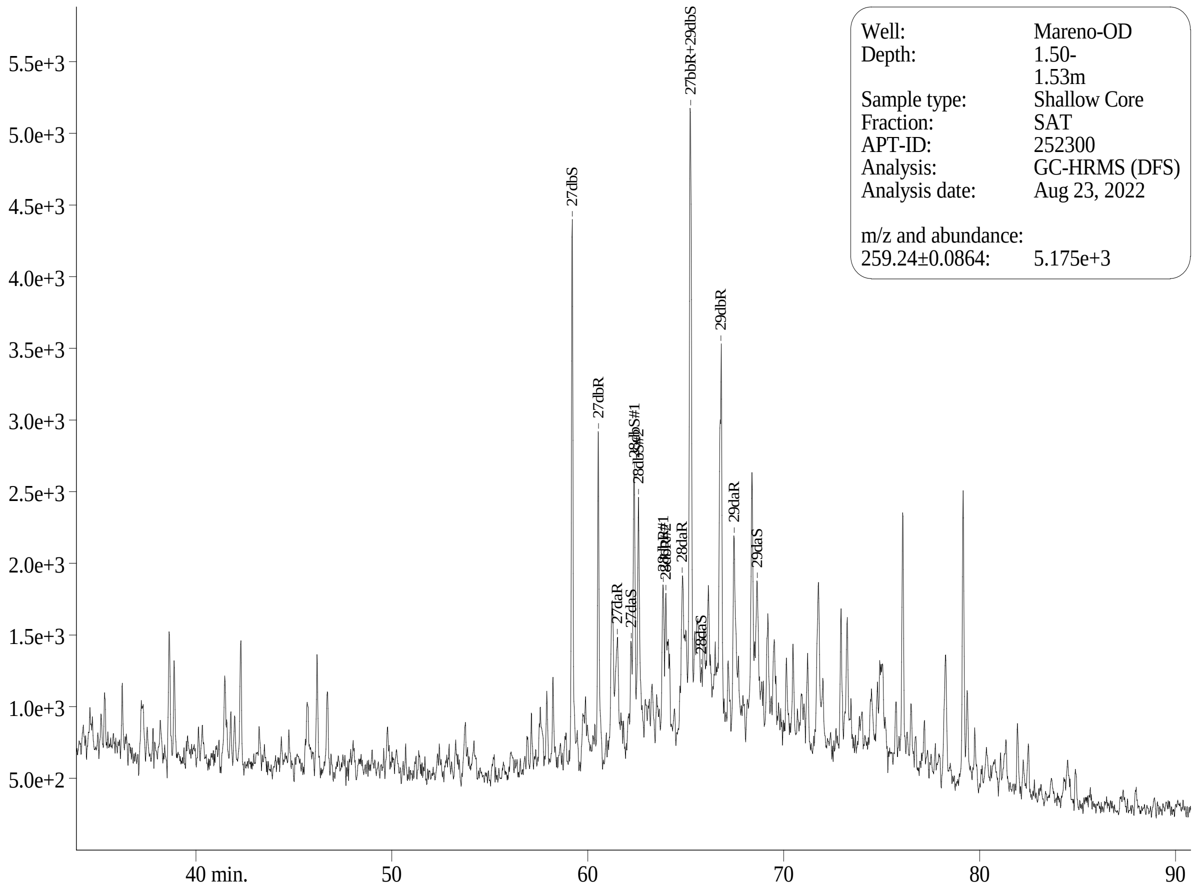

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 1.656e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
29Ts
27Ts
27b
28ab
25nor30ab
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
30/3R
30/3S
32abS
32abR
31ba
33abS
33abR
34abS
34abR
35abS
35abR
33bb
35bb

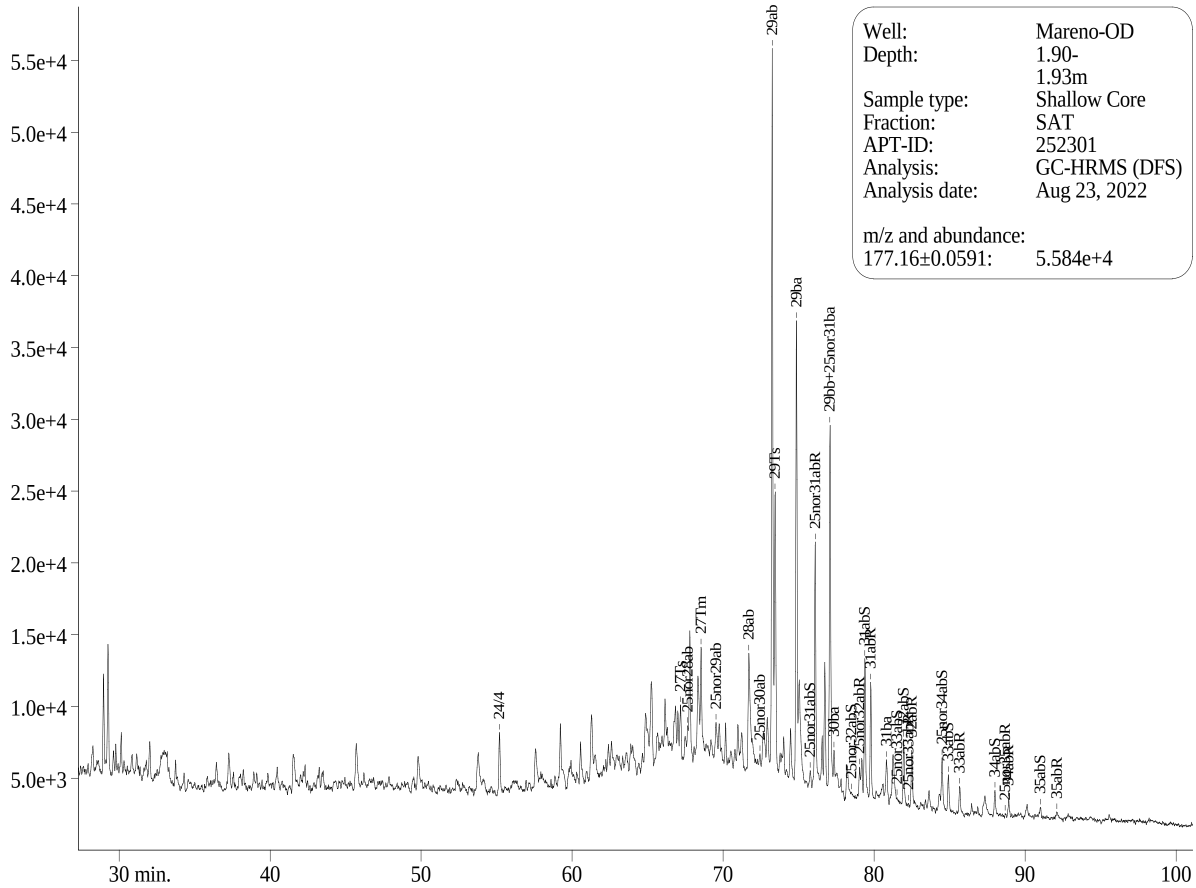

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 3.605e+4
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
30 min.
40
50
60
70
80
90
100

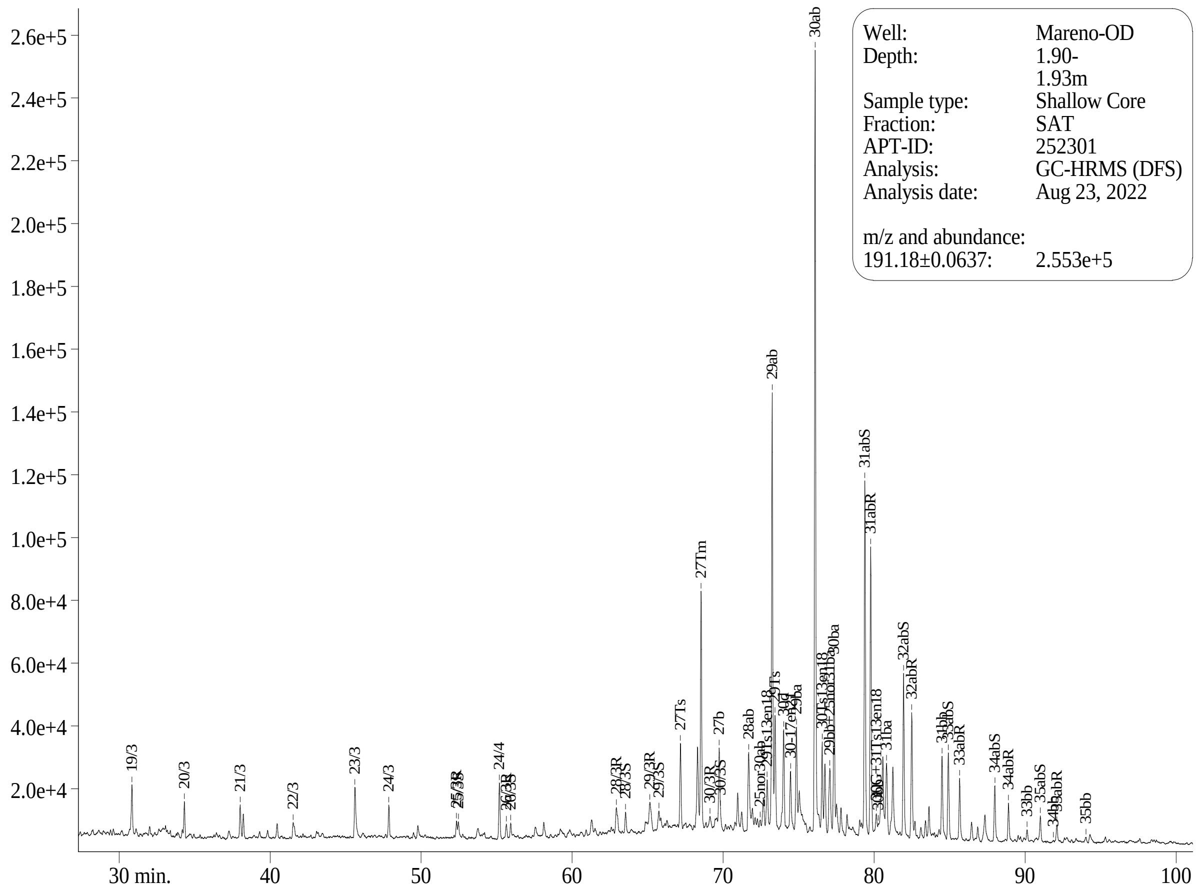

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 1.480e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27bbR+29dbS
27aaS
27bbS
27aaR
29dbR
29daR
28daR
28daS
28aaS
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30bbR
30aaR
40 min.
50
60
70
80
90

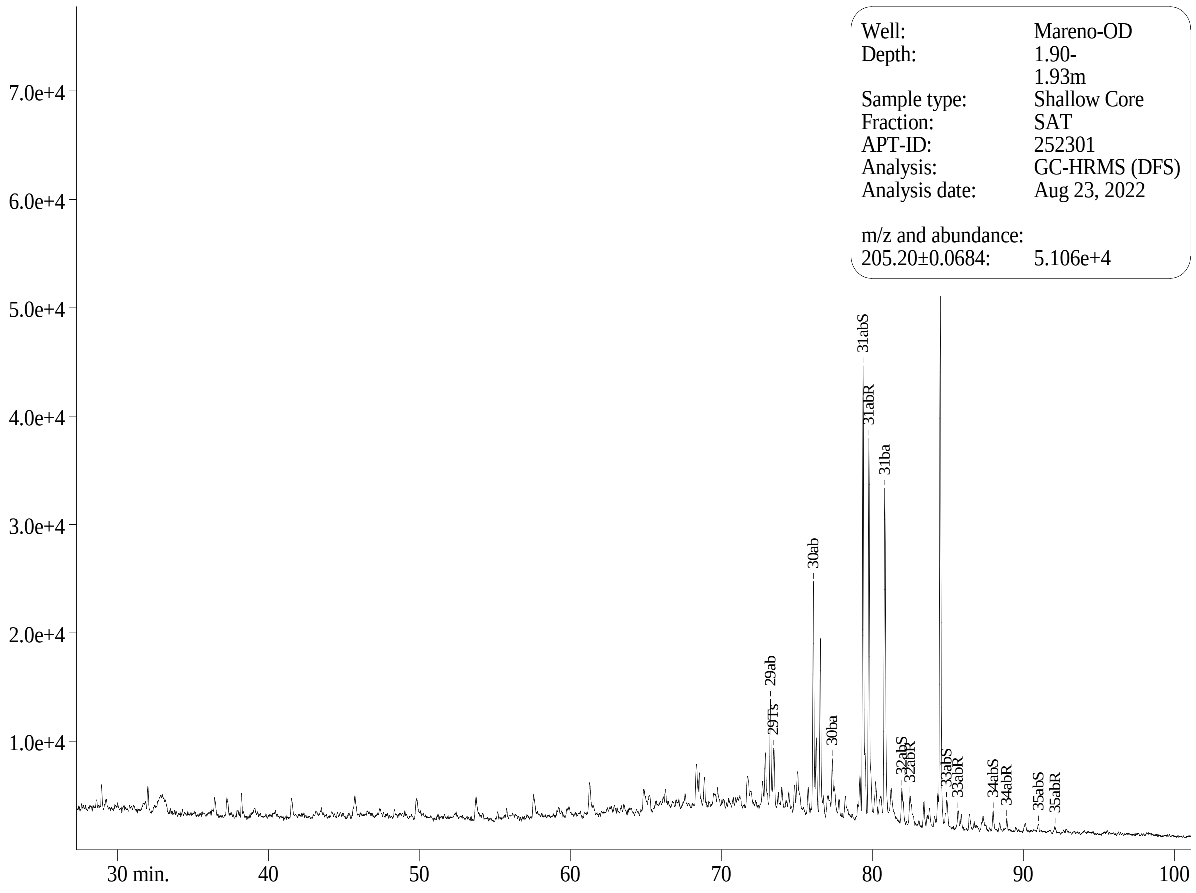

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 1.898e+4
2.4e+4
2.2e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daR
28daS
29dbR
29daR
28aaS
29daS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30O13en18
30O12en
30aaS
30bbR
30aaR

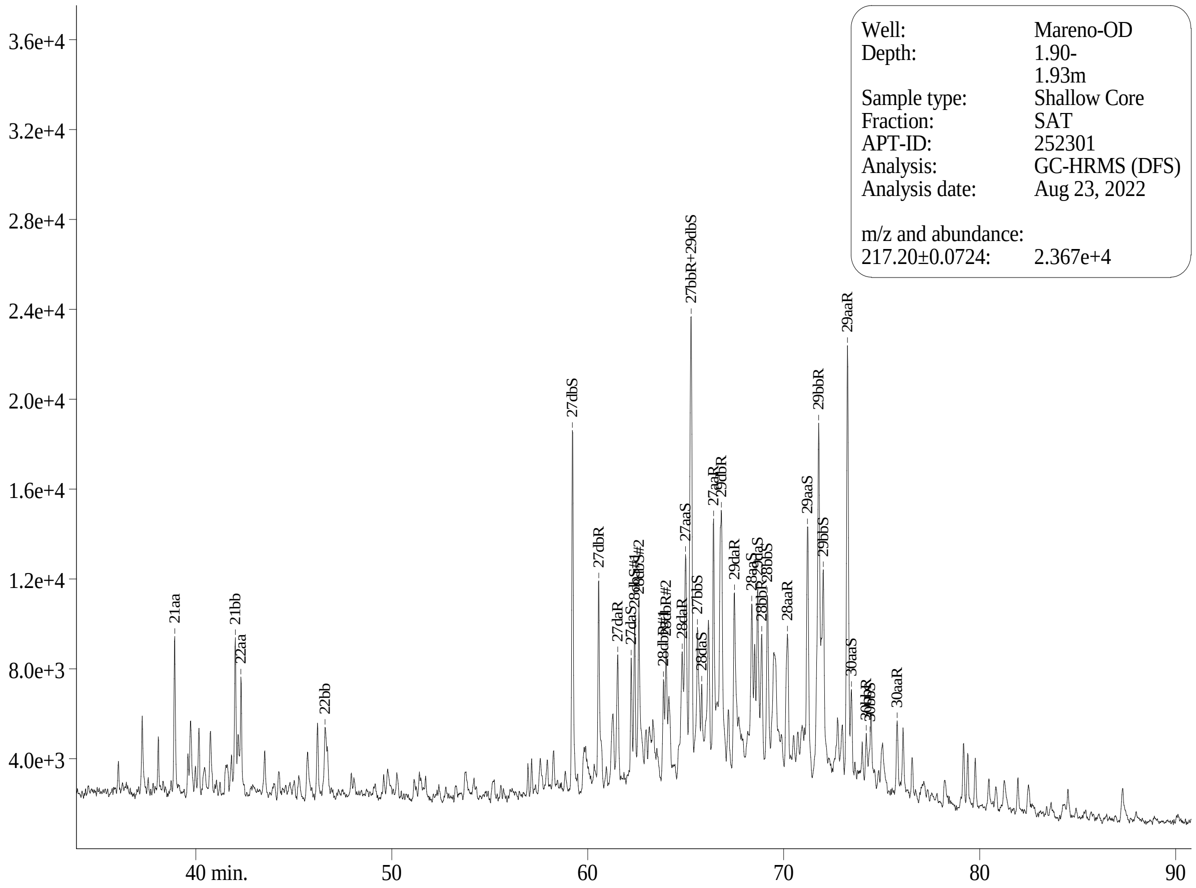

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 1.337e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90

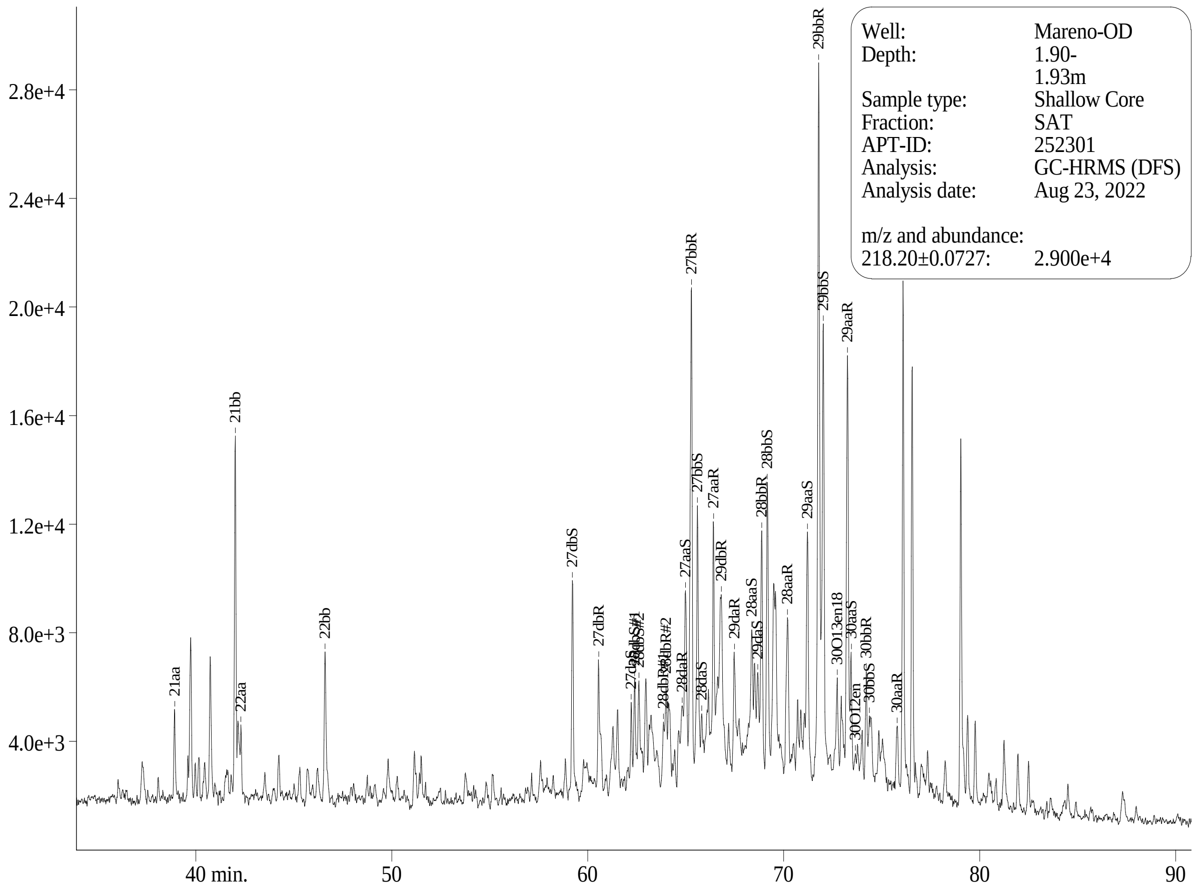

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 5.175e+3
27dbS
27dbR
27daR
27daS
27bbR+29dbS
29dbR
28daR
28daS
29daR
29daS
5.5e+3
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2
40 min.
50
60
70
80
90

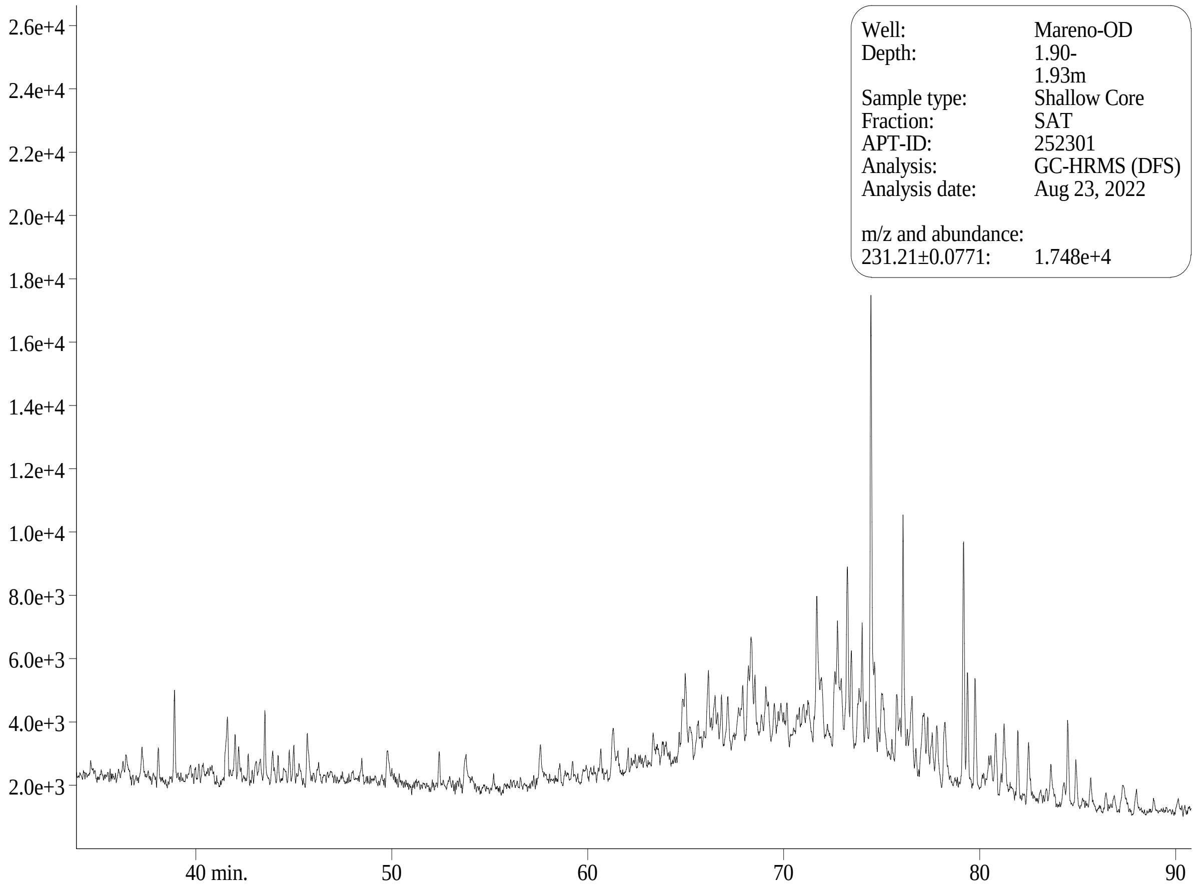

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 5.584e+4
5.5e+4
5.0e+4
4.5e+4
4.0e+4
3.5e+4
3.0e+4
2.5e+4
2.0e+4
1.5e+4
1.0e+4
5.0e+3
30 min.
40
50
60
70
80
90
100
29ab
29ba
29bb+25nor31ba
29Ts
25nor31abR
27Tm
28ab
24/4
25nor29ab
25nor30ab
25nor31abS
30ba
31abS
31abR
25nor34abS
33abR
34abS
35abS
35abR

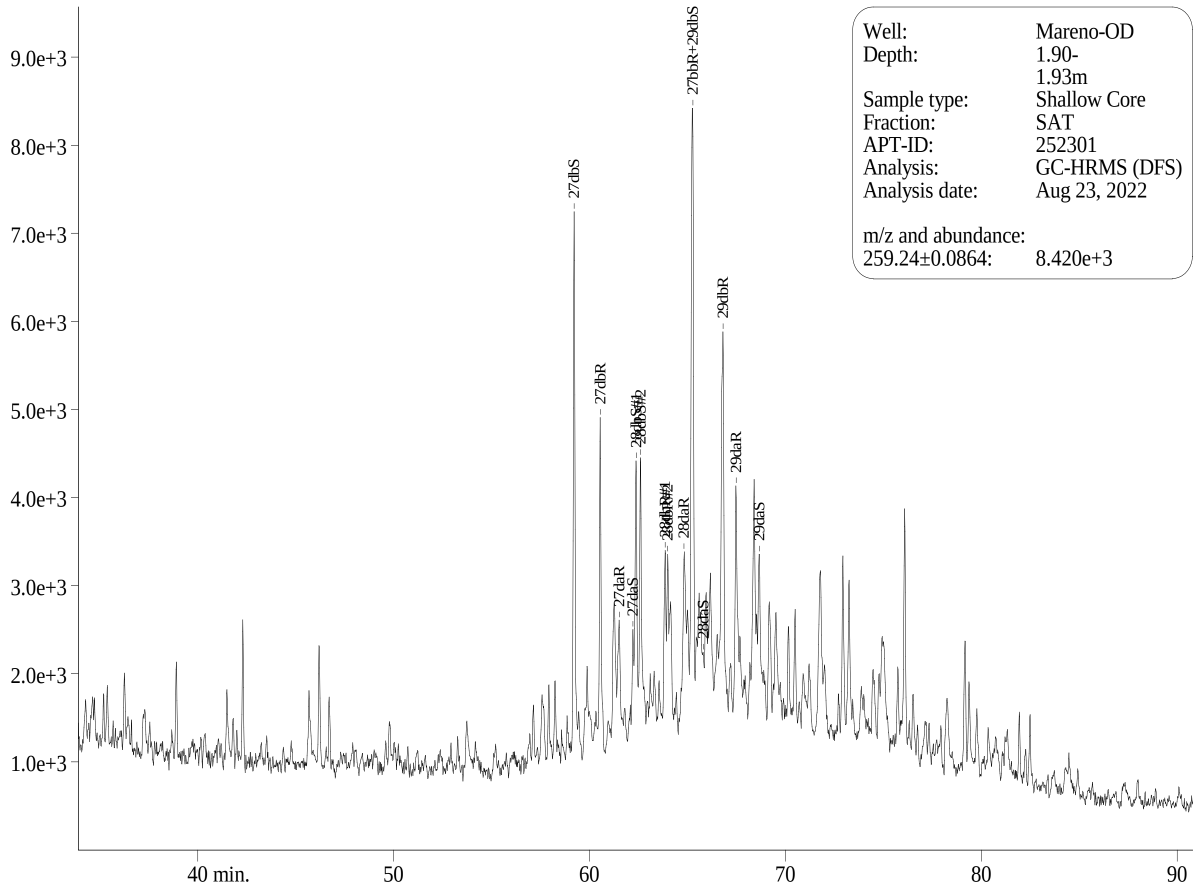

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 2.553e+5
2.6e+5
2.4e+5
2.2e+5
2.0e+5
1.8e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
30 min.
40
50
60
70
80
90
100
30ab
29ab
31abS
31abR
27Tm
30ba
32abS
32abR
27Ts
27b
28ab
31ba
34abS
34abR
33abR
35abS
35abR
35bb
33bb
19/3
20/3
21/3
22/3
23/3
24/3
24/4
28/3R
28/3S
29/3R
29/3S
30/3R
30/3S


Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 5.106e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

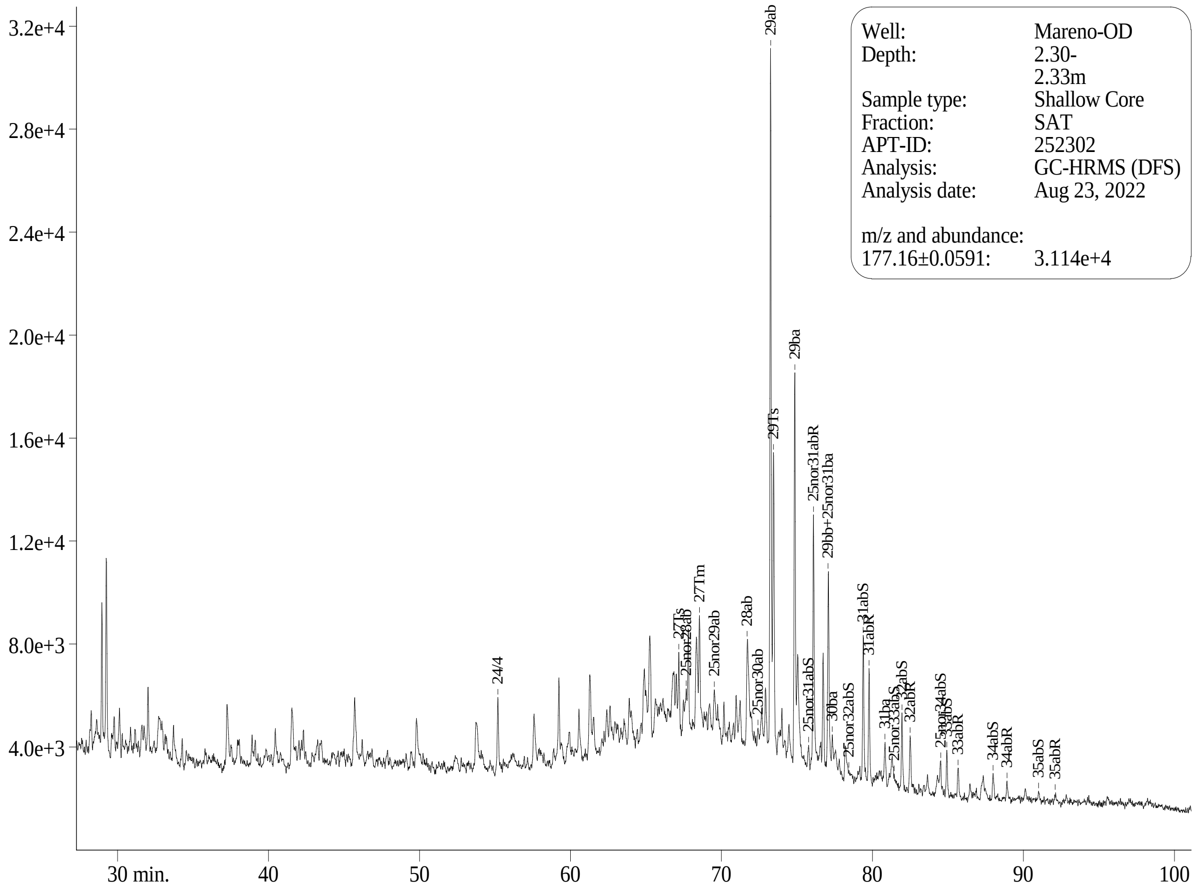

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 2.367e+4
3.6e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27bbR+29dbS
27aaS
27bbS
28daS
29daR
29aaS
29bbR
29bbS
28aaR
29aaR
30aaS
30aaR

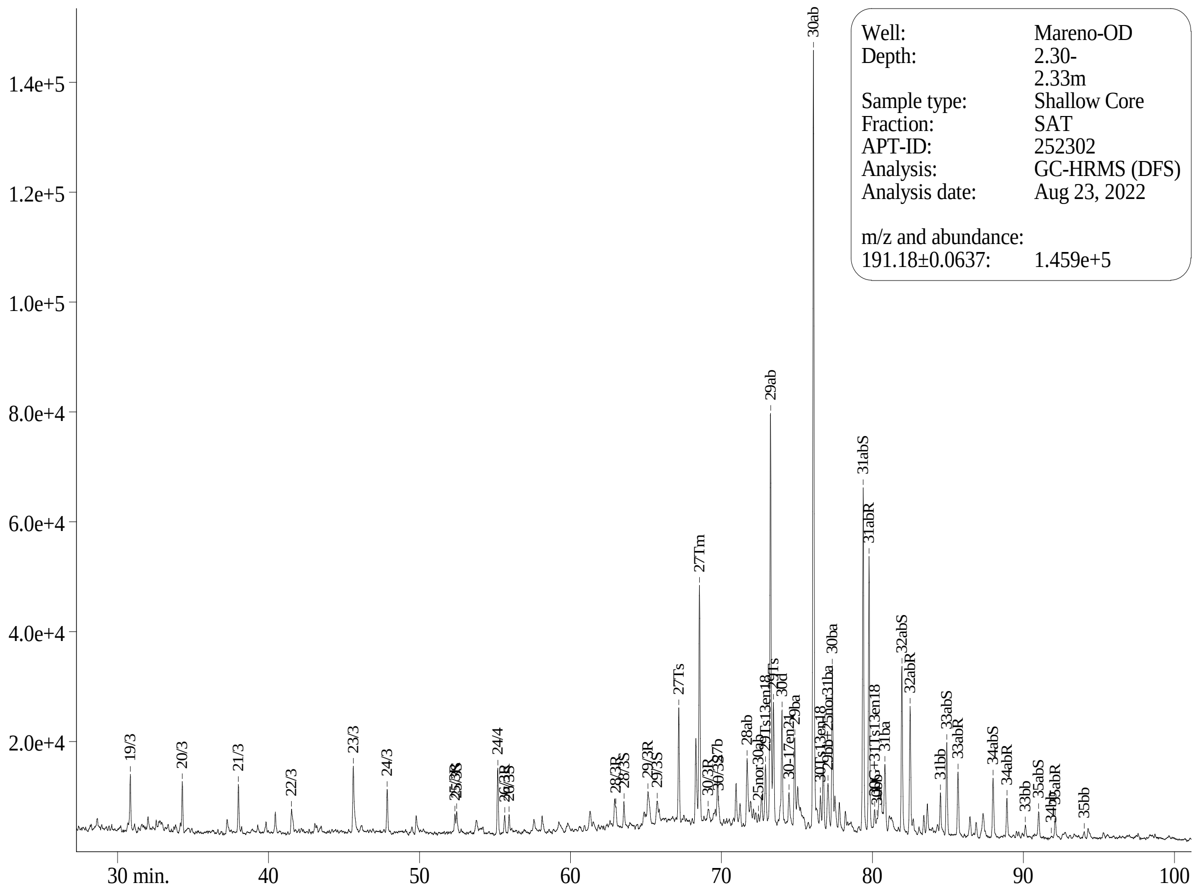

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 2.900e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28daS
28daR
28bbR
28bbS
28aaS
28aaR
29dbR
29daR
29daS
29aaS
29bbR
29bbS
29aaR
30O13en18
30aaS
30bbR
30bbS
30O12en
30aaR
40 min.
50
60
70
80
90

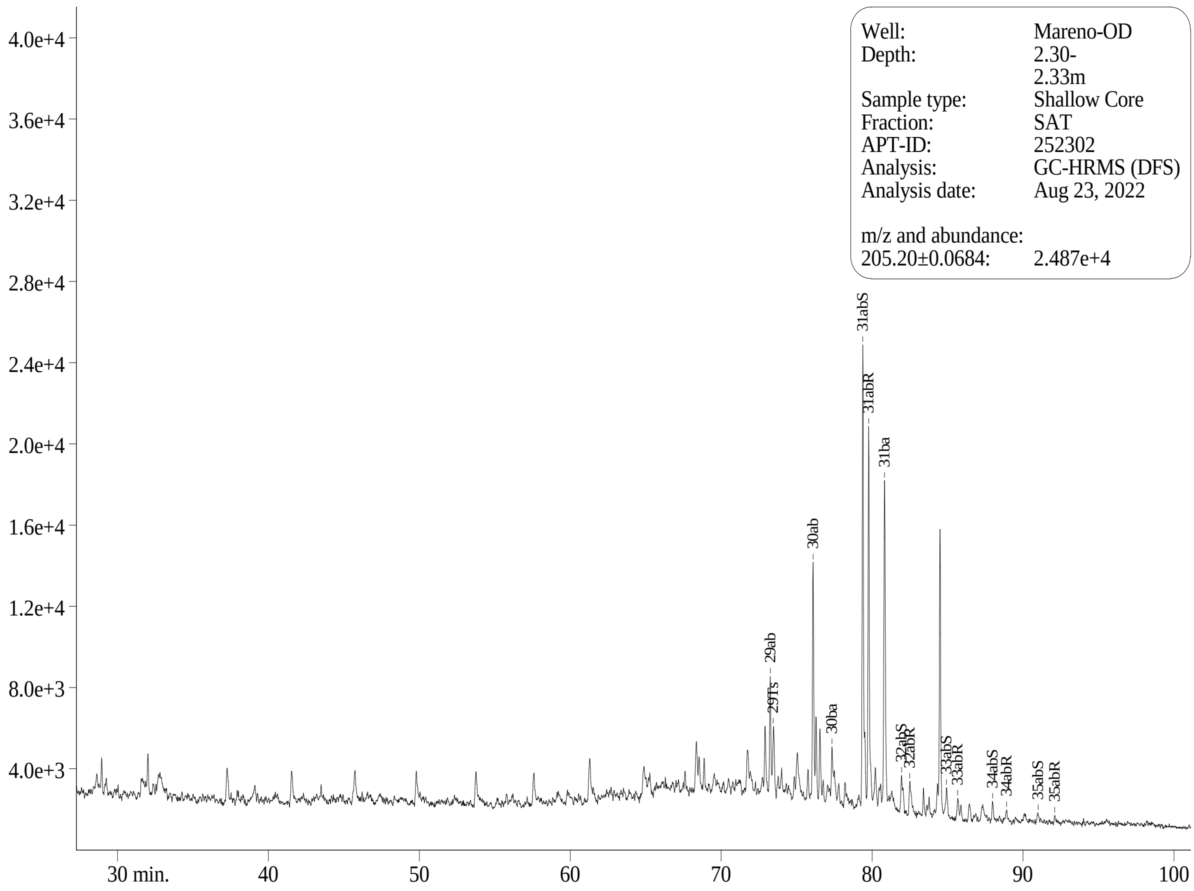

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 1.748e+4
40 min.
50
60
70
80
90

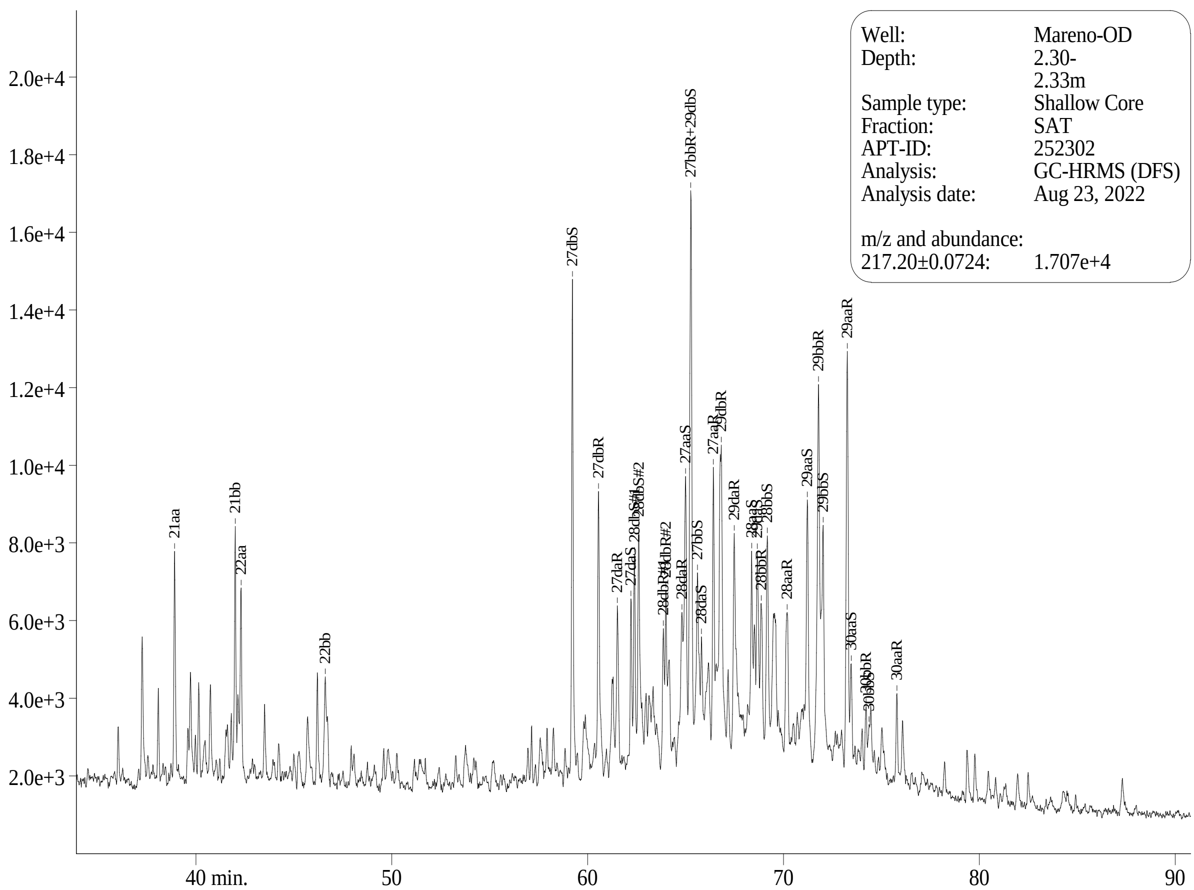


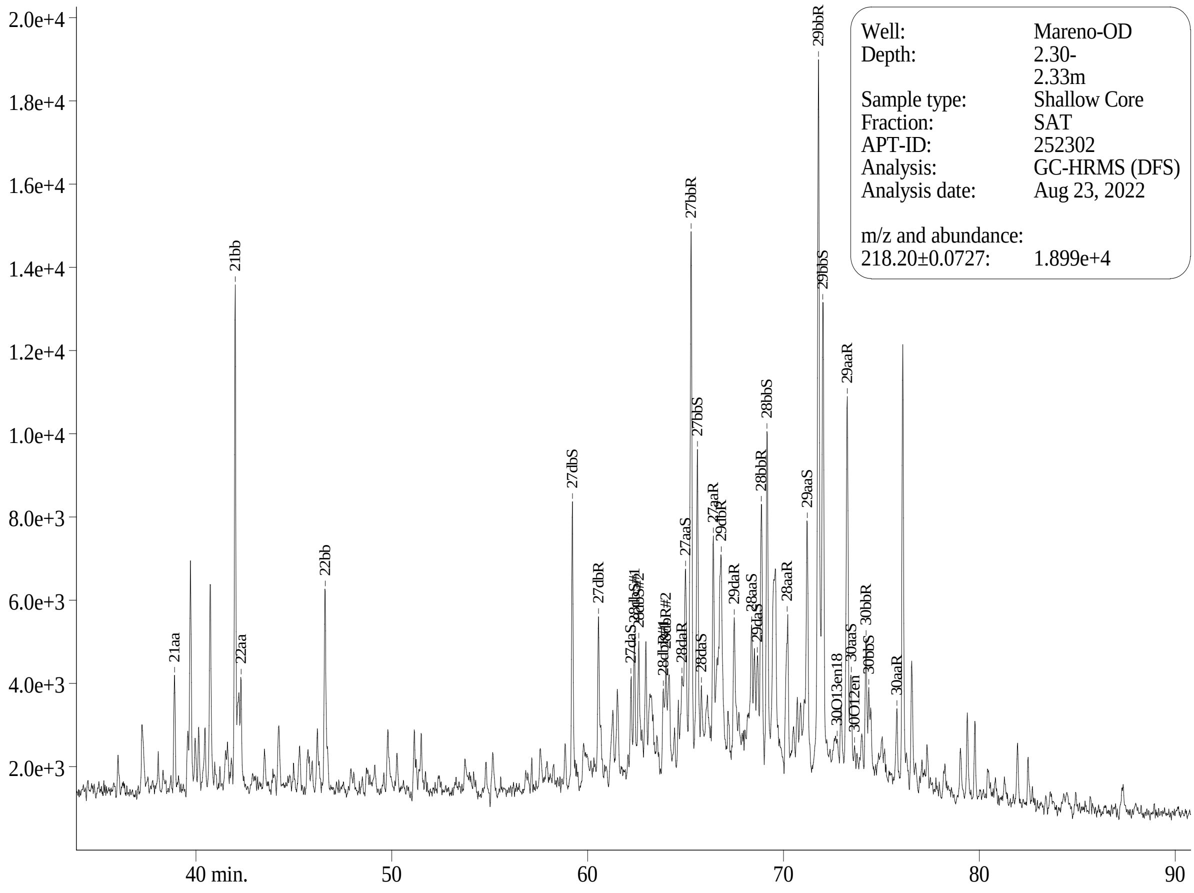
27bbR+29dbS
27dbS
29dbR
27dbR
28dbS#1
28dbS#2
29daR
28dbR#1
28dbR#2
28daR
29daS
27daR
27daS
28daS
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
40 min.
50
60
70
80
90
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 8.420e+3


Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 3.114e+4
29ab
29ba
29Ts
25nor31abR
29bb+25nor31ba
27Tm
27Ts
28ab
25nor29ab
25nor30ab
24/4
31abS
31abR
30 min.
40
50
60
70
80
90
100

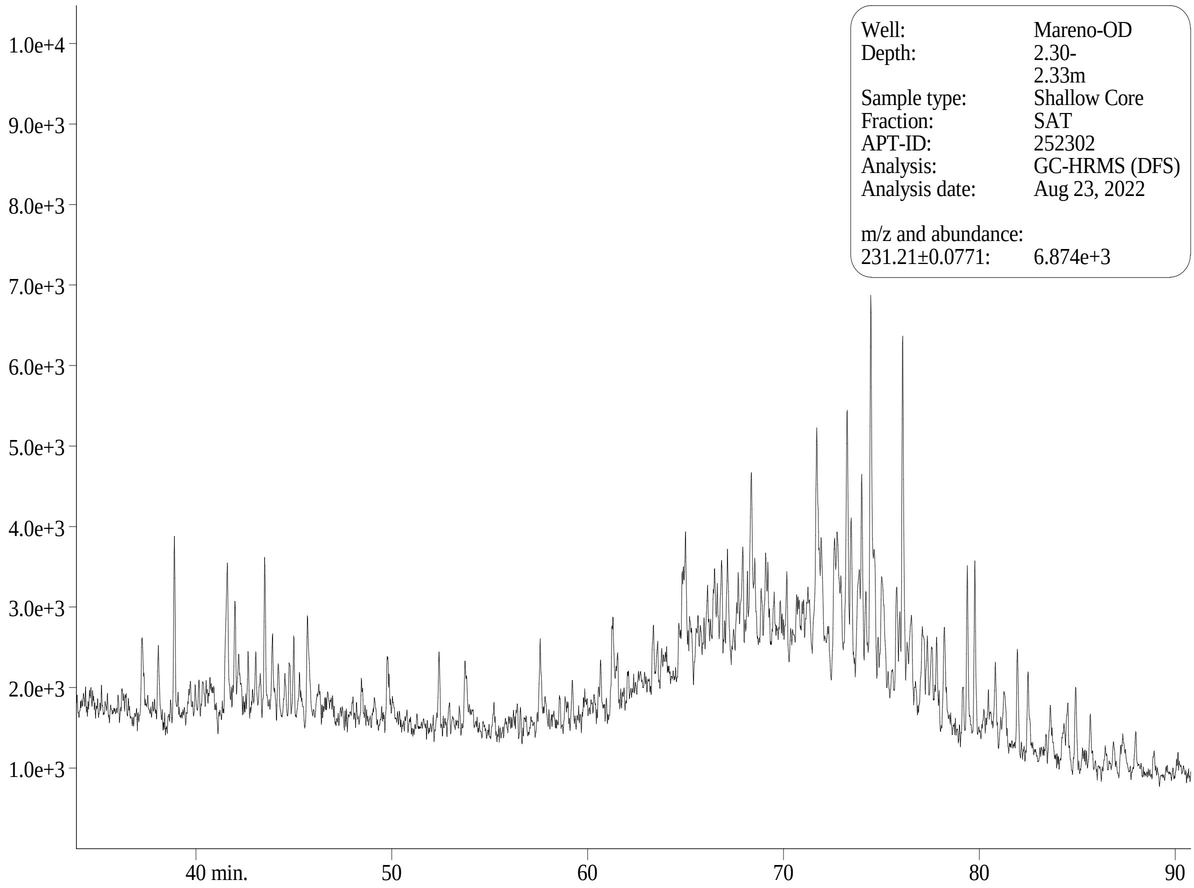

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 1.459e+5
30ab
29ab
31abS
31abR
27Tm
30ba
32abS
32abR
27Ts
19/3
20/3
21/3
22/3
23/3
24/3
24/4
33abS
33abR
34abS
34abR
35abS
35abR
35bb
30 min.
40
50
60
70
80
90
100


Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 2.487e+4
31abS
31abR
31ba
30ab
29ab
29Ts
30ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
30 min.
40
50
60
70
80
90
100
4.0e+4
3.6e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3

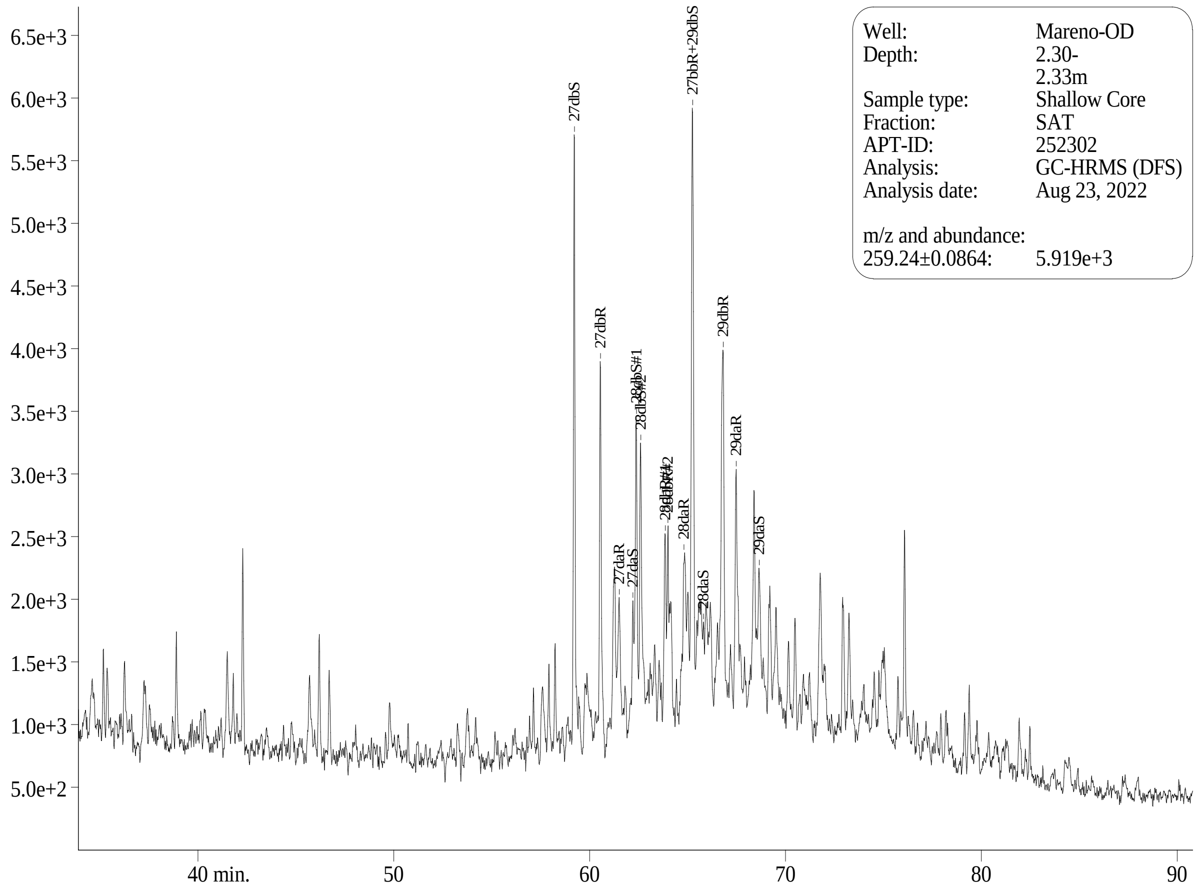

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 1.707e+4
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27aaR
27bbS
29dbR
29daR
28daS
28daR
28aaS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR
40 min.
50
60
70
80
90
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3

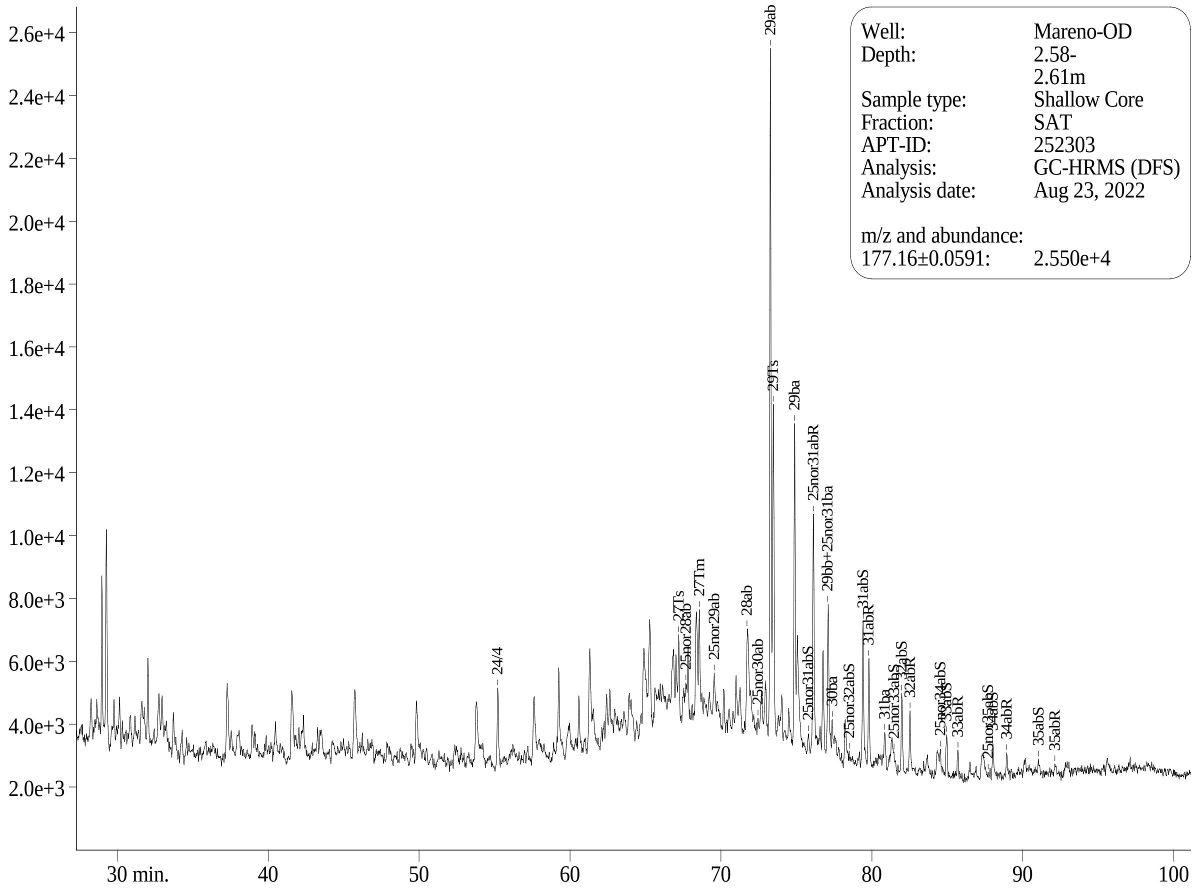


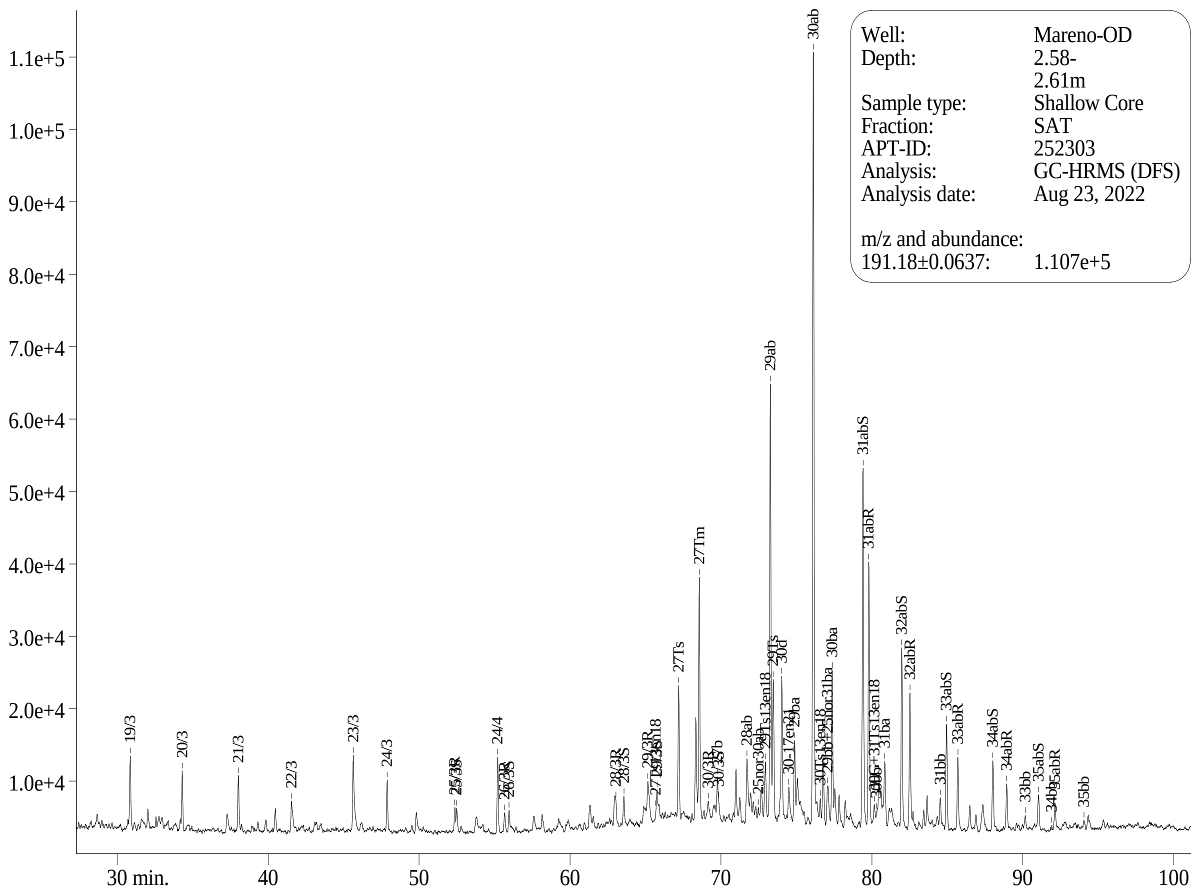
Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 1.899e+4
2.0e+4
1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27bbR
27bbS
27aaS
27aaR
28bbS
28bbR
28aaS
28aaR
28daS
28dbR
29bbR
29bbS
29aaS
29aaR
29daR
29dbR
30aaS
30aaR
30bbR
30bbS

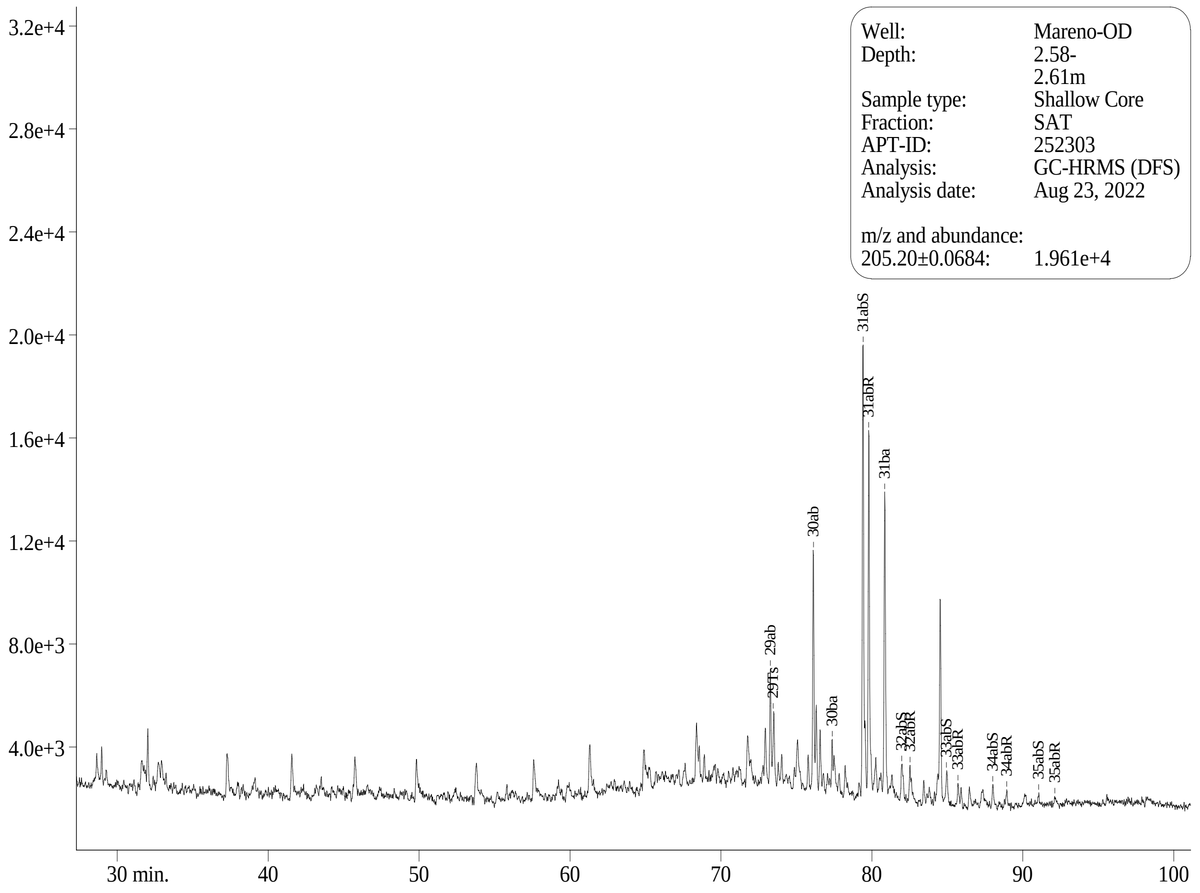


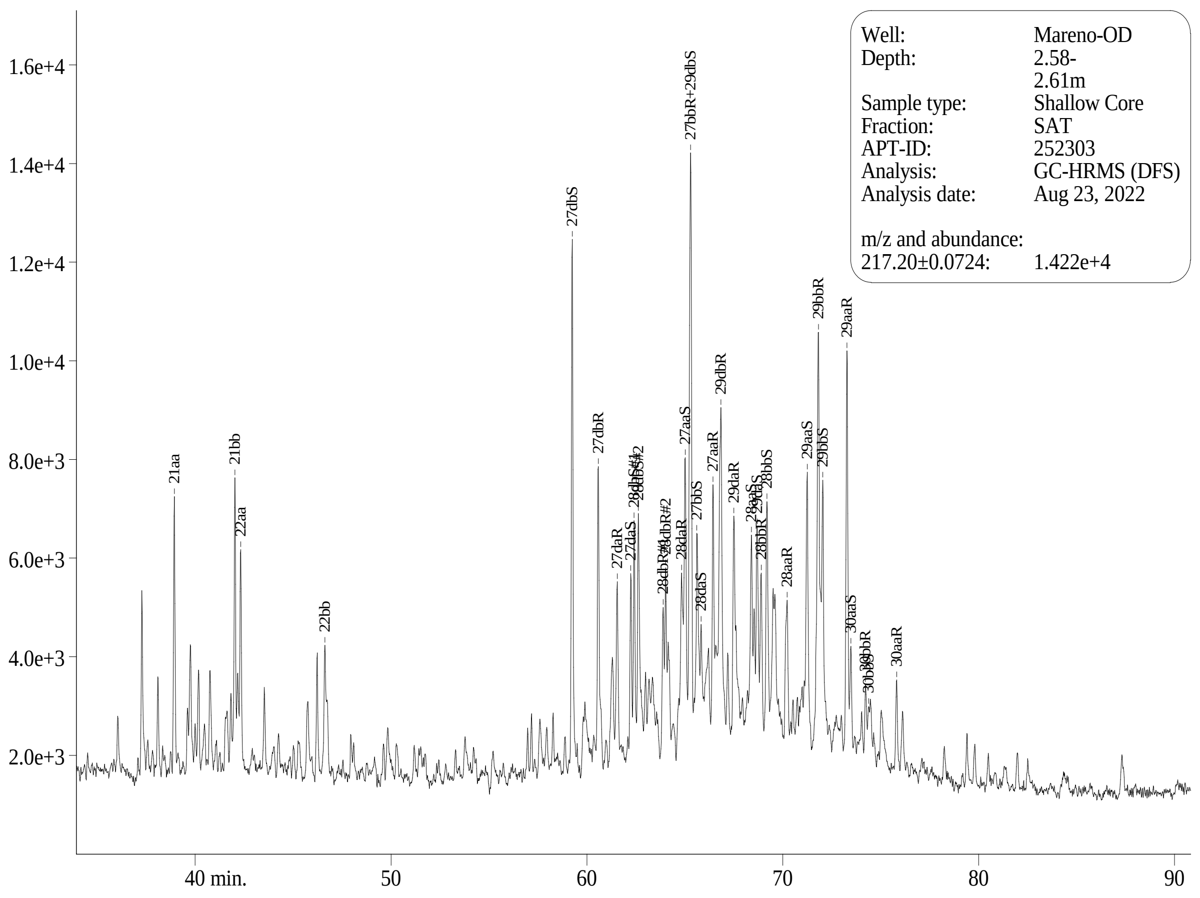
Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 6.874e+3
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
40 min.
50
60
70
80
90

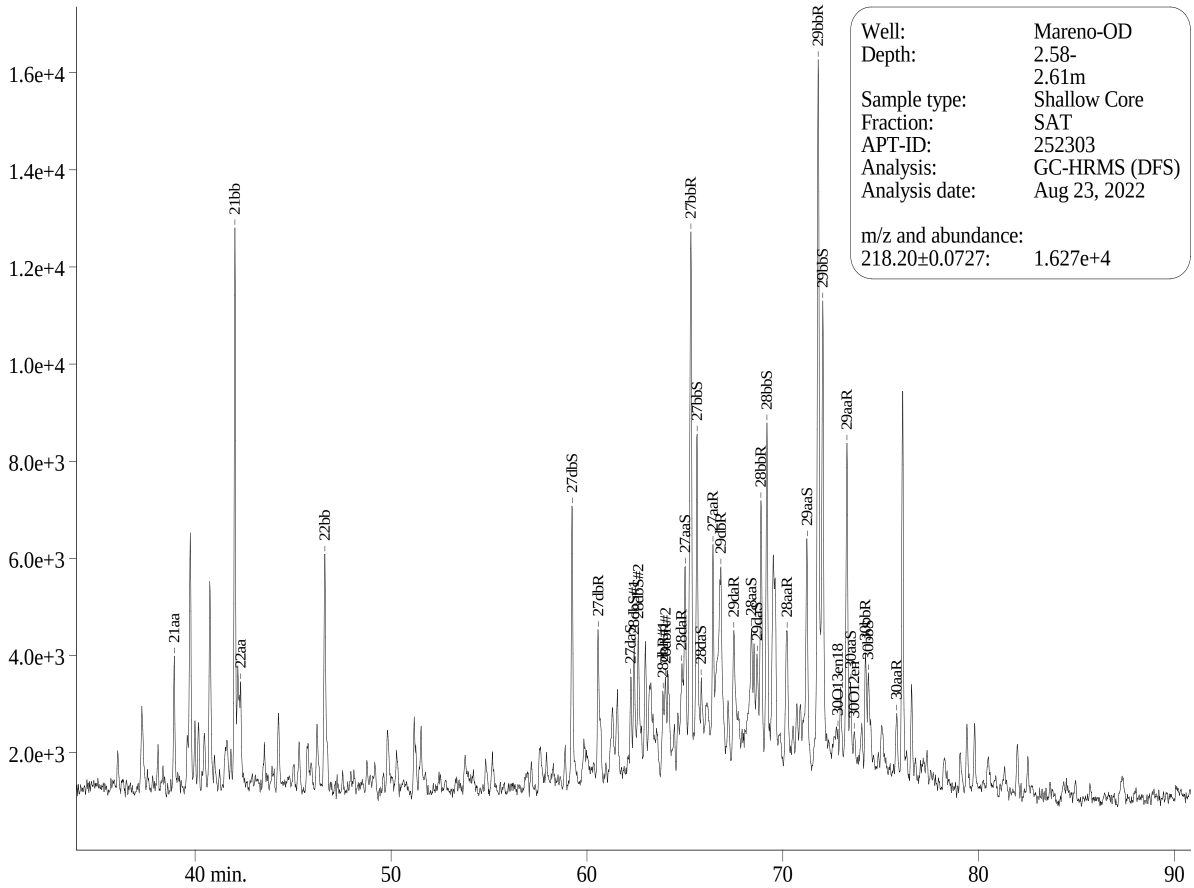

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 5.919e+3
27dbS
27dbR
27daR
27daS
28dbS#2
28dbR#2
28daR
28daS
27bbR+29dbS
29dbR
29daR
29daS
6.5e+3
6.0e+3
5.5e+3
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2
40 min.
50
60
70
80
90

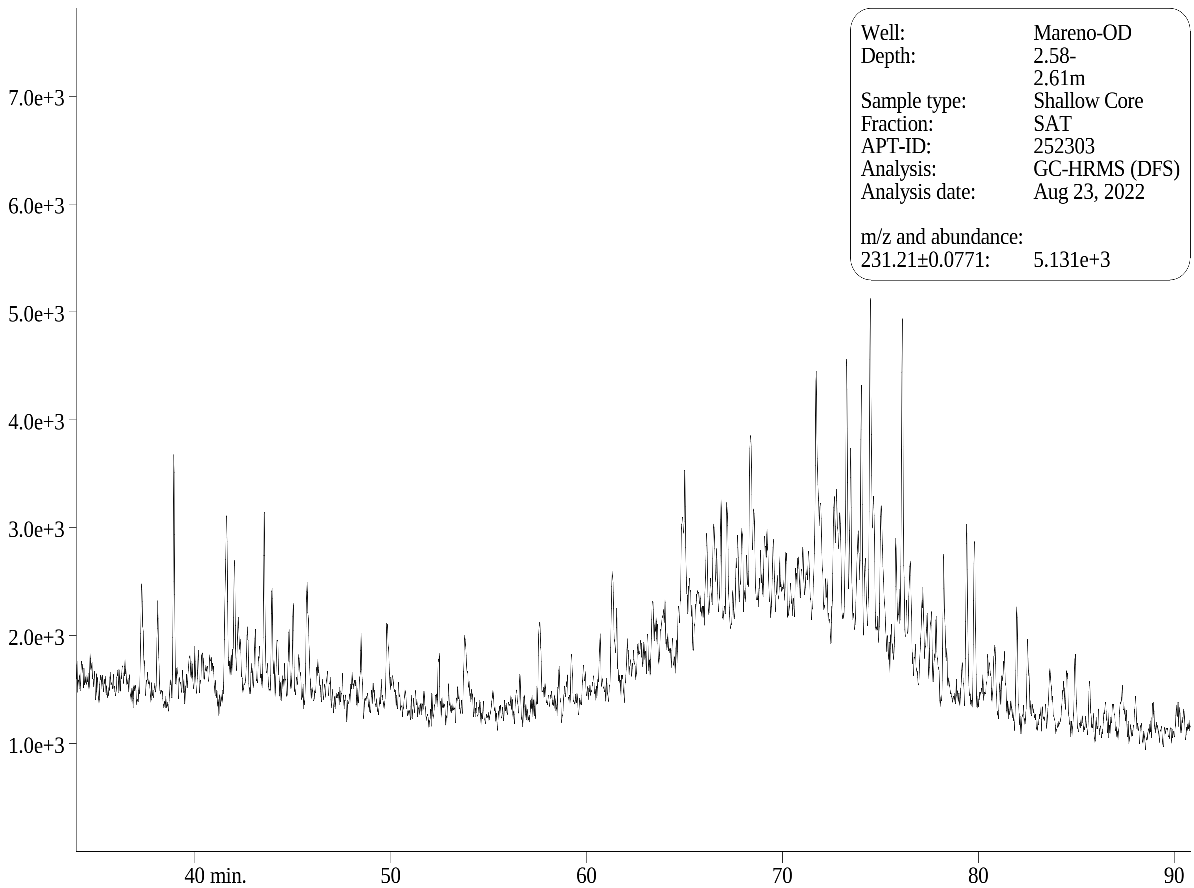

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
177.16±0.0591: 2.550e+4
29ab
29Ts
29ba
25nor31abR
29bb+25nor31ba
31abS
31abR
27Tm
27Ts
25nor28ab
25nor29ab
28ab
25nor30ab
25nor31abS
30ba
25nor32abS
24/4
30 min.
40
50
60
70
80
90
100

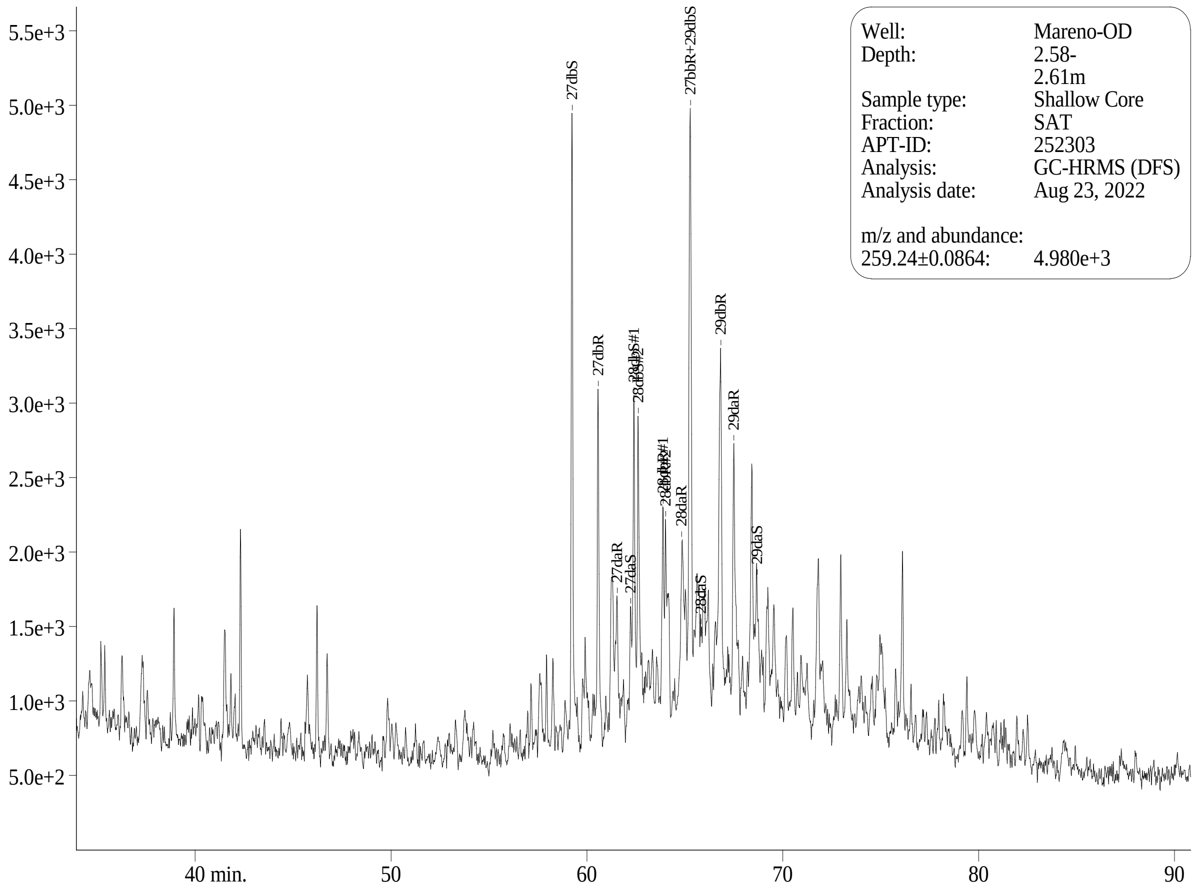

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
191.18±0.0637: 1.107e+5
30ab
29ab
31abS
31abR
27Tm
27Ts
30ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR
35bb
31bb
19/3
20/3
21/3
22/3
23/3
24/3
24/4
30 min.
40
50
60
70
80
90
100


Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
205.20±0.0684: 1.961e+4
3.2e+4
2.8e+4
2.4e+4
2.0e+4
1.6e+4
1.2e+4
8.0e+3
4.0e+3
30 min.
40
50
60
70
80
90
100
29Ts
29ab
30ab
30ba
31abS
31abR
31ba
32abS
32abR
33abS
33abR
34abS
34abR
35abS
35abR

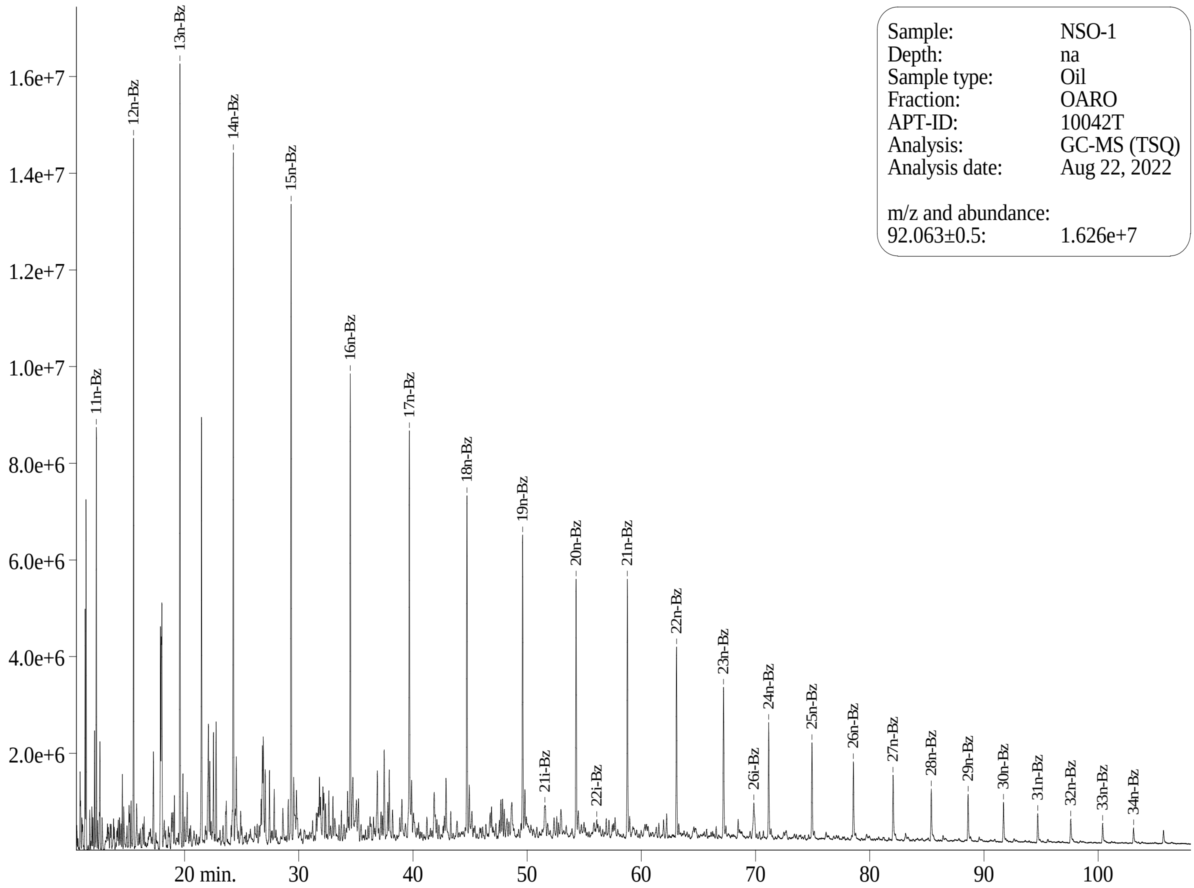

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
217.20±0.0724: 1.422e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27daR
27daS
27bbR+29dbS
27aaS
27bbS
27aaR
28daS
29dbR
29daR
28aaR
29aaS
29bbR
29bbS
29aaR
30aaS
30aaR


Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
218.20±0.0727: 1.627e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
40 min.
50
60
70
80
90
21aa
21bb
22aa
22bb
27dbS
27dbR
27aaS
27bbR
27bbS
27aaR
29dbR
29daR
28daS
28bbR
28bbS
28aaR
29aaS
29bbR
29bbS
29aaR
30O13en18
30aaR

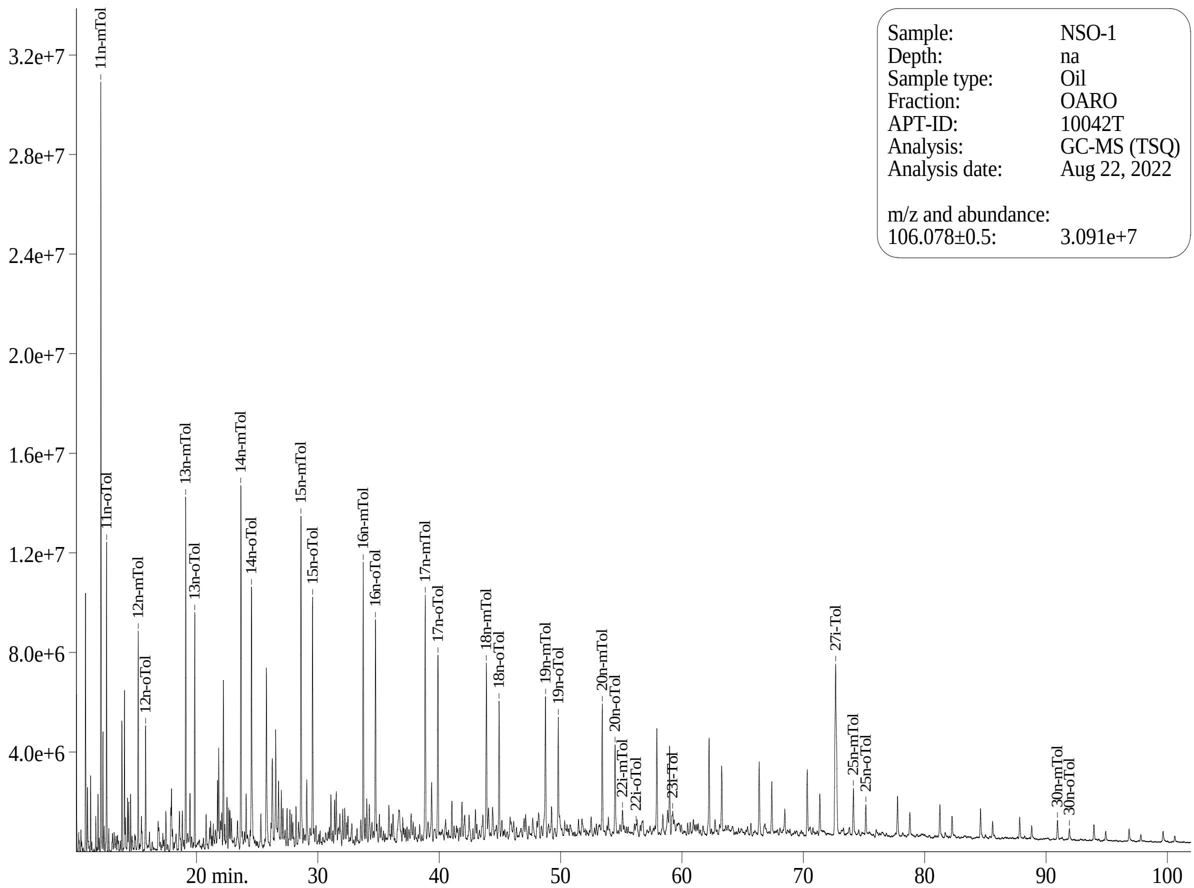

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
231.21±0.0771: 5.131e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
40 min.
50
60
70
80
90


Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-HRMS (DFS)
Analysis date: Aug 23, 2022
m/z and abundance:
259.24±0.0864: 4.980e+3
27dbS
27bbR+29dbS
27dbR
29dbR
29daR
27daR
27daS
28daR
28daS
29daS
40 min.
50
60
70
80
90
5.5e+3
5.0e+3
4.5e+3
4.0e+3
3.5e+3
3.0e+3
2.5e+3
2.0e+3
1.5e+3
1.0e+3
5.0e+2

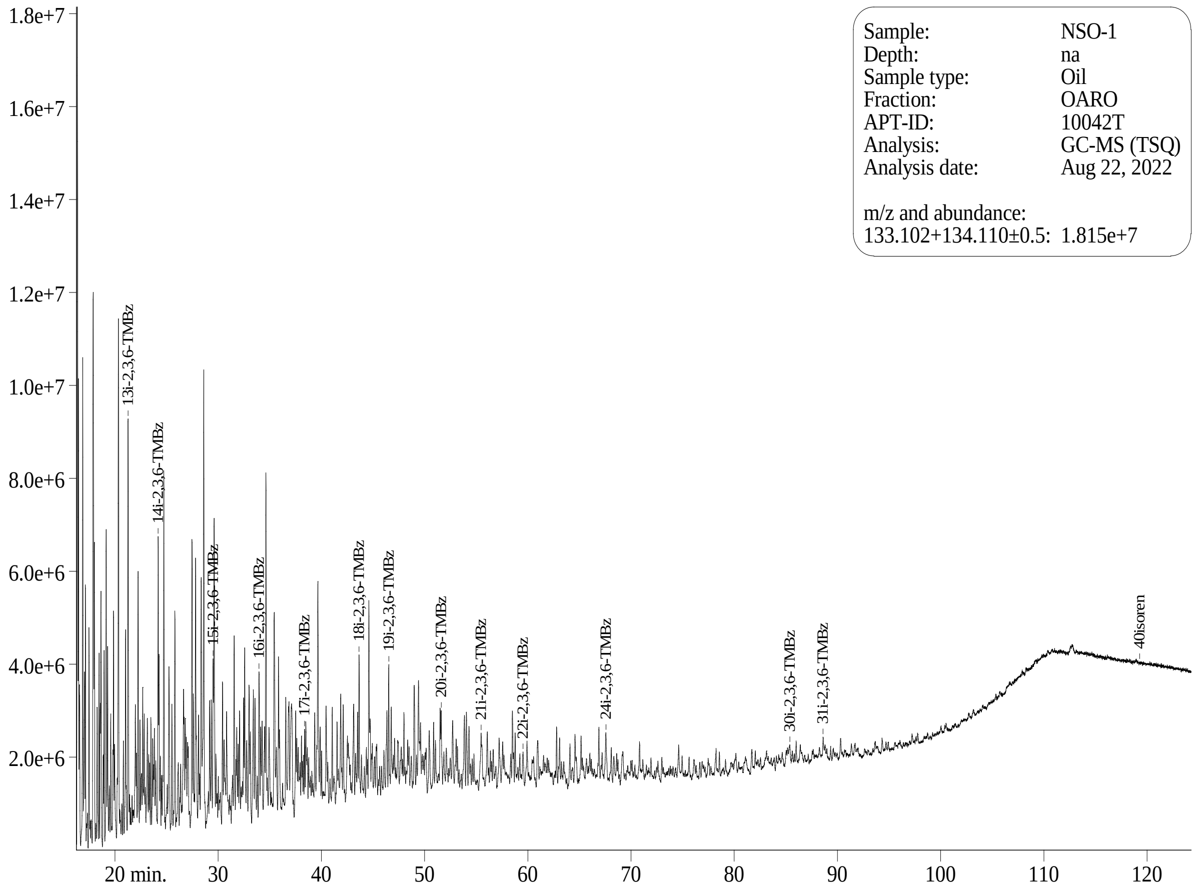
GC-MS Chromatograms of Aromatic Hydrocarbons

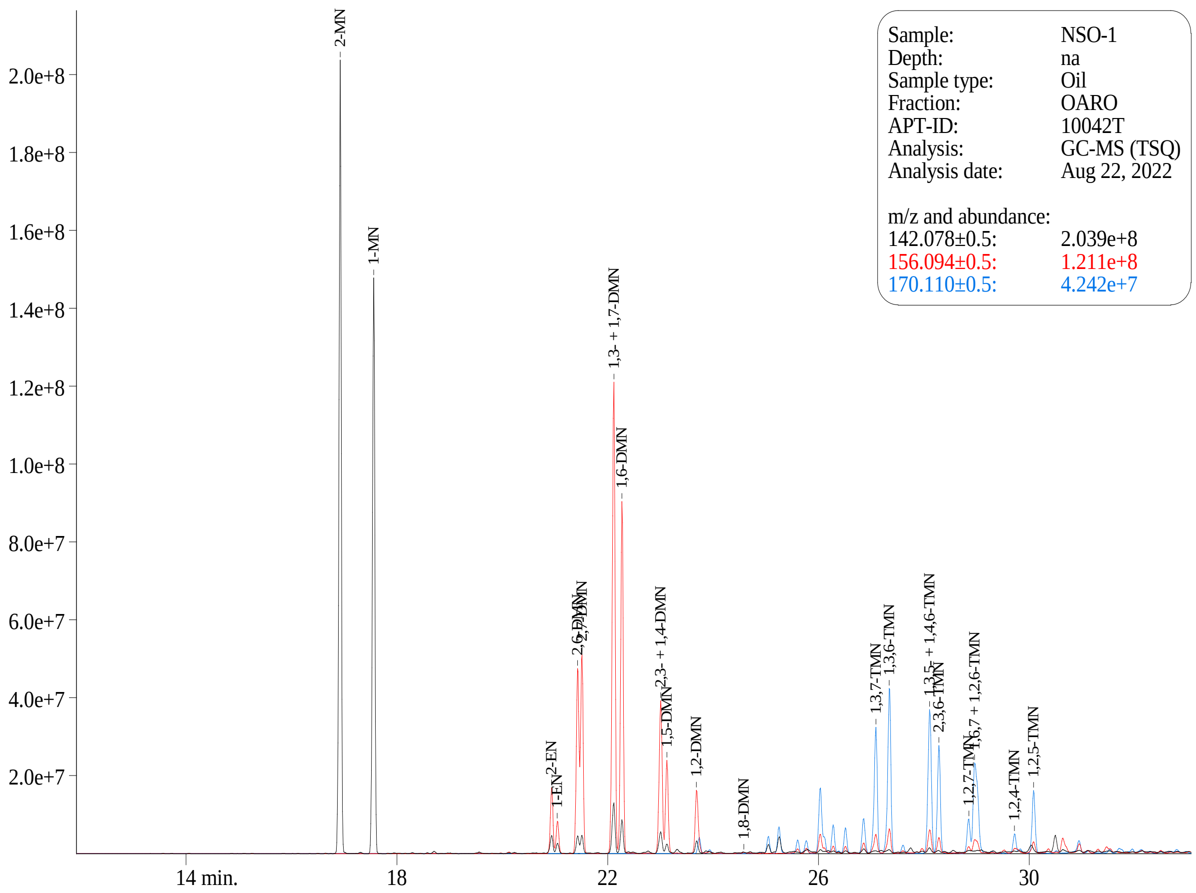


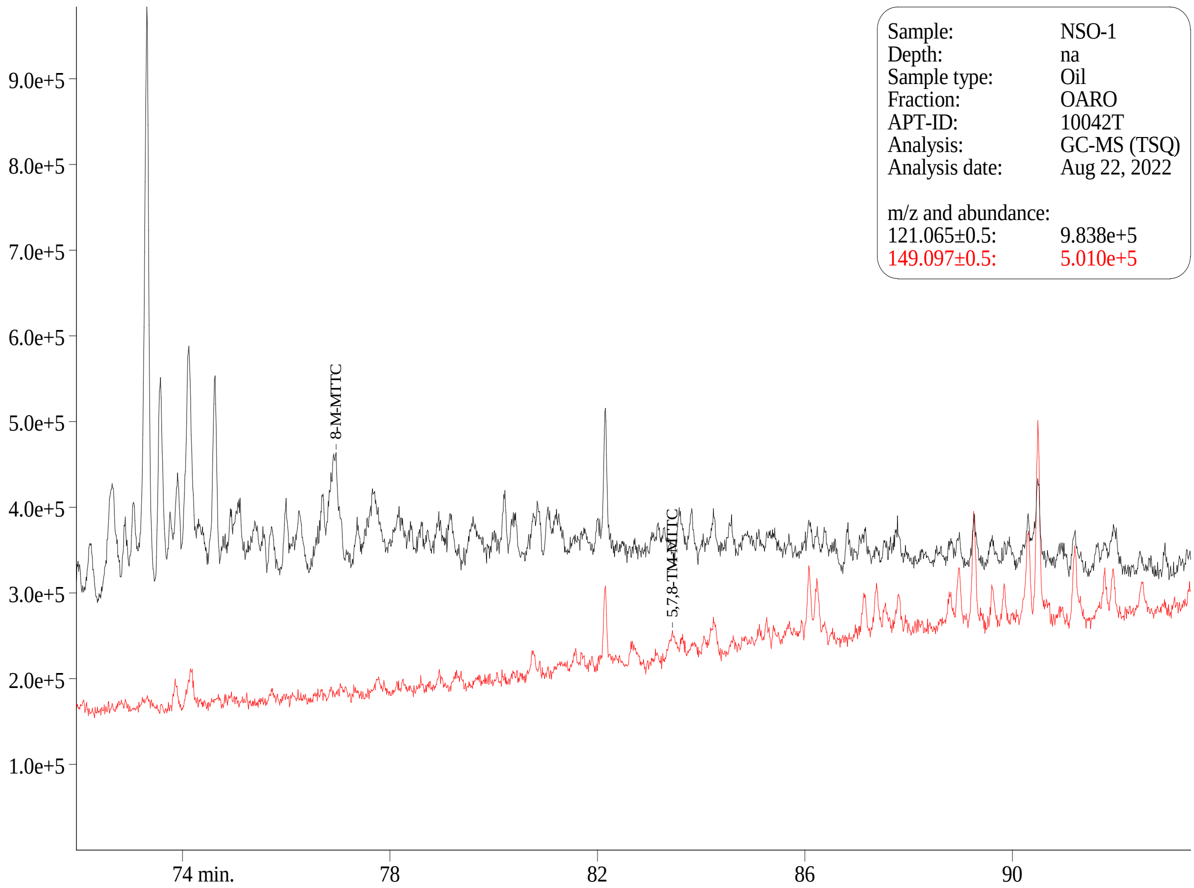
Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
92.063±0.5: 1.626e+7
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
21n-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
26i-Bz
25n-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
20 min.
30
40
50
60
70
80
90
100

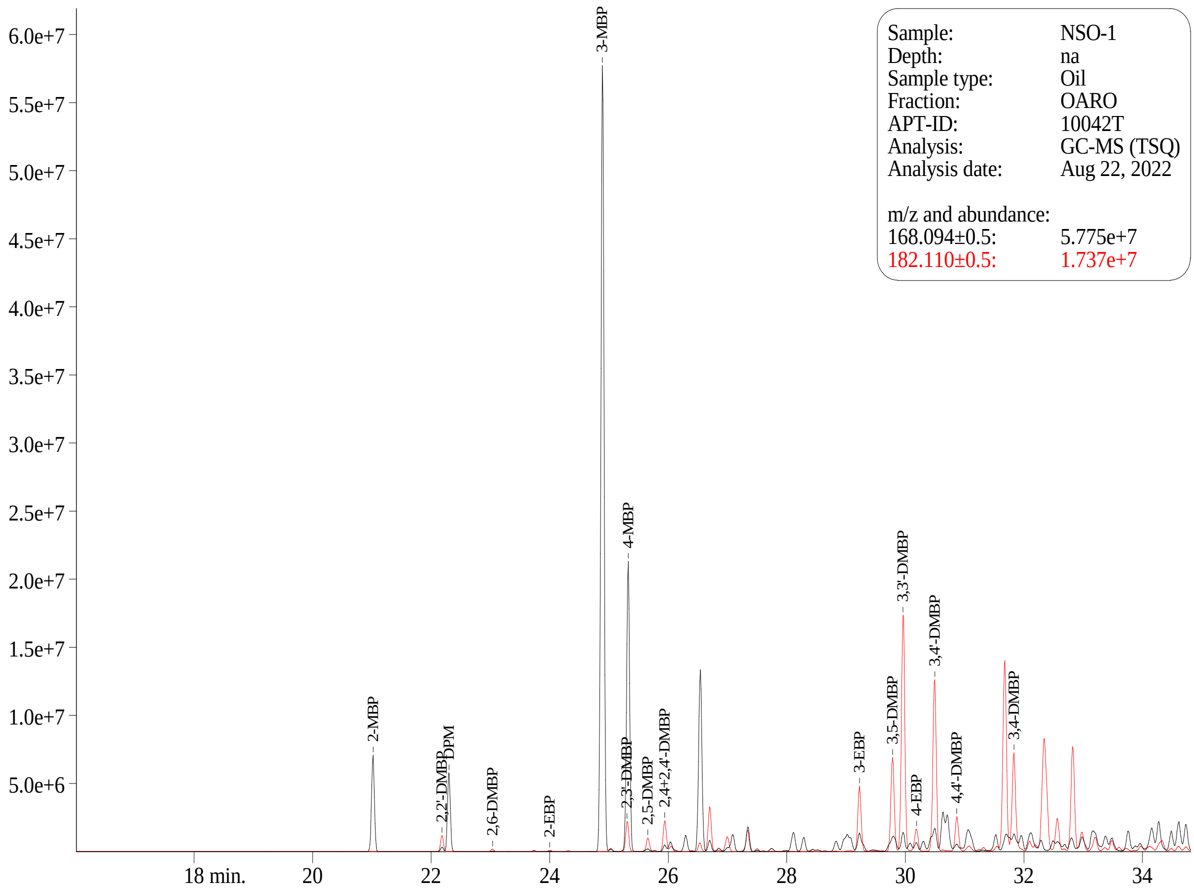


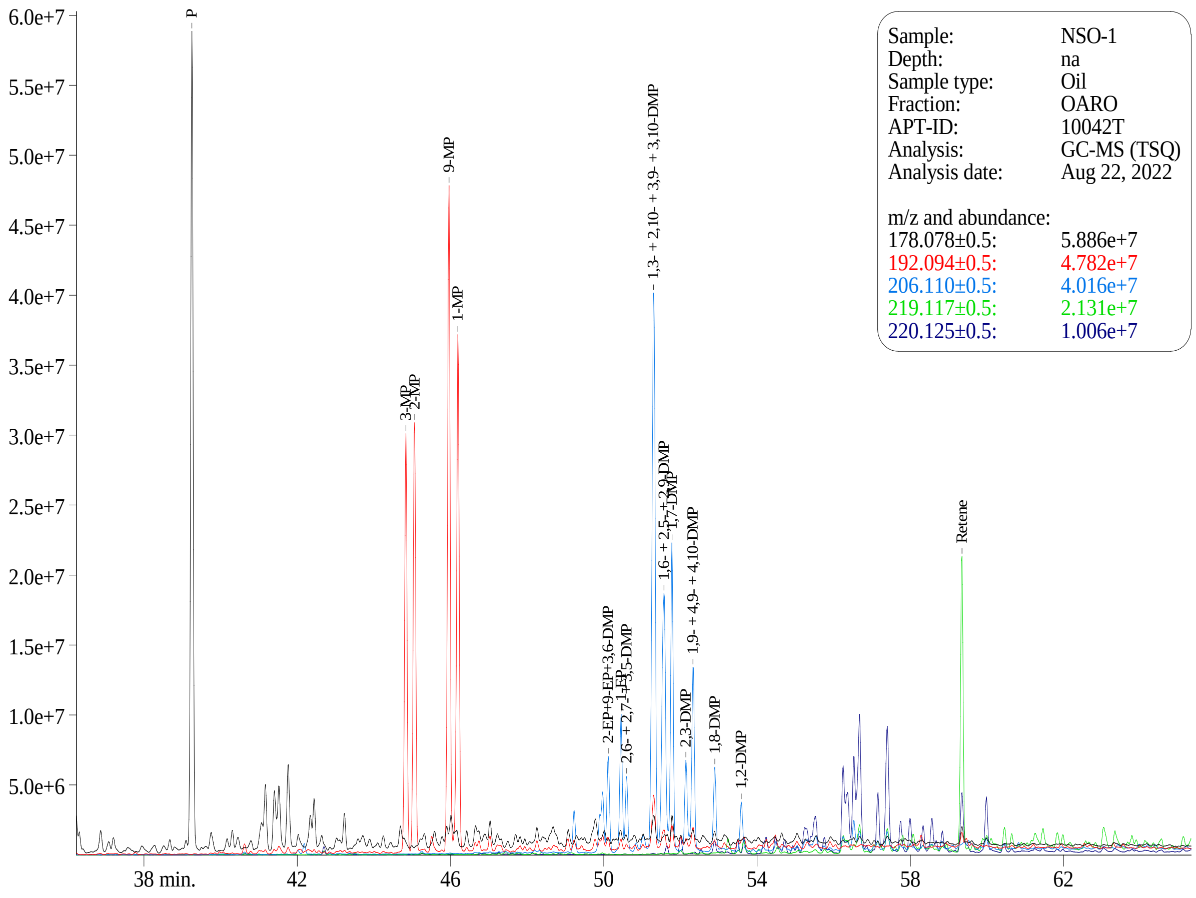
Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
106.078±0.5: 3.091e+7
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol
3.2e+7
2.8e+7
2.4e+7
2.0e+7
1.6e+7
1.2e+7
8.0e+6
4.0e+6
20 min.
30
40
50
60
70
80
90
100


Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
133.102+134.110±0.5: 1.815e+7
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
40isoren
20 min.

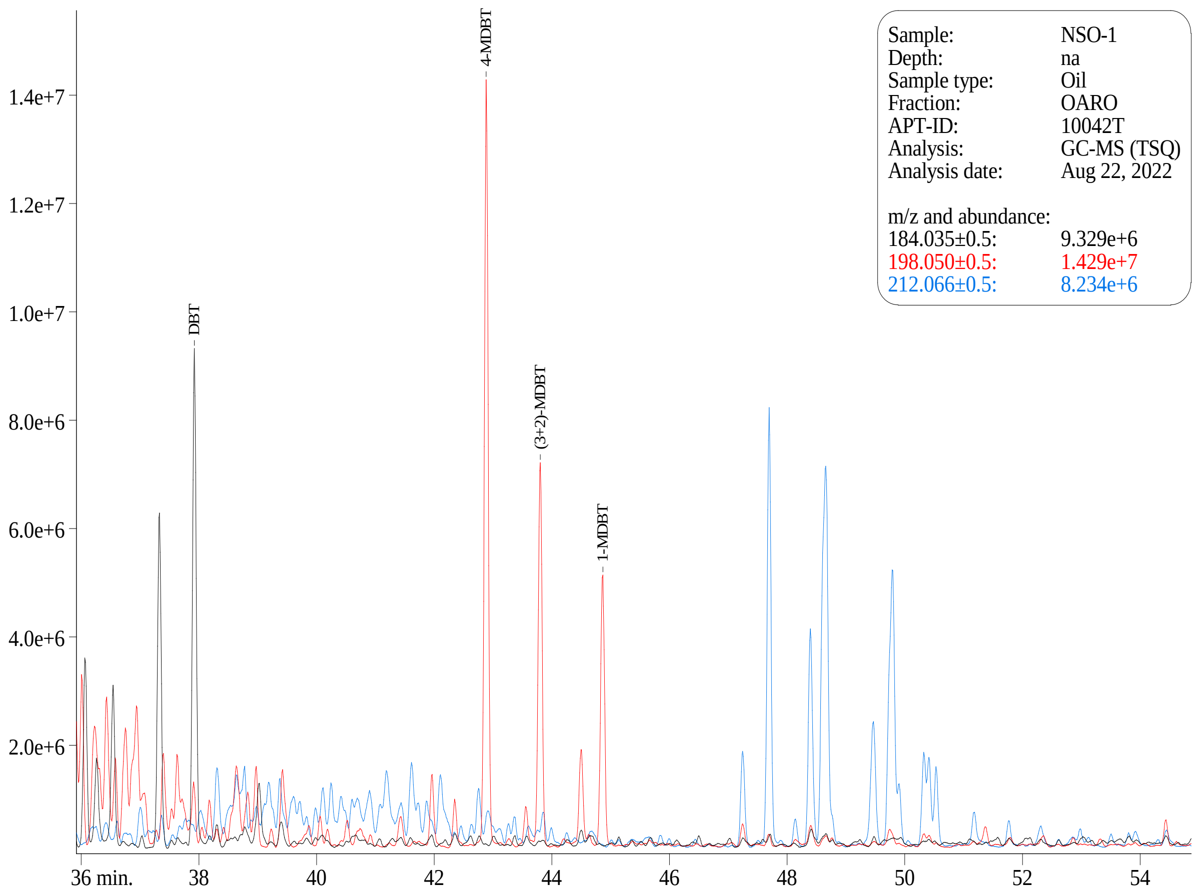

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
142.078±0.5: 2.039e+8
156.094±0.5: 1.211e+8
170.110±0.5: 4.242e+7
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2-EN
1-EN
2,6-DMN
2,7-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.


Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
121.065±0.5: 9.838e+5
149.097±0.5: 5.010e+5
8-M-MTTC
5,7,8-TM-MTTC
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
74 min.
78
82
86
90

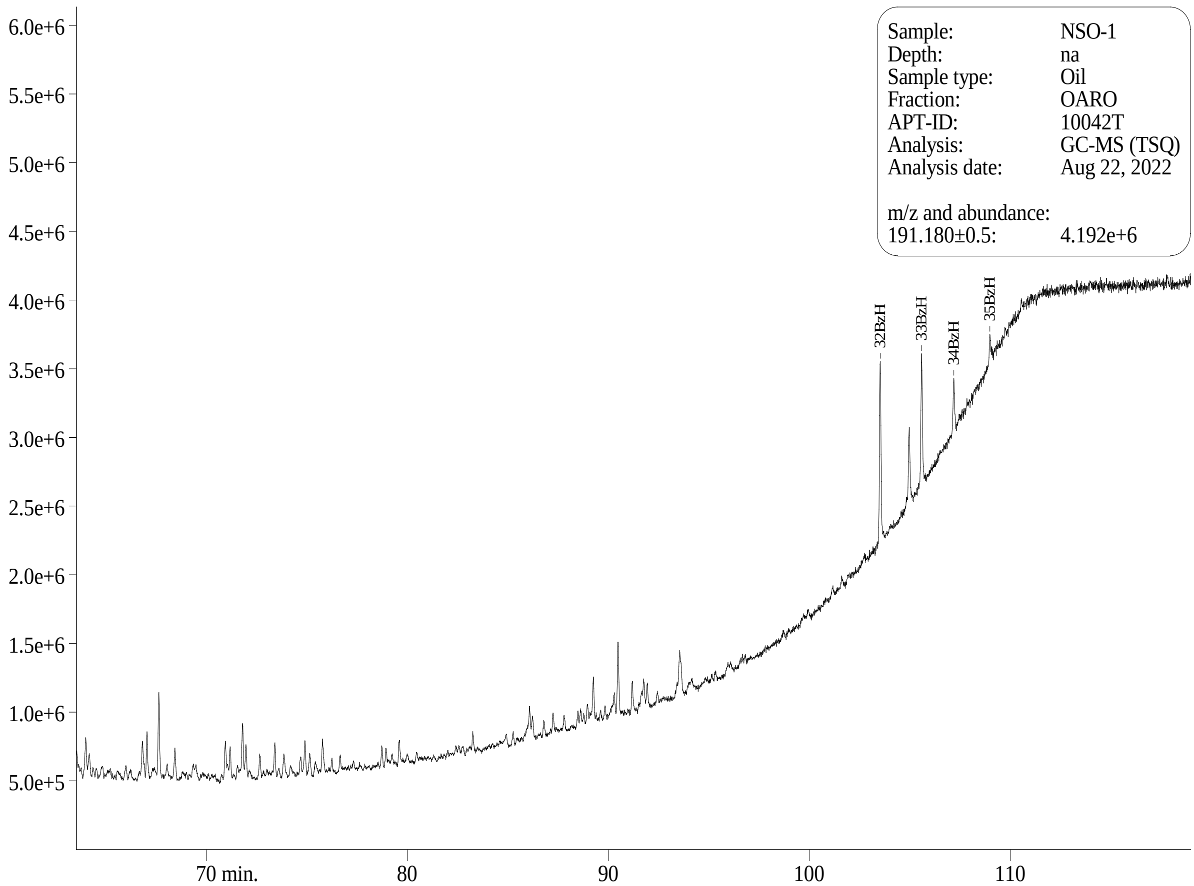

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
168.094±0.5: 5.775e+7
182.110±0.5: 1.737e+7
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3'-DMBP
4-MBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
6.0e+7
5.5e+7
5.0e+7
4.5e+7
4.0e+7
3.5e+7
3.0e+7
2.5e+7
2.0e+7
1.5e+7
1.0e+7
5.0e+6
18 min.
20
22
24
26
28
30
32
34

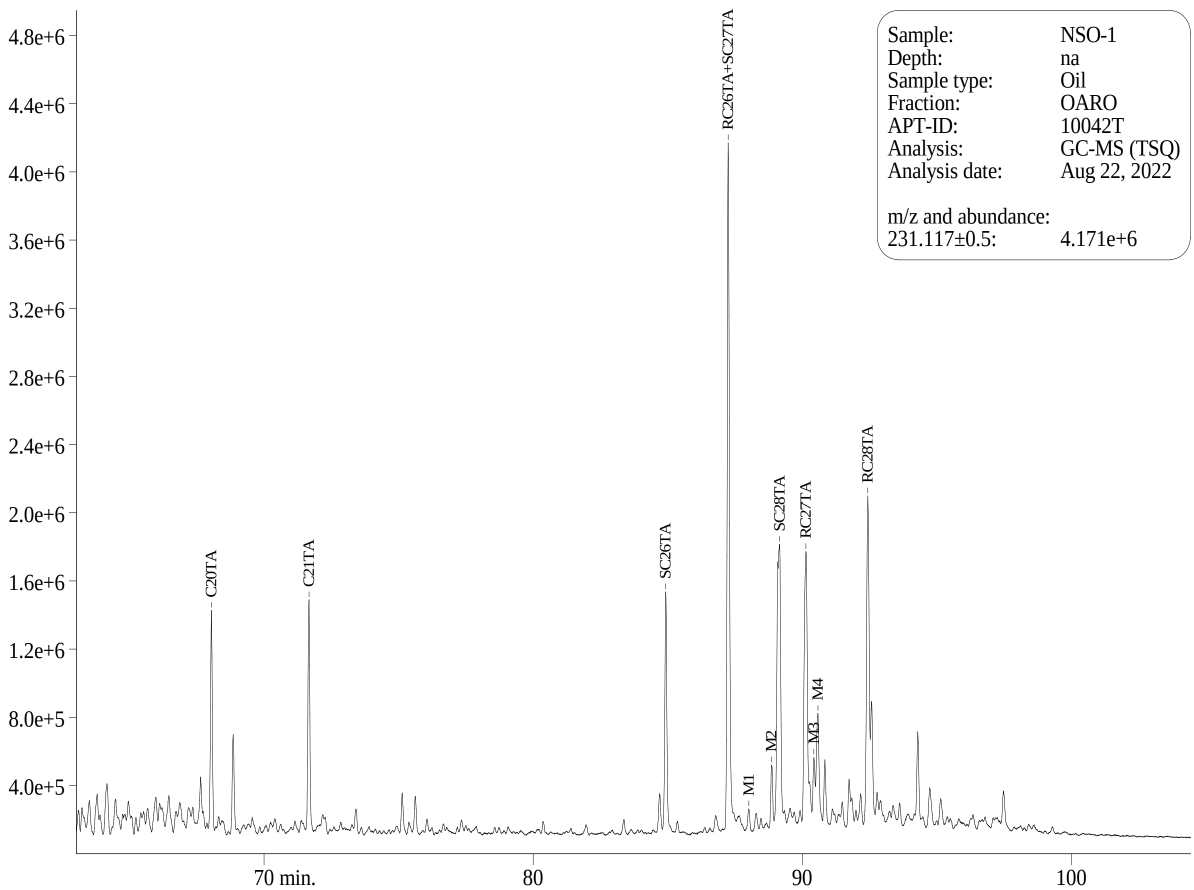


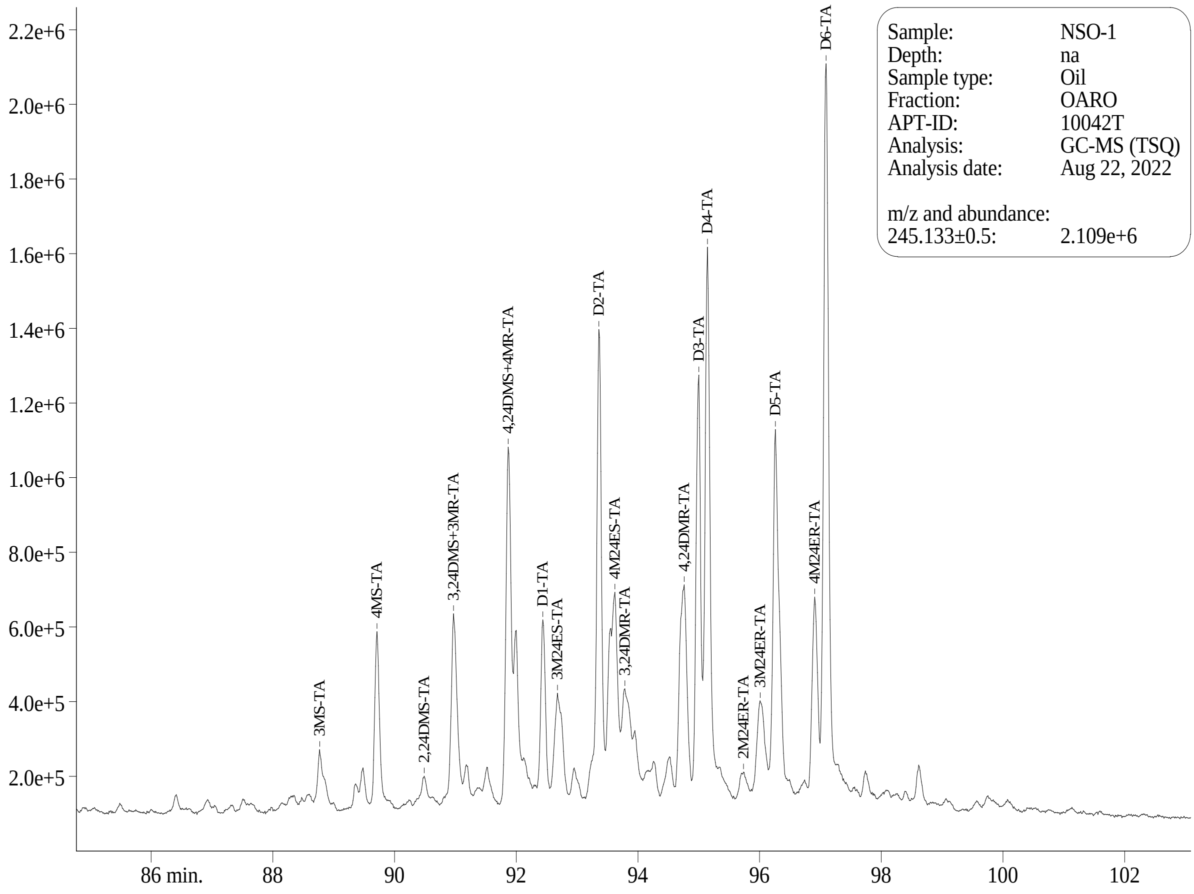
6.0e+7
5.5e+7
5.0e+7
4.5e+7
4.0e+7
3.5e+7
3.0e+7
2.5e+7
2.0e+7
1.5e+7
1.0e+7
5.0e+6
38 min.
42
46
50
54
58
62
P
3-MP
2-MP
9-MP
1-MP
2-EP+9-EP+3,6-DMP
2,6- + 2,7-
3,5-DMP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
178.078±0.5: 5.886e+7
192.094±0.5: 4.782e+7
206.110±0.5: 4.016e+7
219.117±0.5: 2.131e+7
220.125±0.5: 1.006e+7

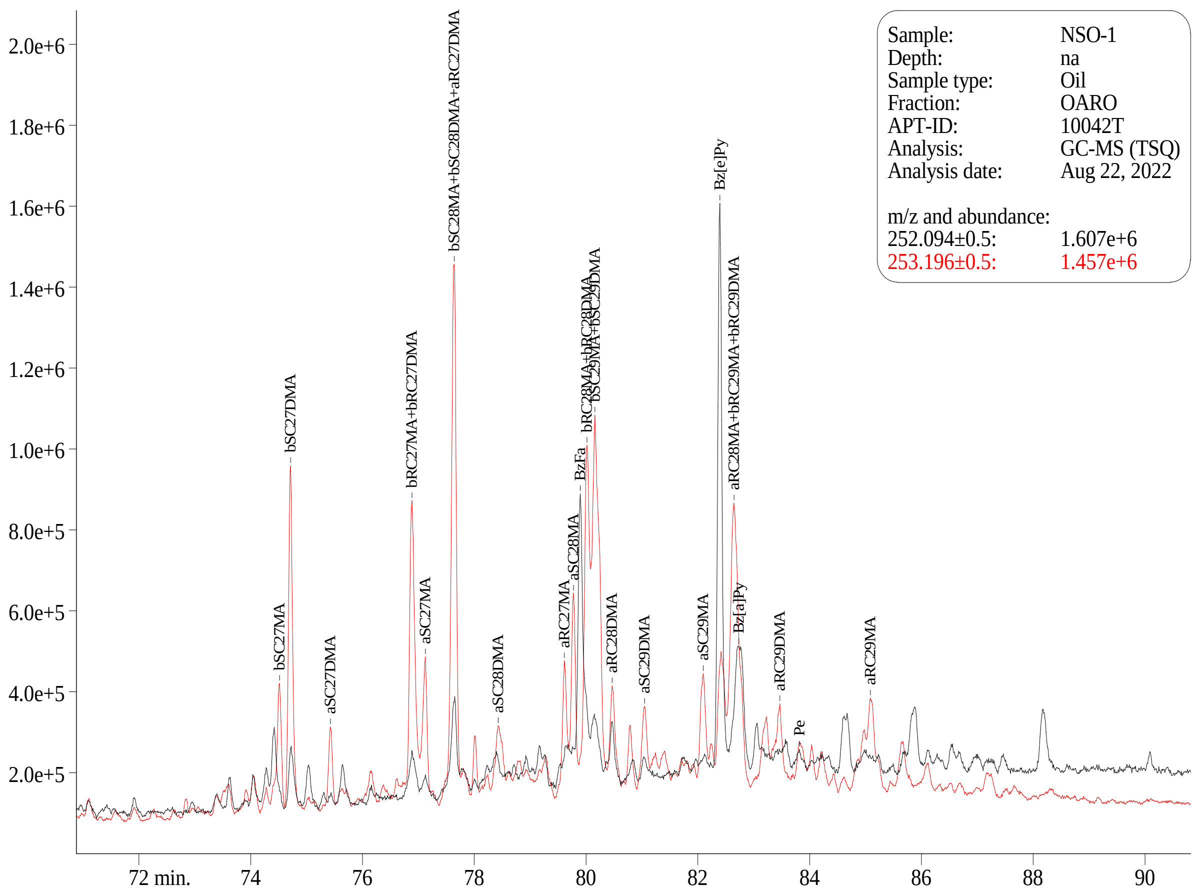


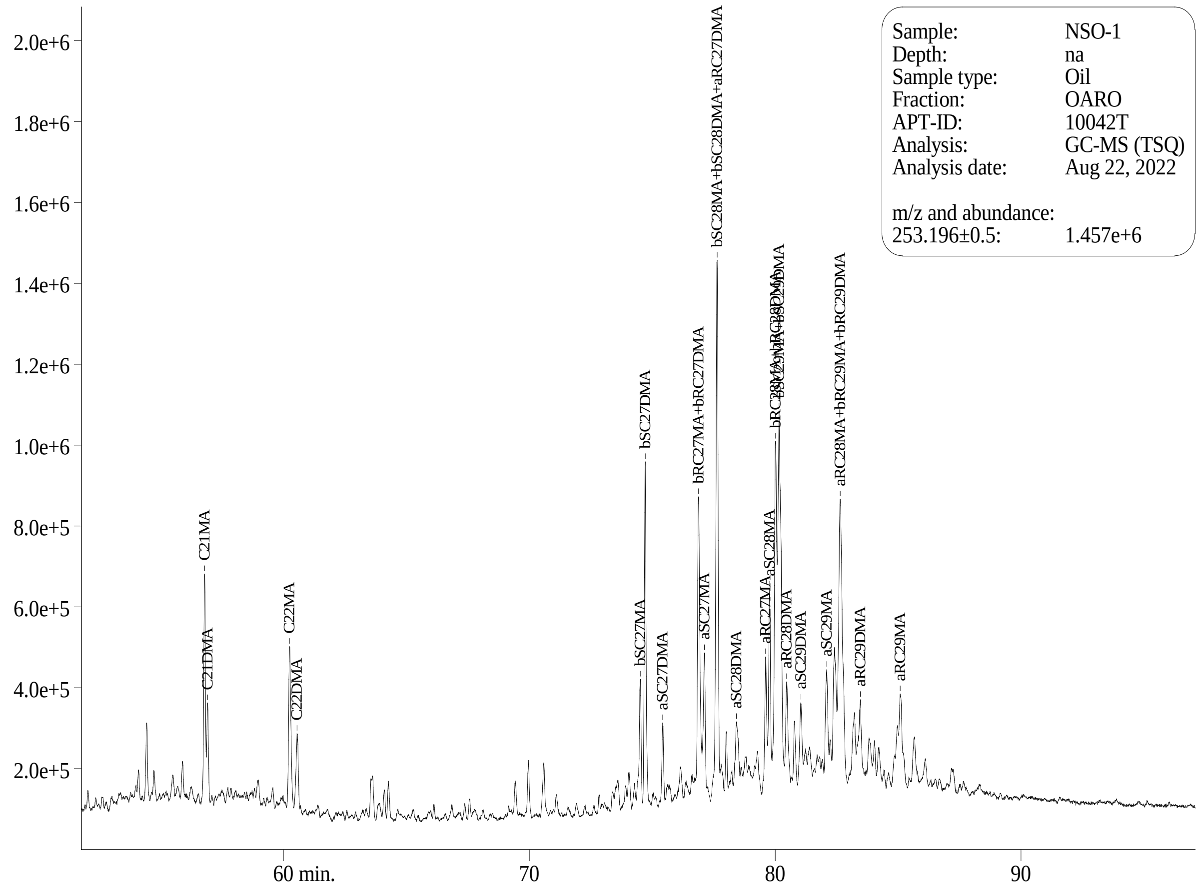
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
36 min.
38
40
42
44
46
48
50
52
54
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
184.035±0.5: 9.329e+6
198.050±0.5: 1.429e+7
212.066±0.5: 8.234e+6

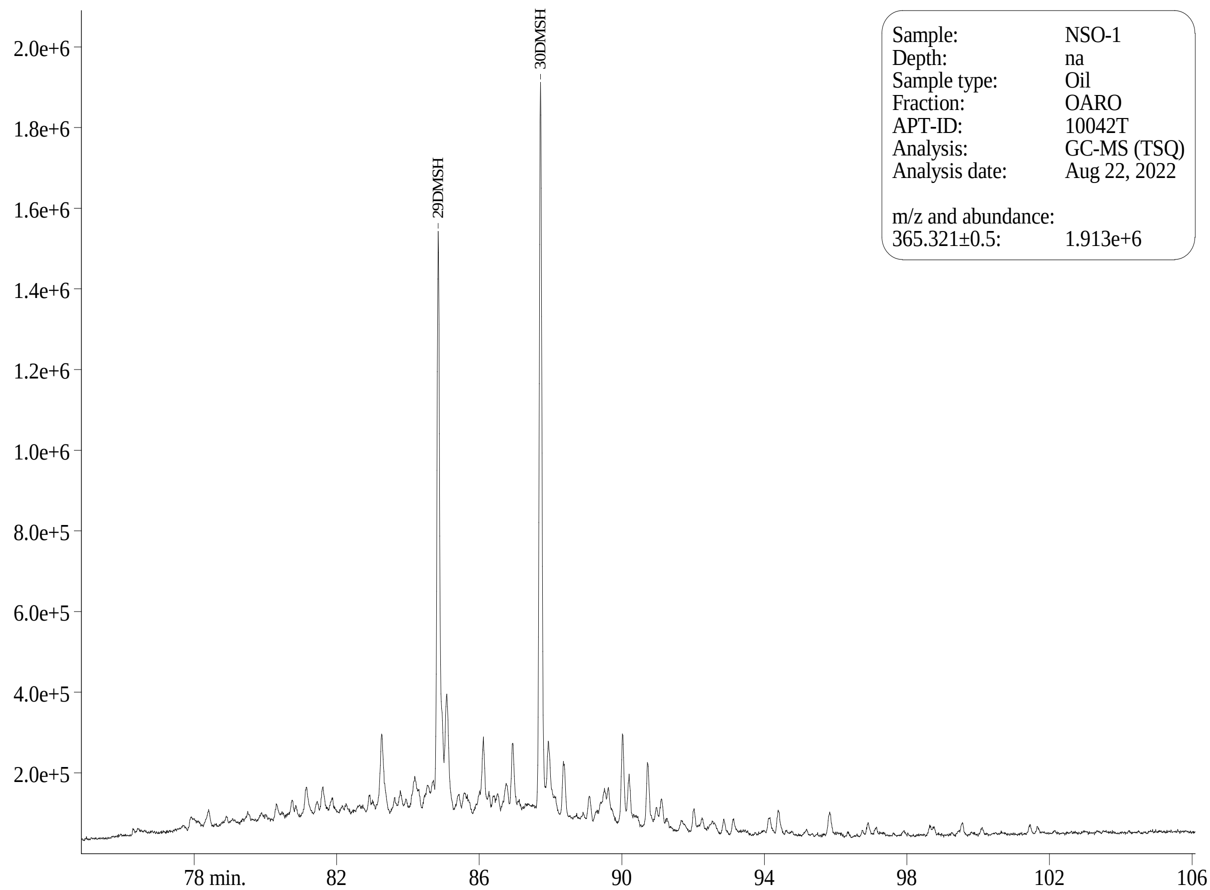

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
191.180±0.5: 4.192e+6
32BzH
33BzH
34BzH
35BzH
6.0e+6
5.5e+6
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

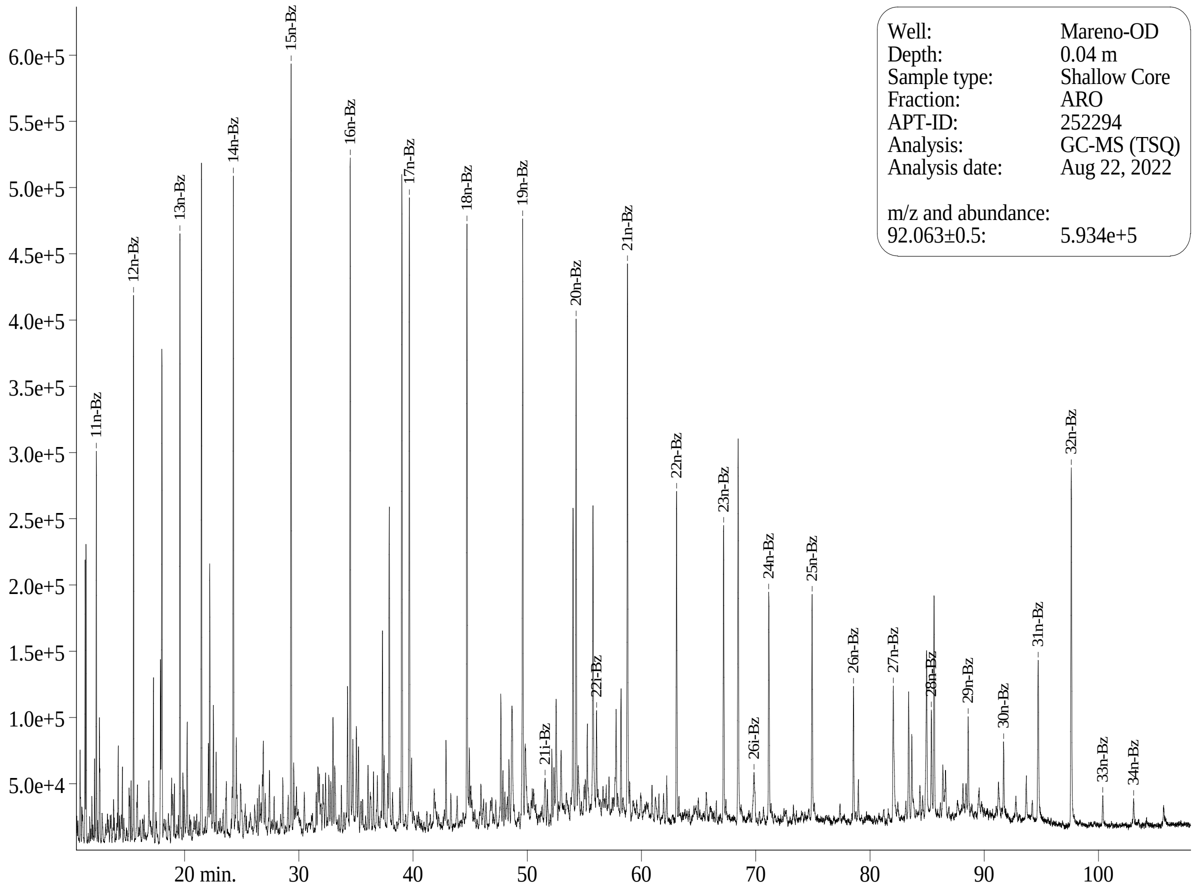

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
231.117±0.5: 4.171e+6
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
4.8e+6
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
70 min.
80
90
100

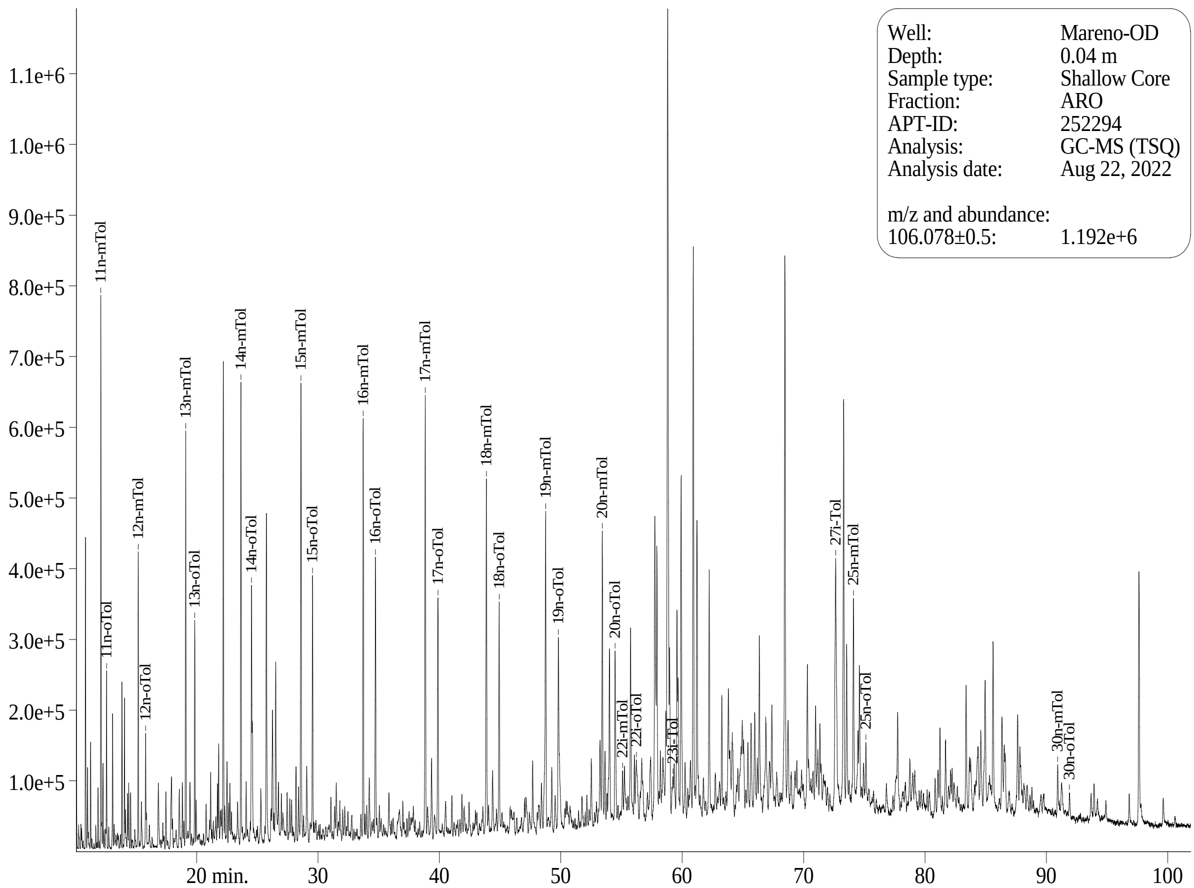

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
245.133±0.5: 2.109e+6
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
86 min.
88
90
92
94
96
98
100
102
2.2e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5

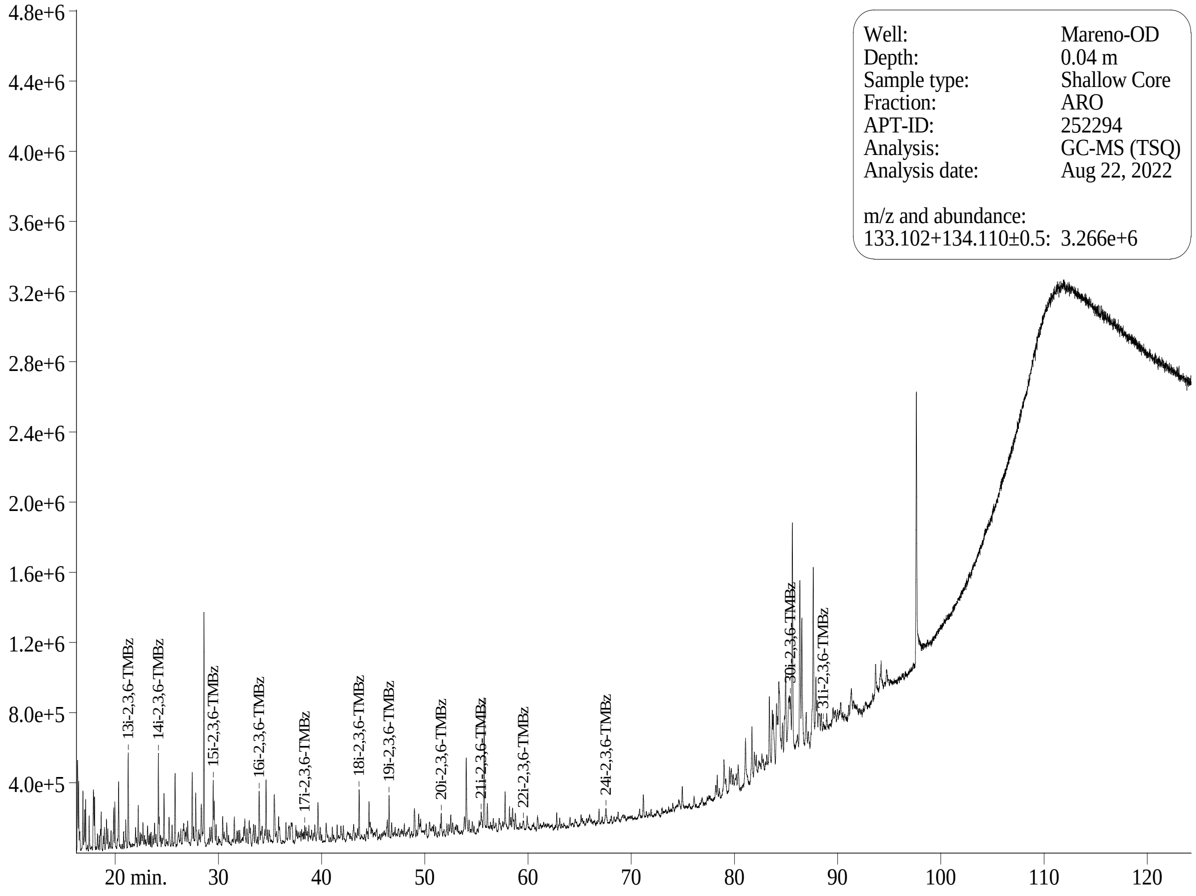

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
252.094±0.5: 1.607e+6
253.196±0.5: 1.457e+6
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
aSC28MA
BzFa
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
Bz[e]Py
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA
72 min.
74
76
78
80
82
84
86
88
90
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5


Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
253.196±0.5: 1.457e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
60 min.
70
80
90
C21MA
C21DMA
C22MA
C22DMA
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
aSC28MA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA

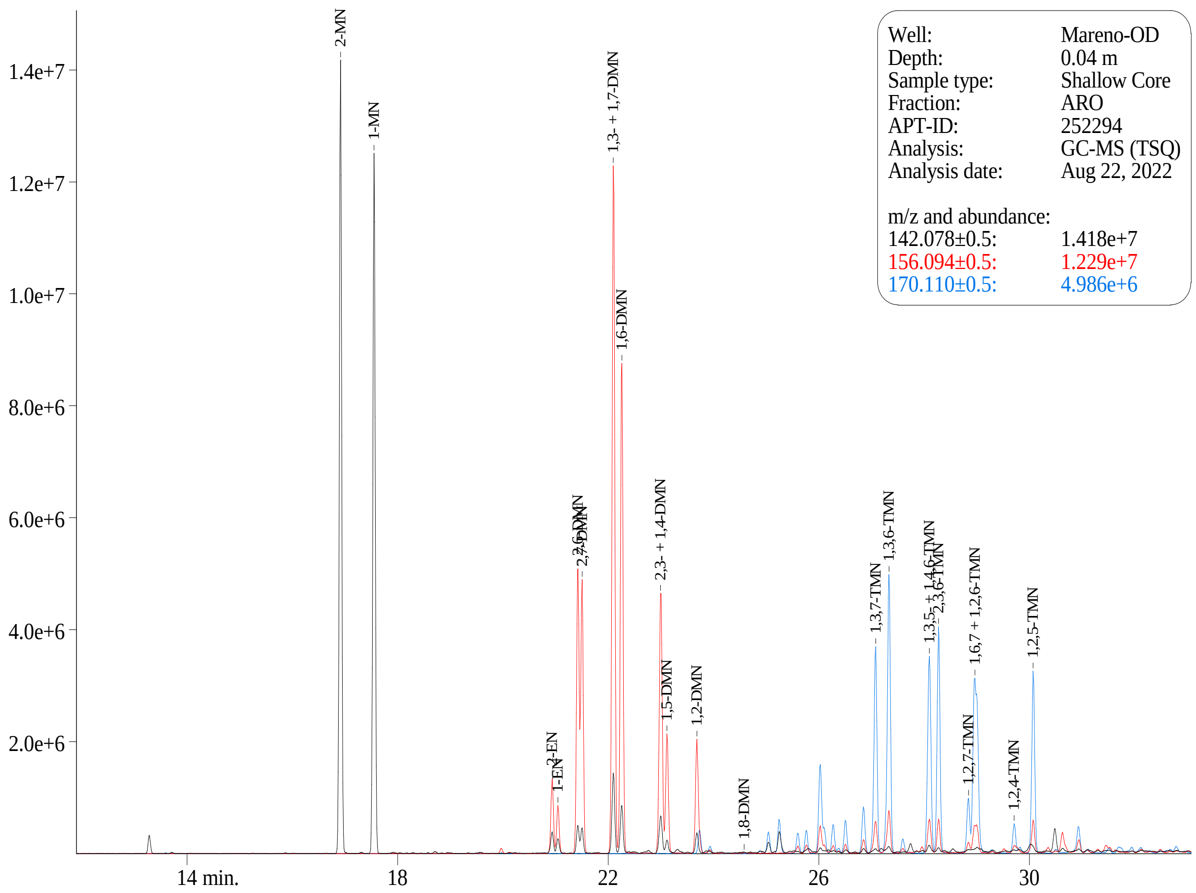

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OARO
APT-ID: 10042T
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
365.321±0.5: 1.913e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
78 min.
82
86
90
94
98
102
106
29DMSH
30DMSH


Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
92.063±0.5: 5.934e+5
6.0e+5
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
21n-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
25n-Bz
26i-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

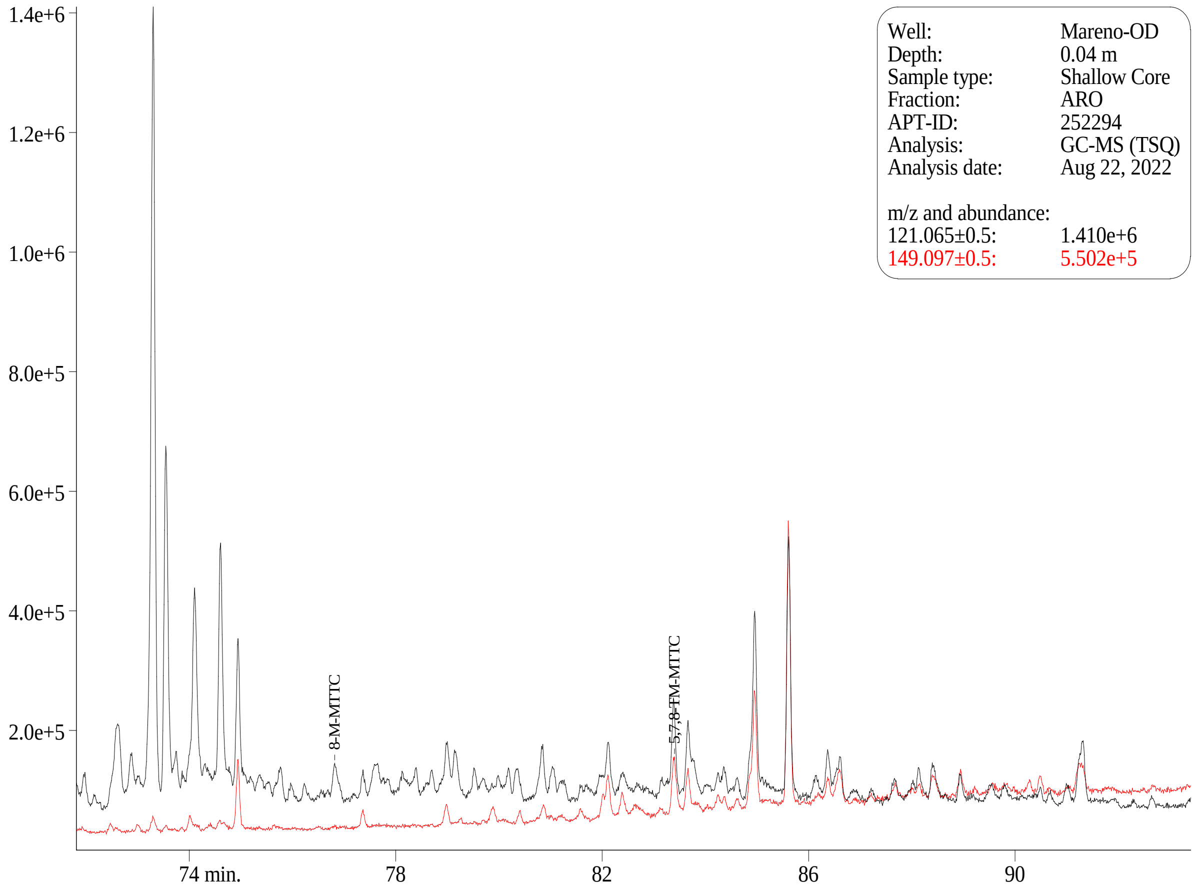

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
106.078±0.5: 1.192e+6
1.1e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol



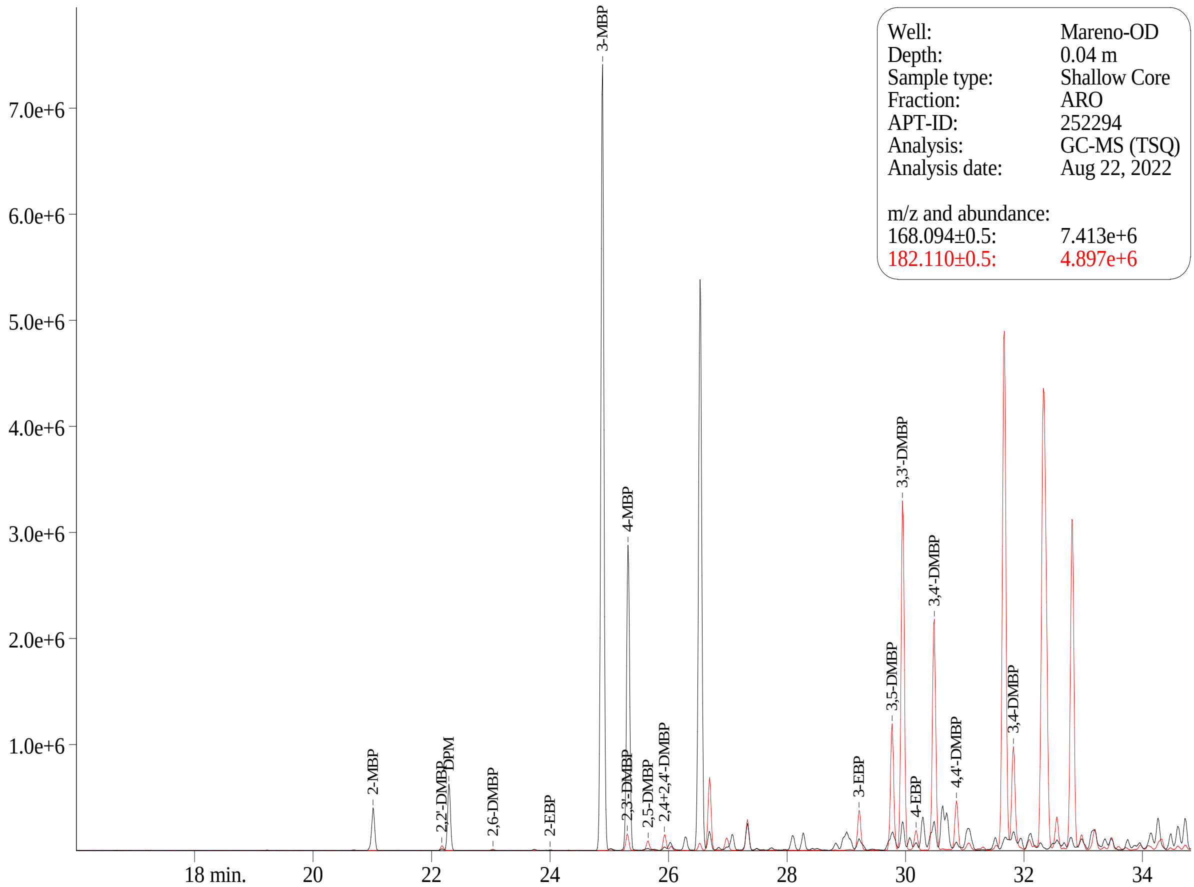
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
133.102+134.110±0.5: 3.266e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.



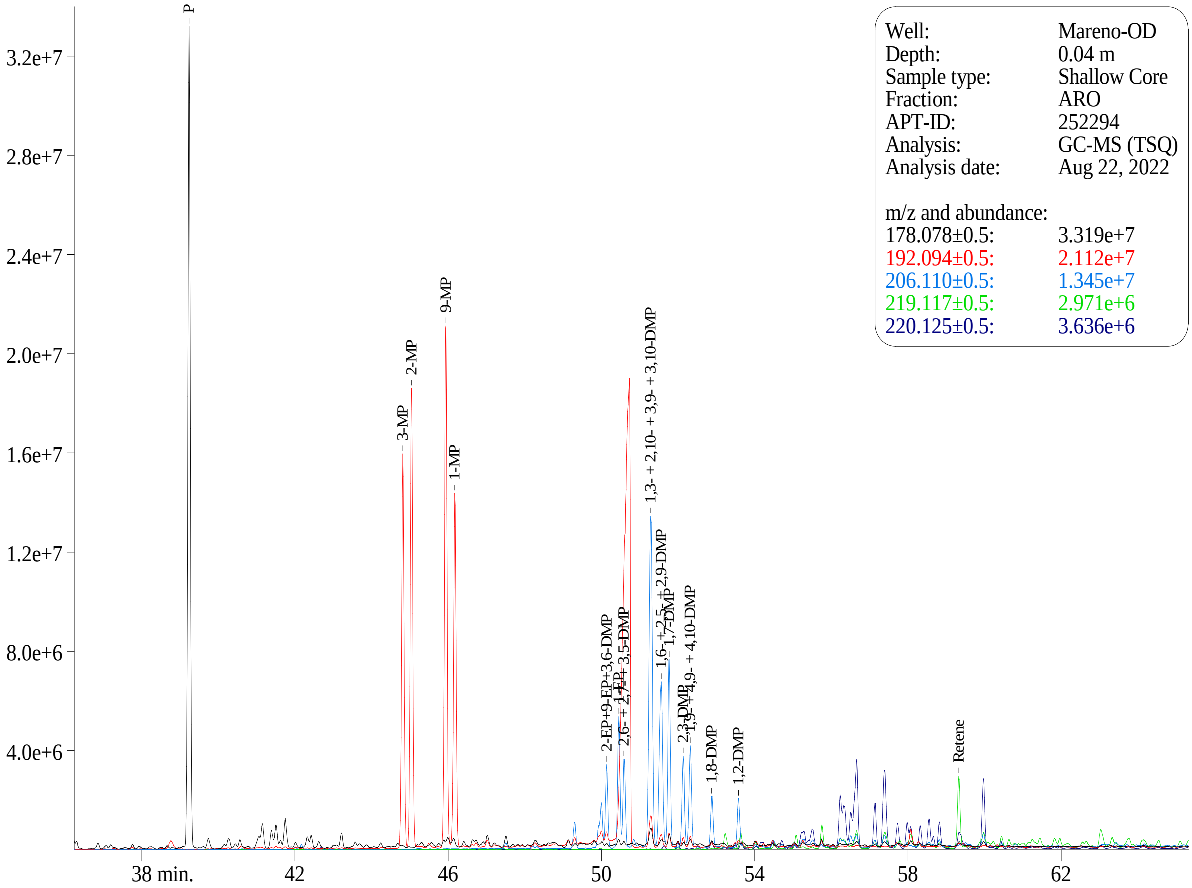
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
142.078±0.5: 1.418e+7
156.094±0.5: 1.229e+7
170.110±0.5: 4.986e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2,6-DMN
2,7-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
2-EN
1-EN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,6,7 + 1,2,6-TMN
1,2,7-TMN
1,2,4-TMN
1,2,5-TMN
14 min.

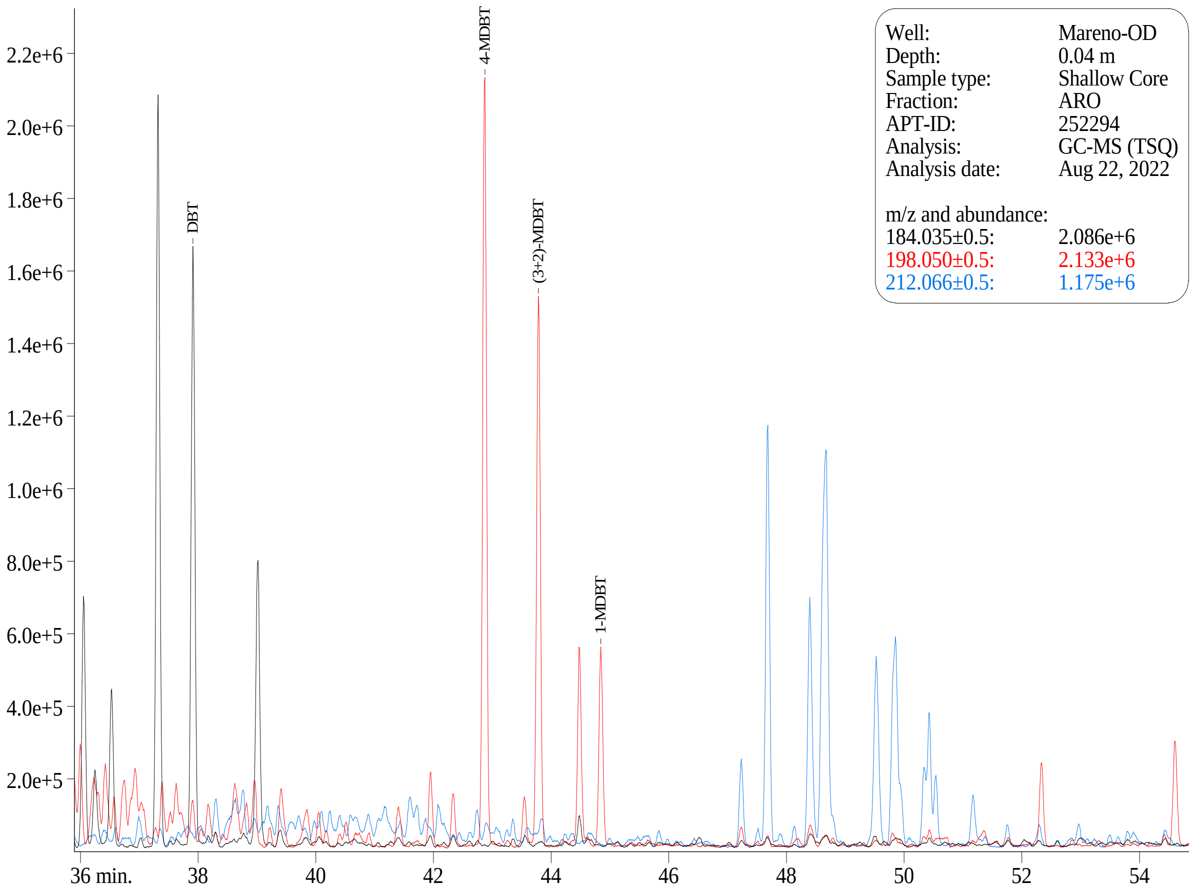


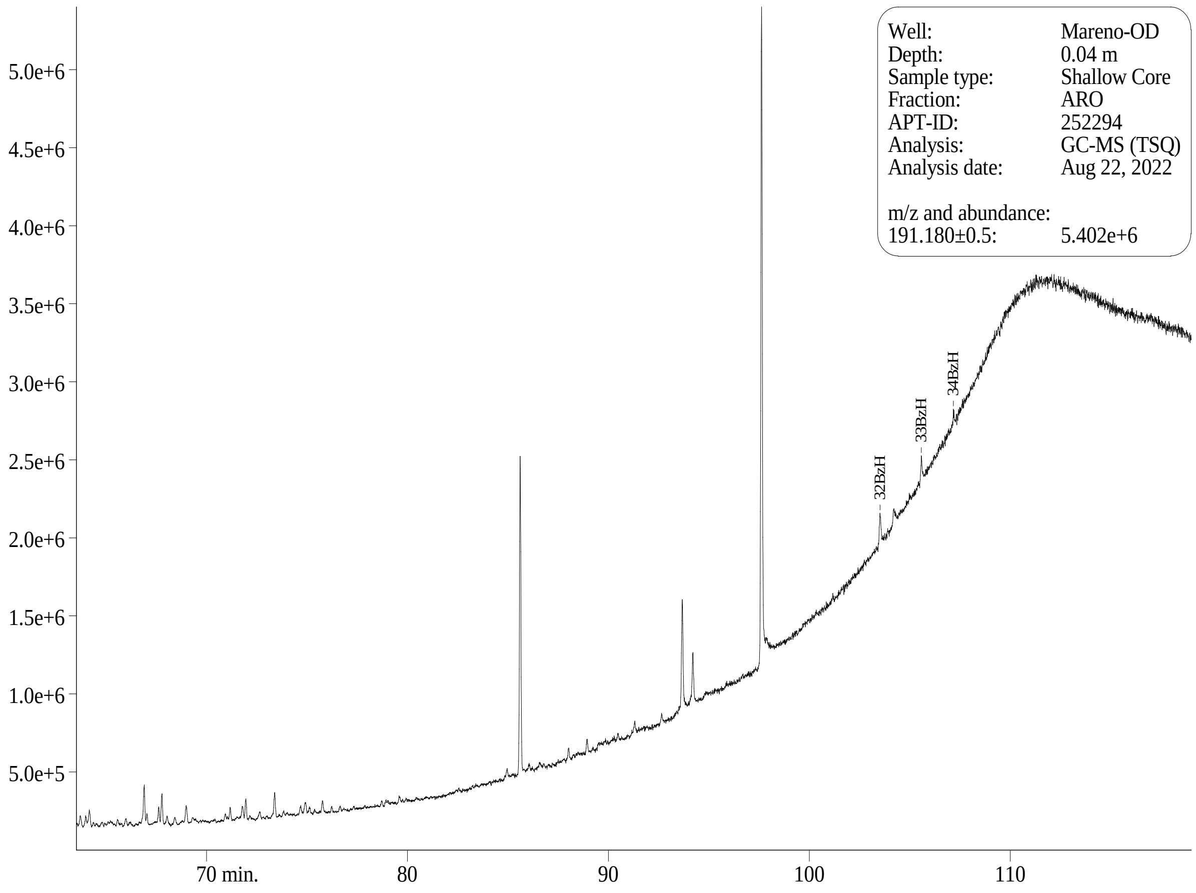
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
121.065±0.5: 1.410e+6
149.097±0.5: 5.502e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90

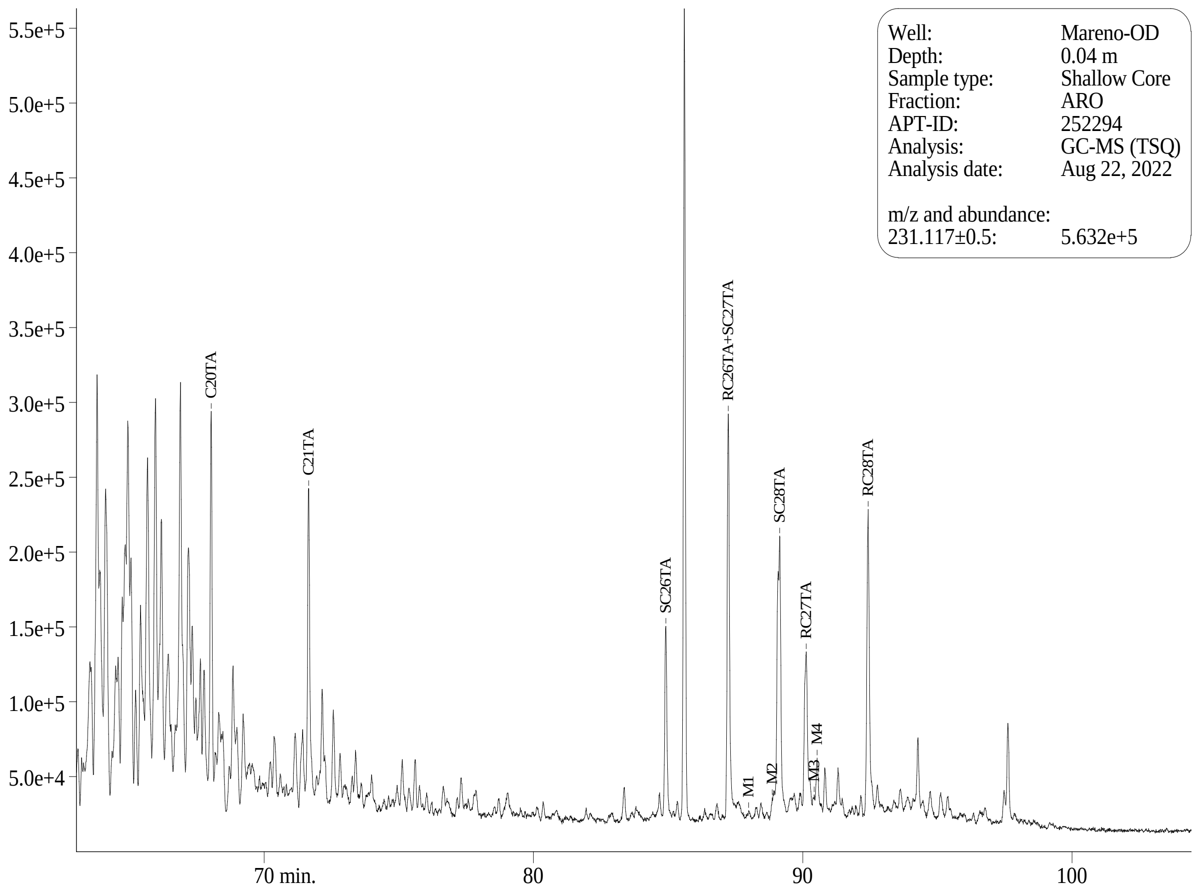


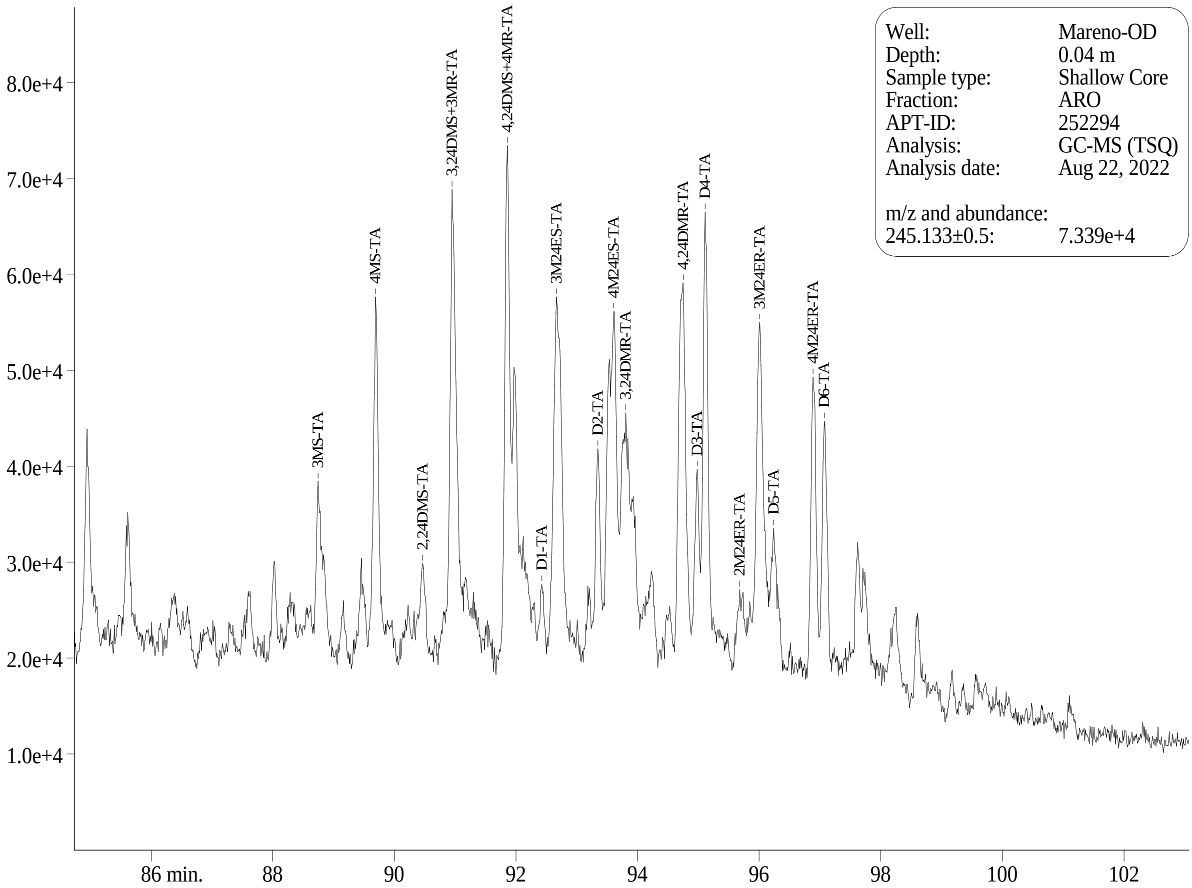
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
168.094±0.5: 7.413e+6
182.110±0.5: 4.897e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3'-DMBP
4-MBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
18 min.
20
22
24
26
28
30
32
34


Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
178.078±0.5: 3.319e+7
192.094±0.5: 2.112e+7
206.110±0.5: 1.345e+7
219.117±0.5: 2.971e+6
220.125±0.5: 3.636e+6
P
3-MP
2-MP
9-MP
1-MP
2-EP+9-EP+3,6-DMP
1-EP
2,6- + 2,7- + 3,5-DMP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
2,3-DMP
1,9- + 4,9- + 4,10-DMP
1,8-DMP
1,2-DMP
Retene
3.2e+7
2.8e+7
2.4e+7
2.0e+7
1.6e+7
1.2e+7
8.0e+6
4.0e+6
38 min.
42
46
50
54
58
62

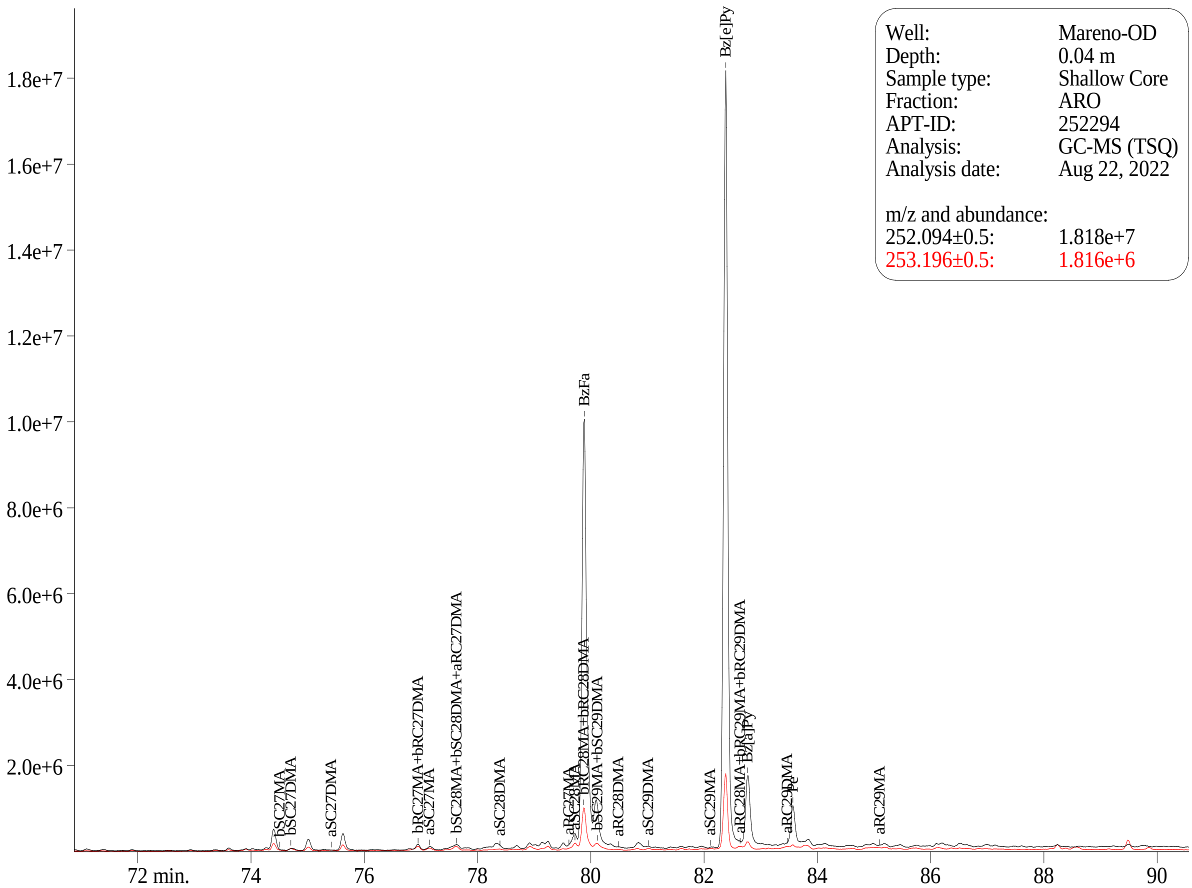

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
184.035±0.5: 2.086e+6
198.050±0.5: 2.133e+6
212.066±0.5: 1.175e+6
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
2.2e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
36 min.
38
40
42
44
46
48
50
52
54


Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
191.180±0.5: 5.402e+6
32BzH
33BzH
34BzH
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

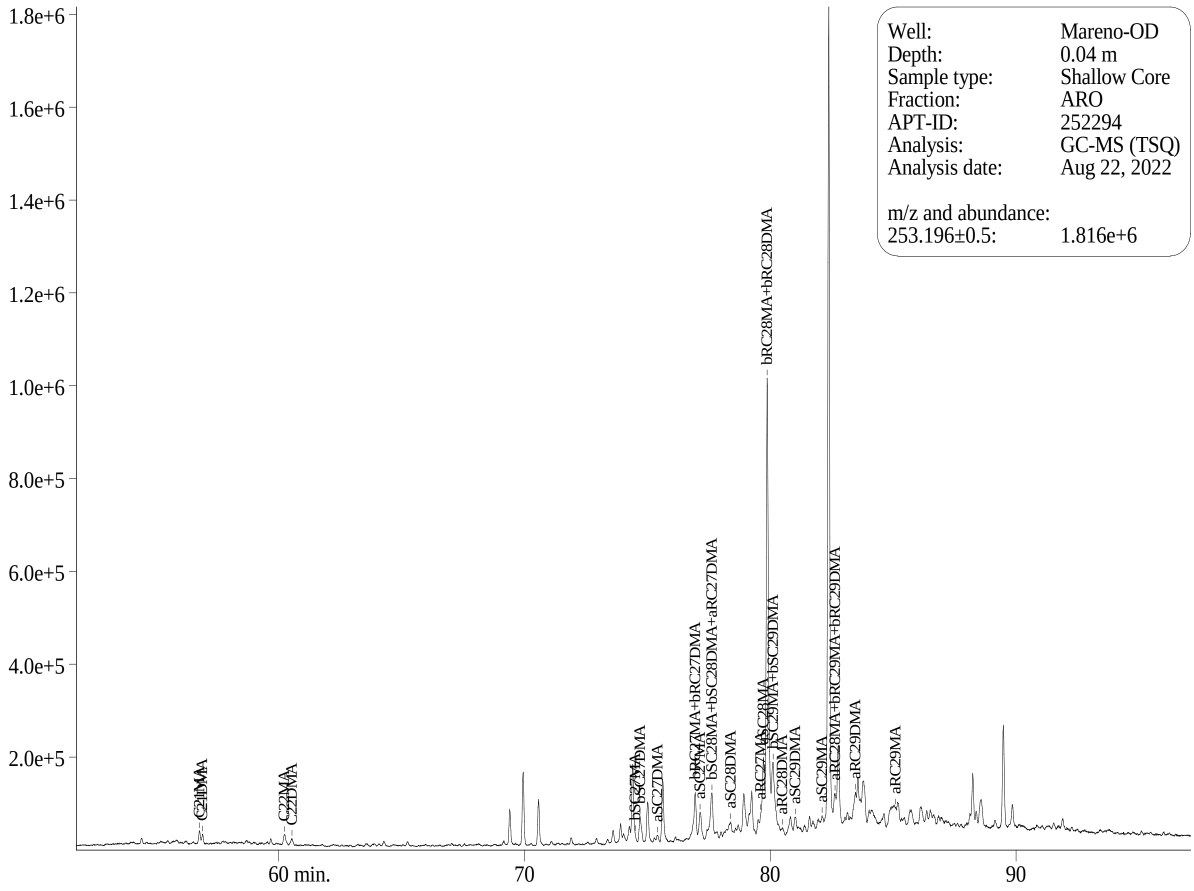

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
231.117±0.5: 5.632e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
70 min.
80
90
100



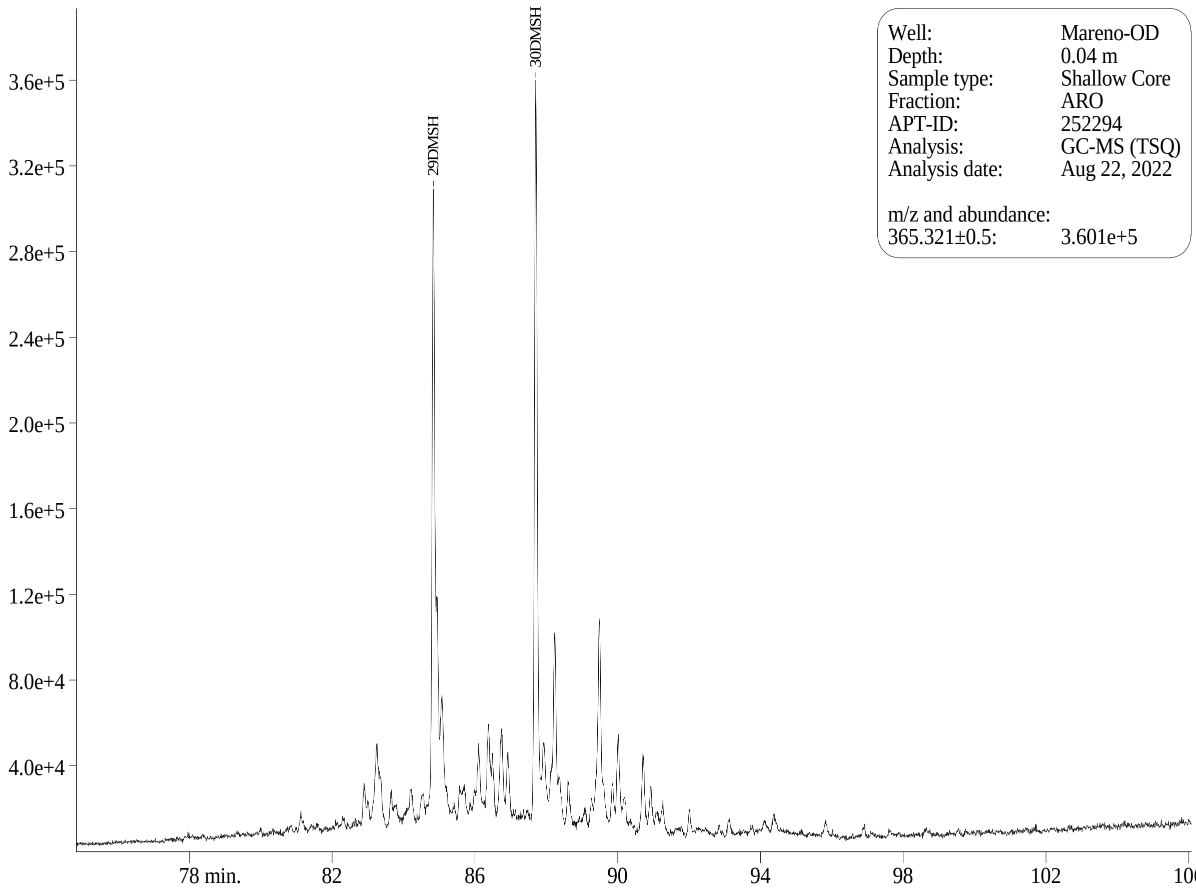
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
245.133±0.5: 7.339e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
86 min.



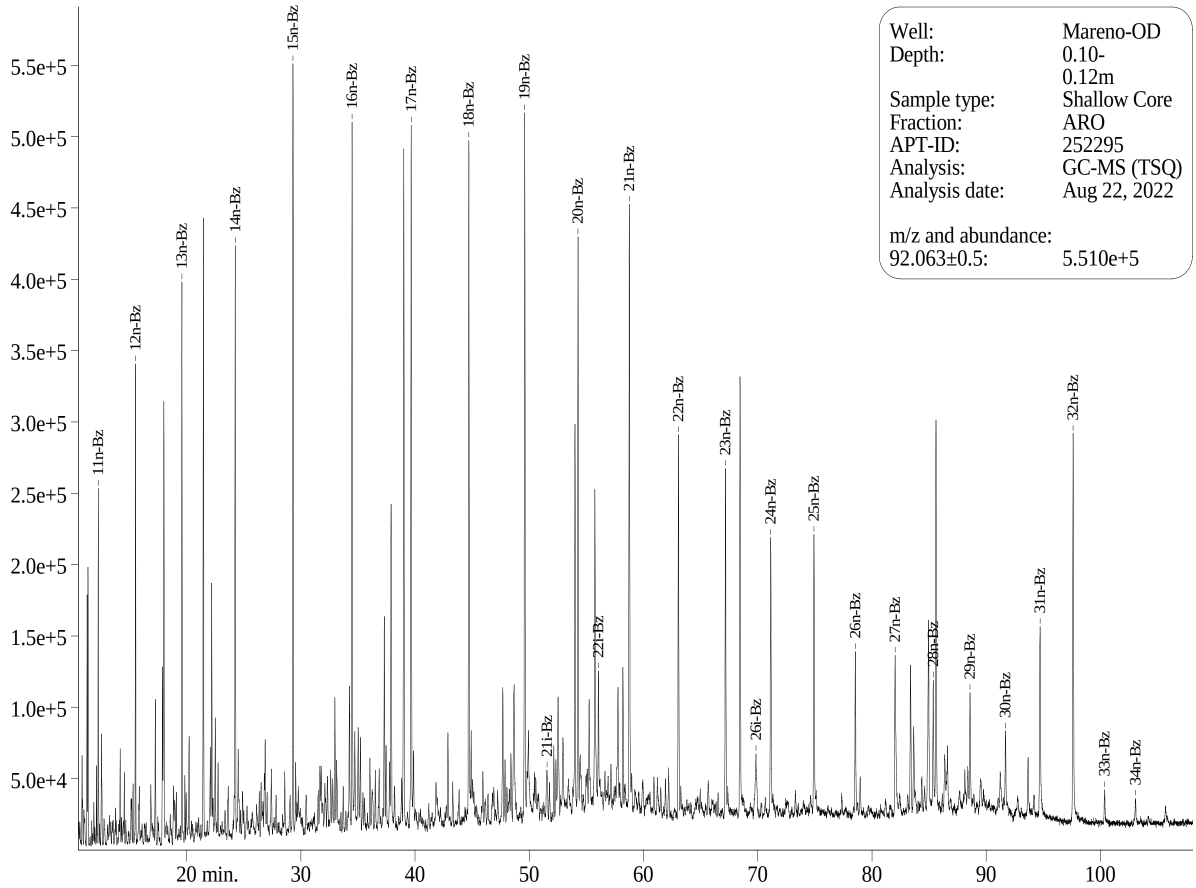
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
252.094±0.5: 1.818e+7
253.196±0.5: 1.816e+6
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
aSC28MA+bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA
72 min.

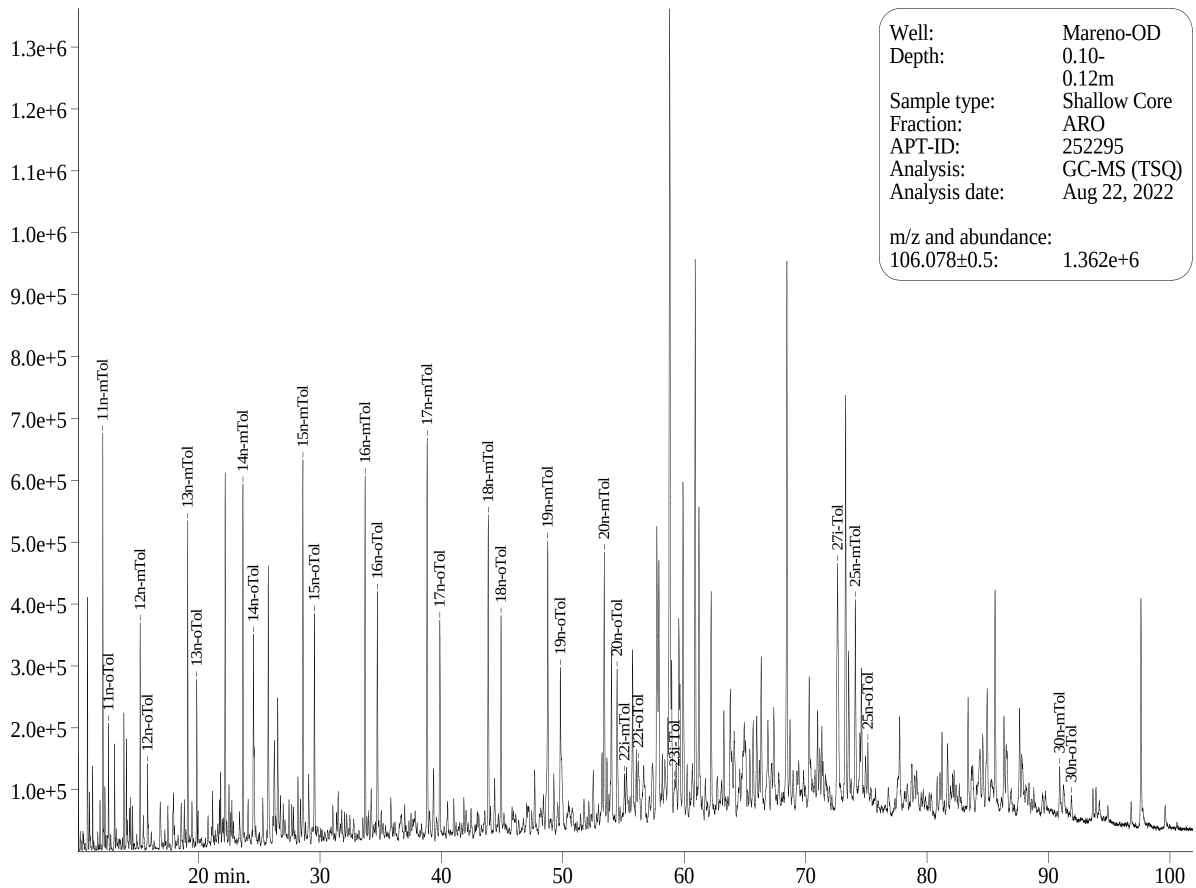


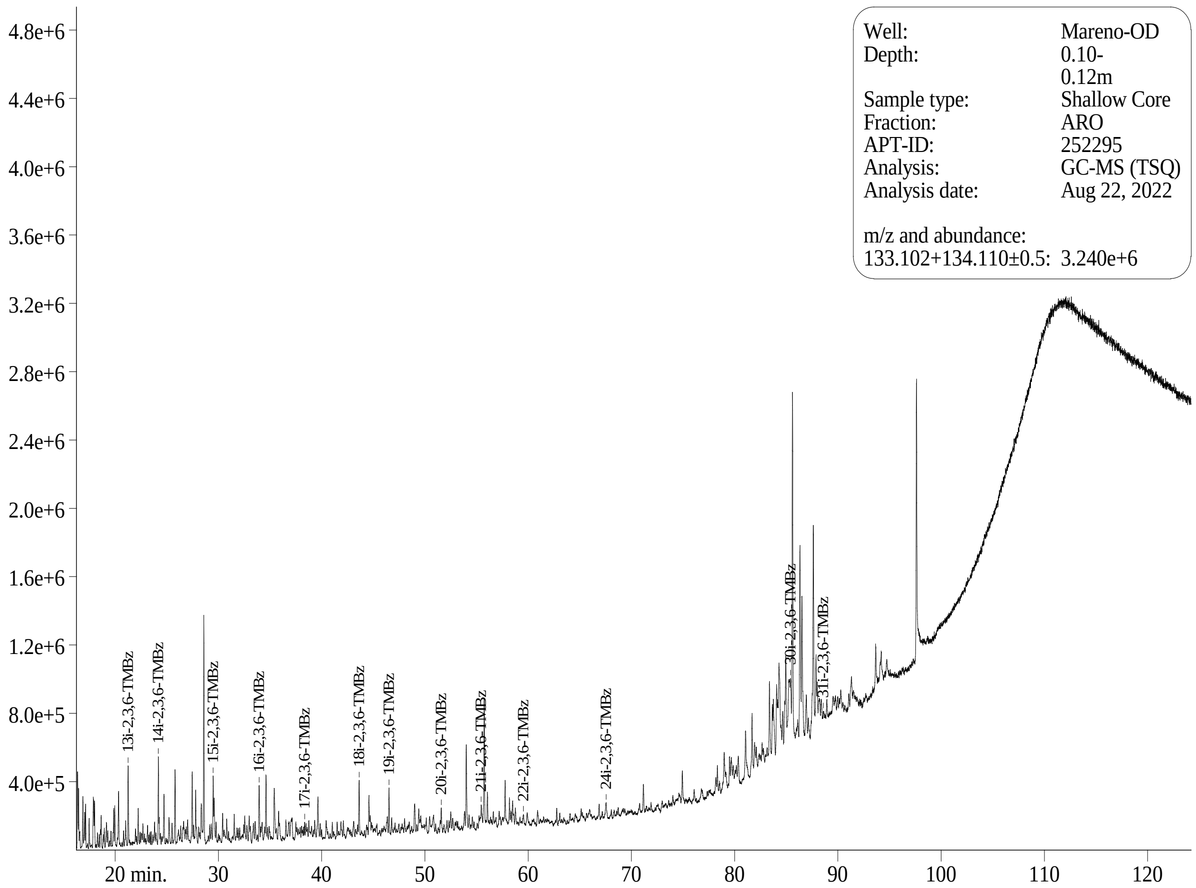
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
253.196±0.5: 1.816e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
60 min.
70
80
90
C22MA
C22DMA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA

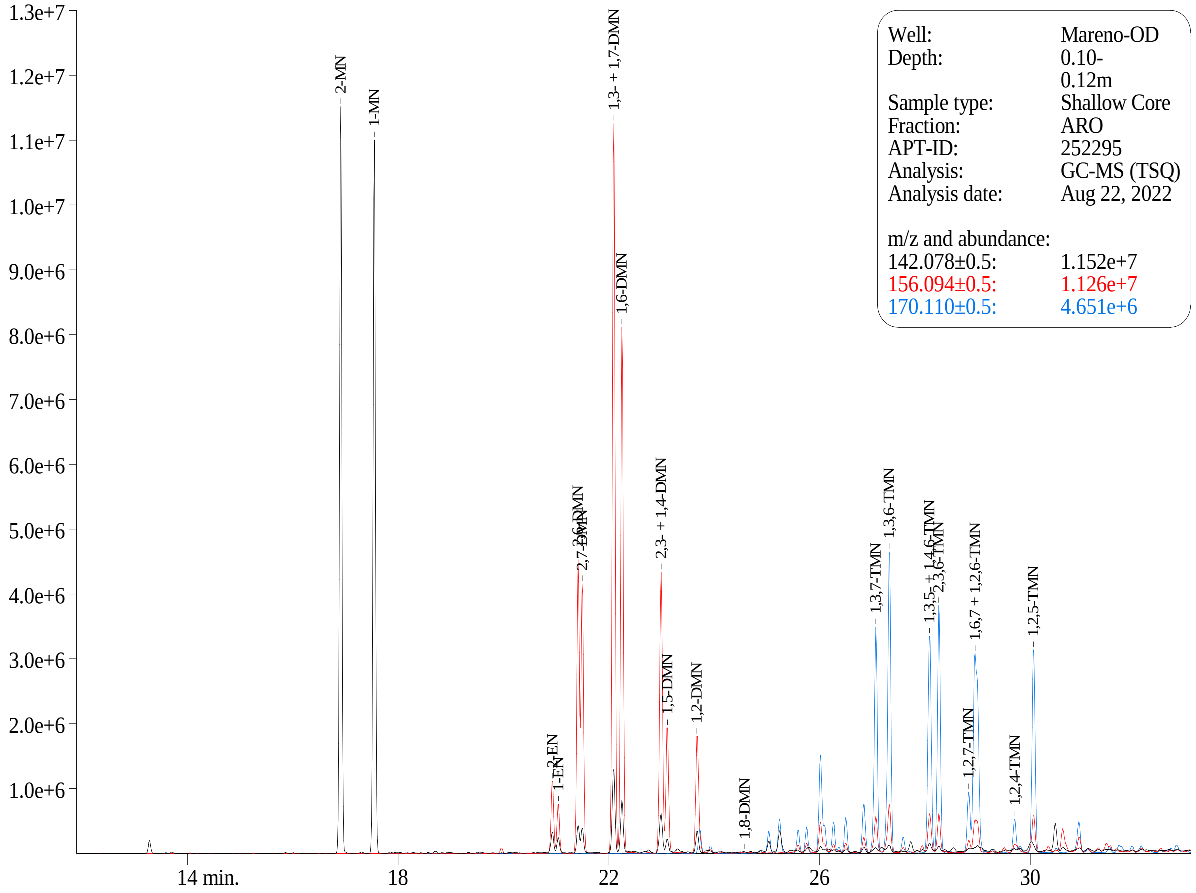


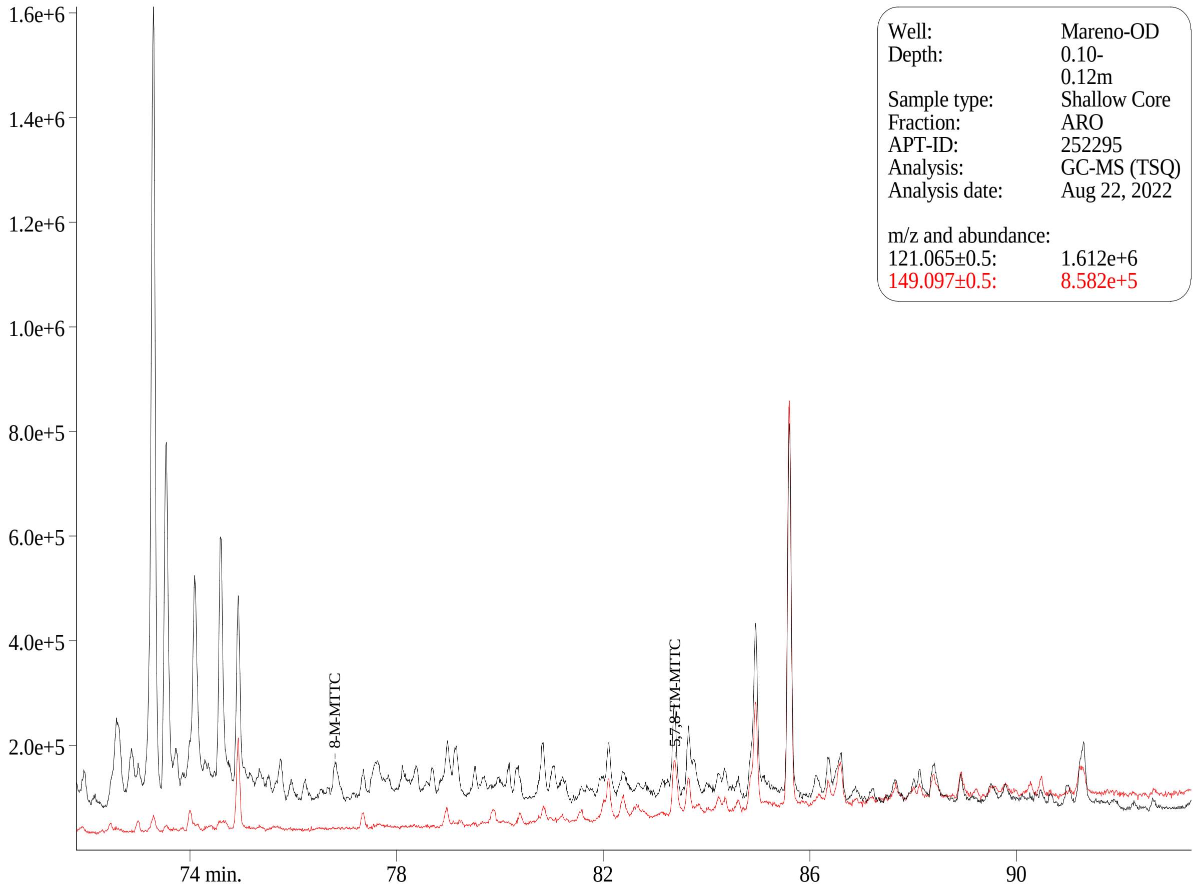
Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252294
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
365.321±0.5: 3.601e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
78 min.
82
86
90
94
98
102
106
29DMSH
30DMSH


Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
92.063±0.5: 5.510e+5
20 min.
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21n-Bz
21i-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
25n-Bz
26i-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

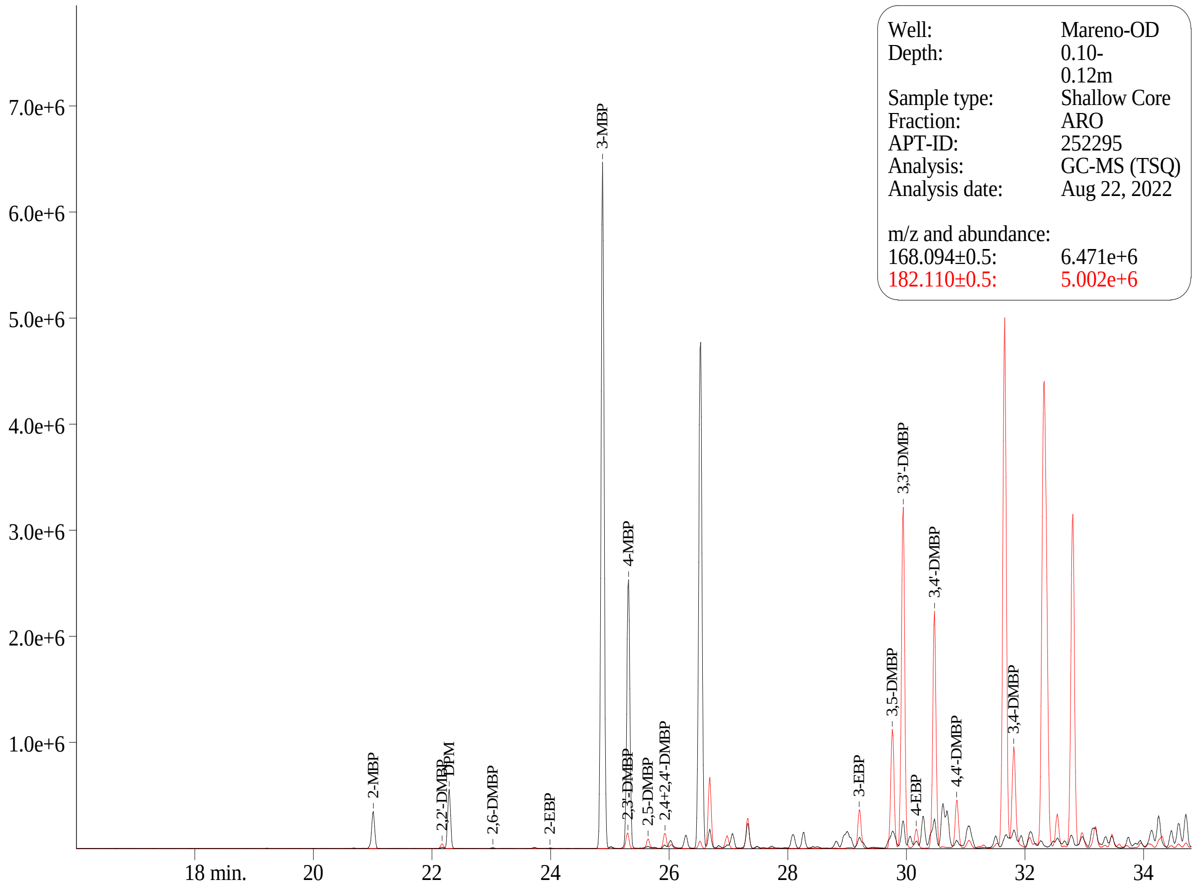

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
106.078±0.5: 1.362e+6
20 min.
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol


Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
133.102+134.110±0.5: 3.240e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.

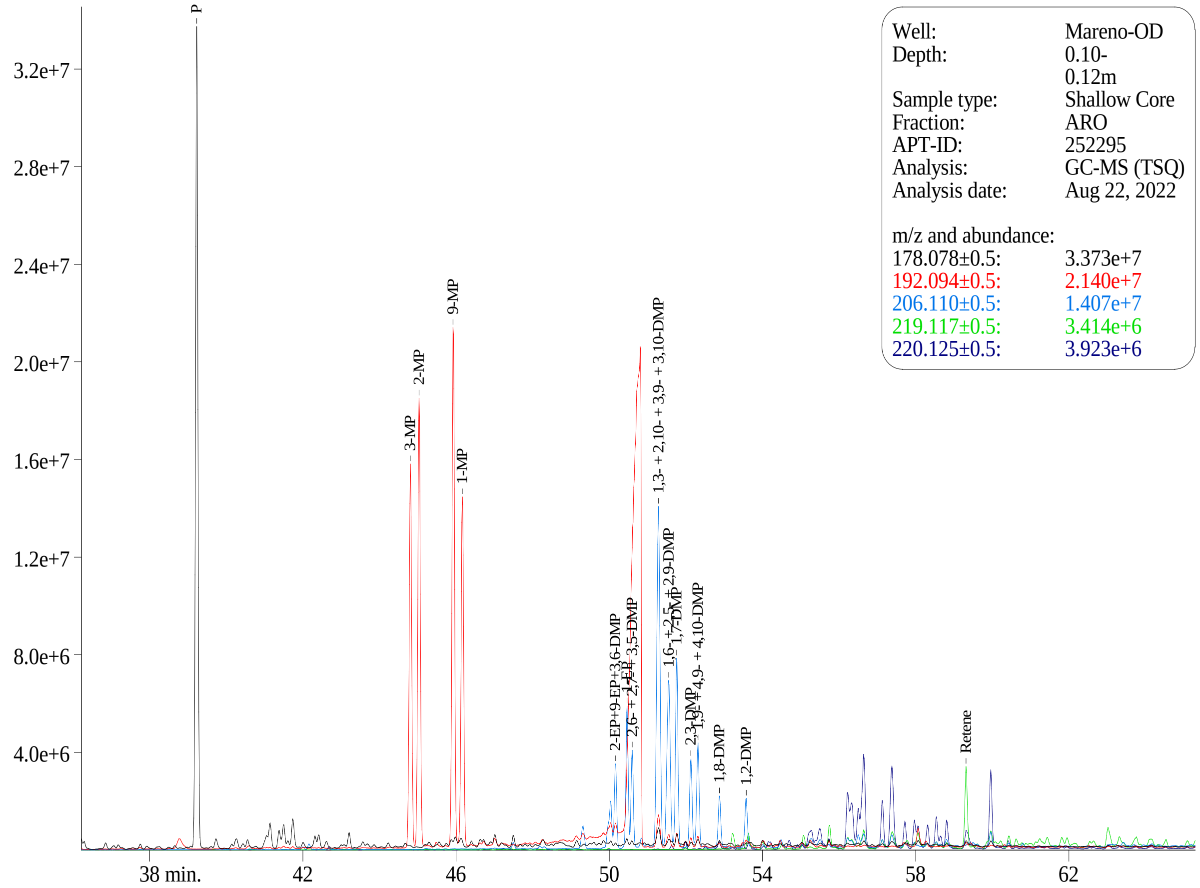

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
142.078±0.5: 1.152e+7
156.094±0.5: 1.126e+7
170.110±0.5: 4.651e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2,6-DMN
2,7-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
2-EN
1-EN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5 + 1,4,6-TMN
2,3,6-TMN
1,6,7 + 1,2,6-TMN
1,2,7-TMN
1,2,4-TMN
1,2,5-TMN
14 min.



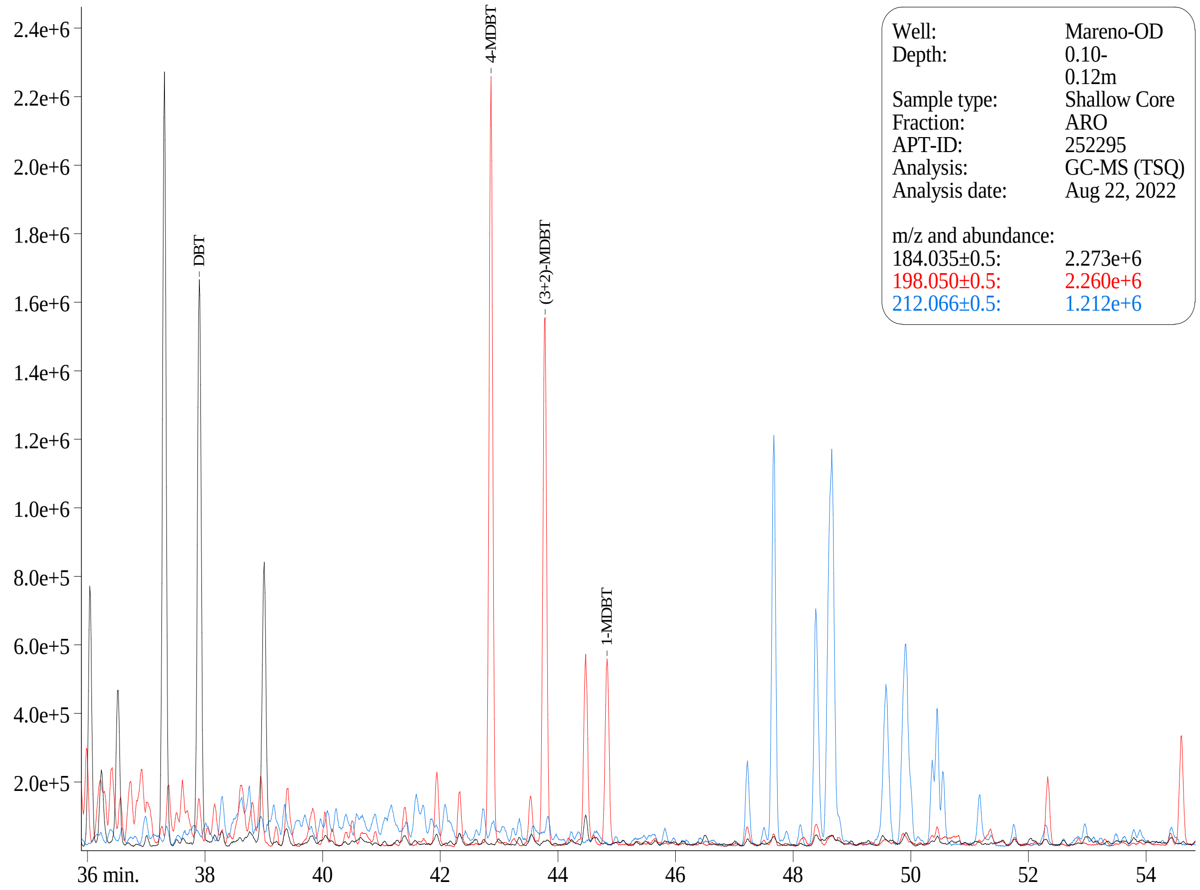
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
121.065±0.5: 1.612e+6
149.097±0.5: 8.582e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90



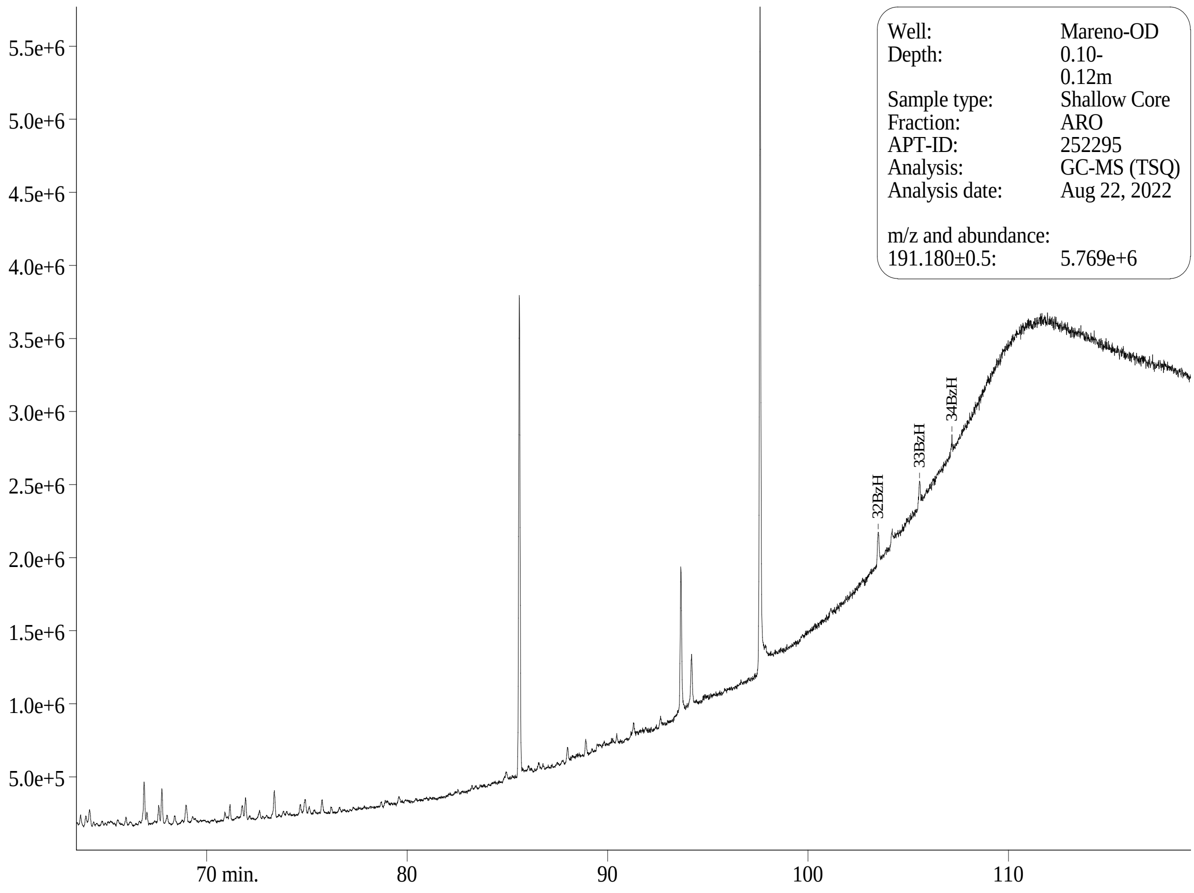
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
168.094±0.5: 6.471e+6
182.110±0.5: 5.002e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3'-DMBP
2,5-DMBP
4-MBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
18 min.
20
22
24
26
28
30
32
34

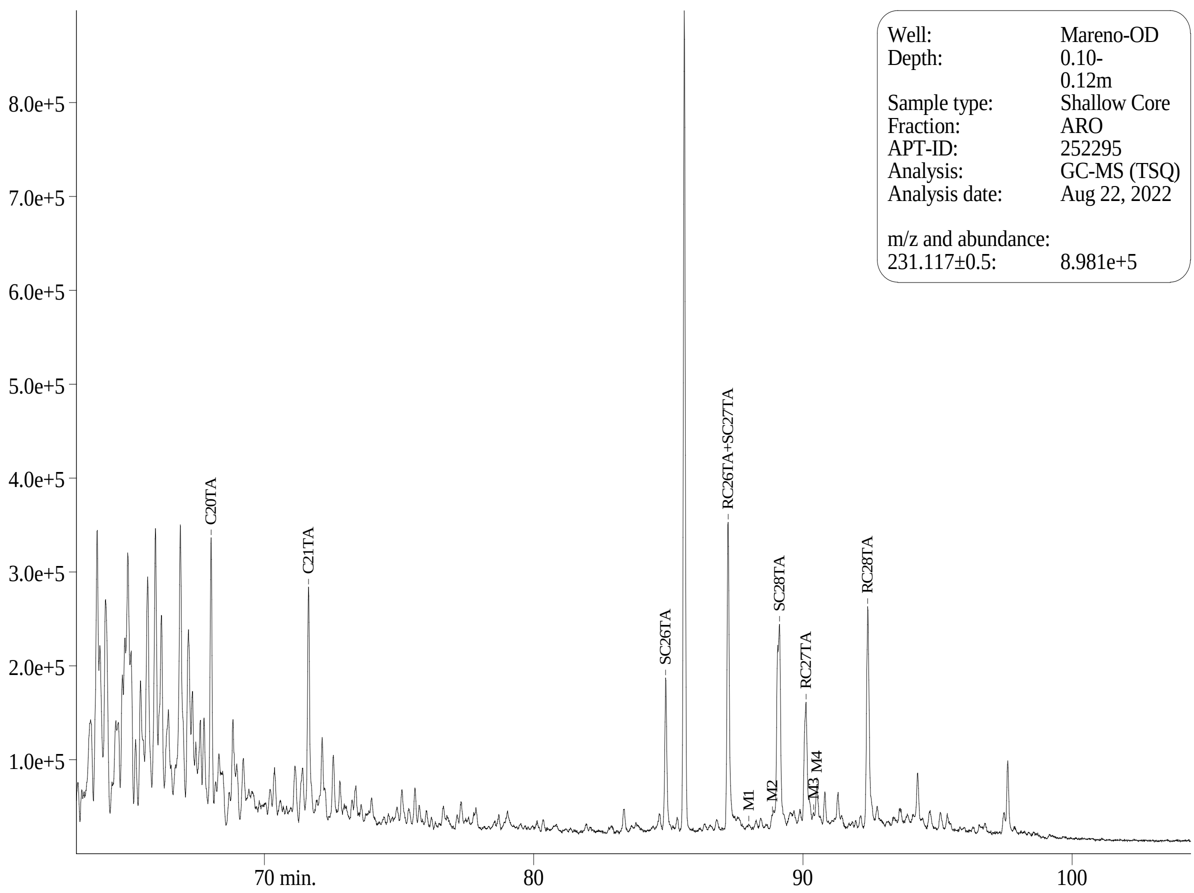


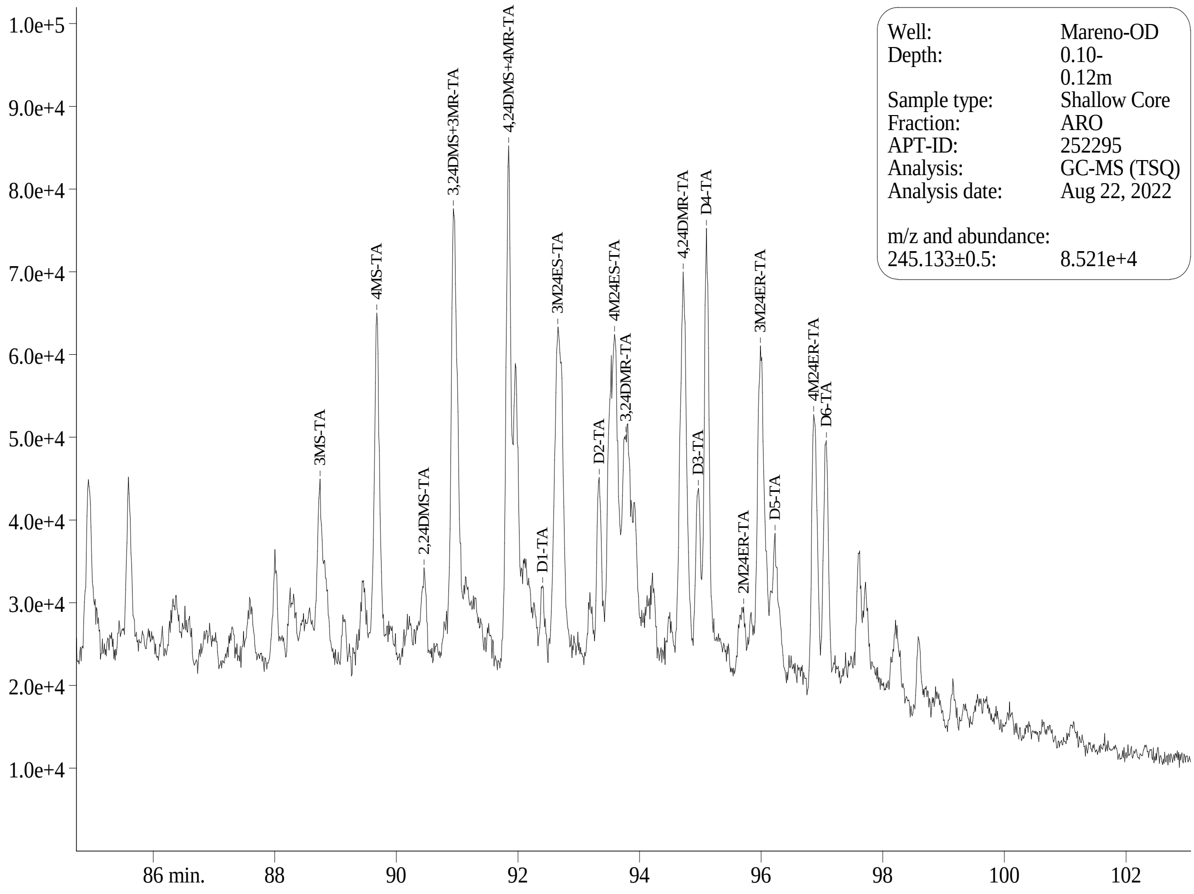
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
178.078±0.5: 3.373e+7
192.094±0.5: 2.140e+7
206.110±0.5: 1.407e+7
219.117±0.5: 3.414e+6
220.125±0.5: 3.923e+6
P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
38 min.
42
46
50
54
58
62



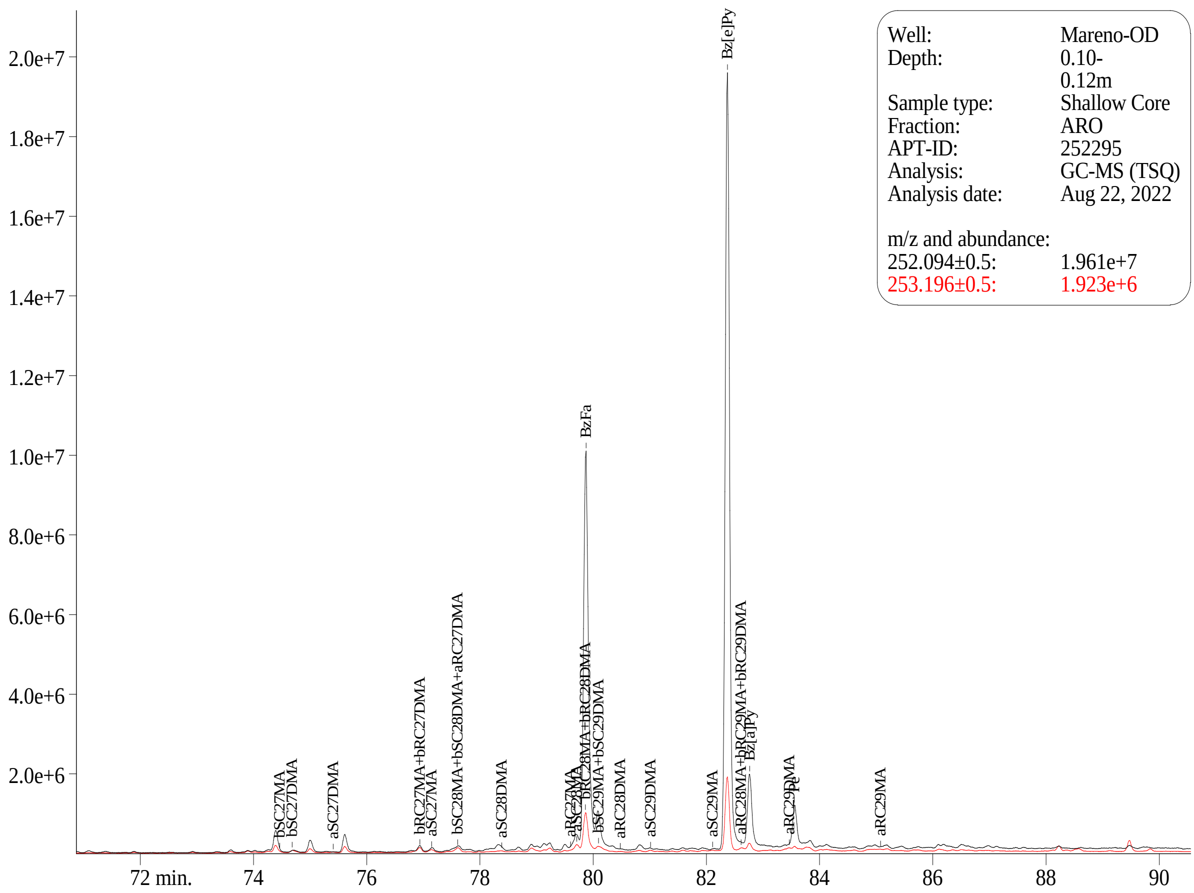
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
184.035±0.5: 2.273e+6
198.050±0.5: 2.260e+6
212.066±0.5: 1.212e+6
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
36 min.
38
40
42
44
46
48
50
52
54


Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
191.180±0.5: 5.769e+6
5.5e+6
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110
32BzH
33BzH
34BzH

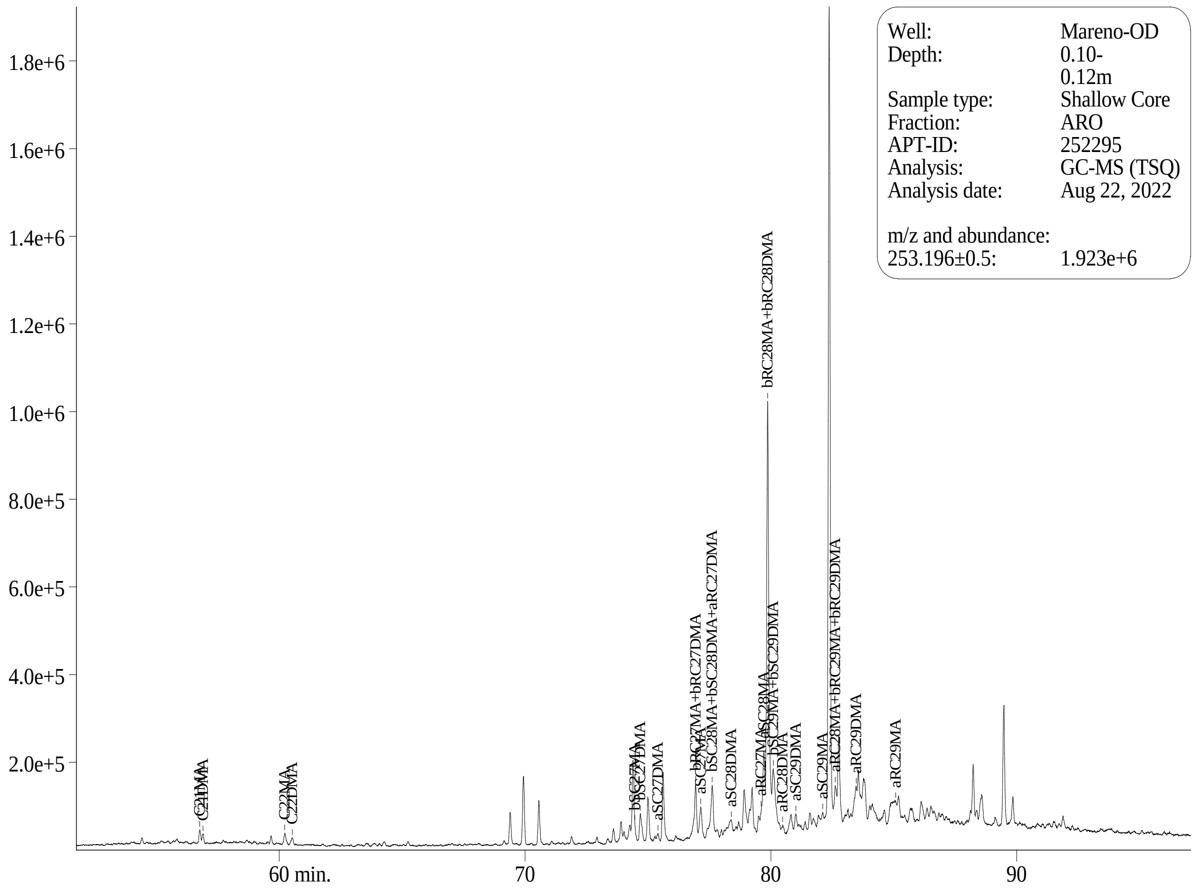

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
231.117±0.5: 8.981e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
70 min.
80
90
100
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA

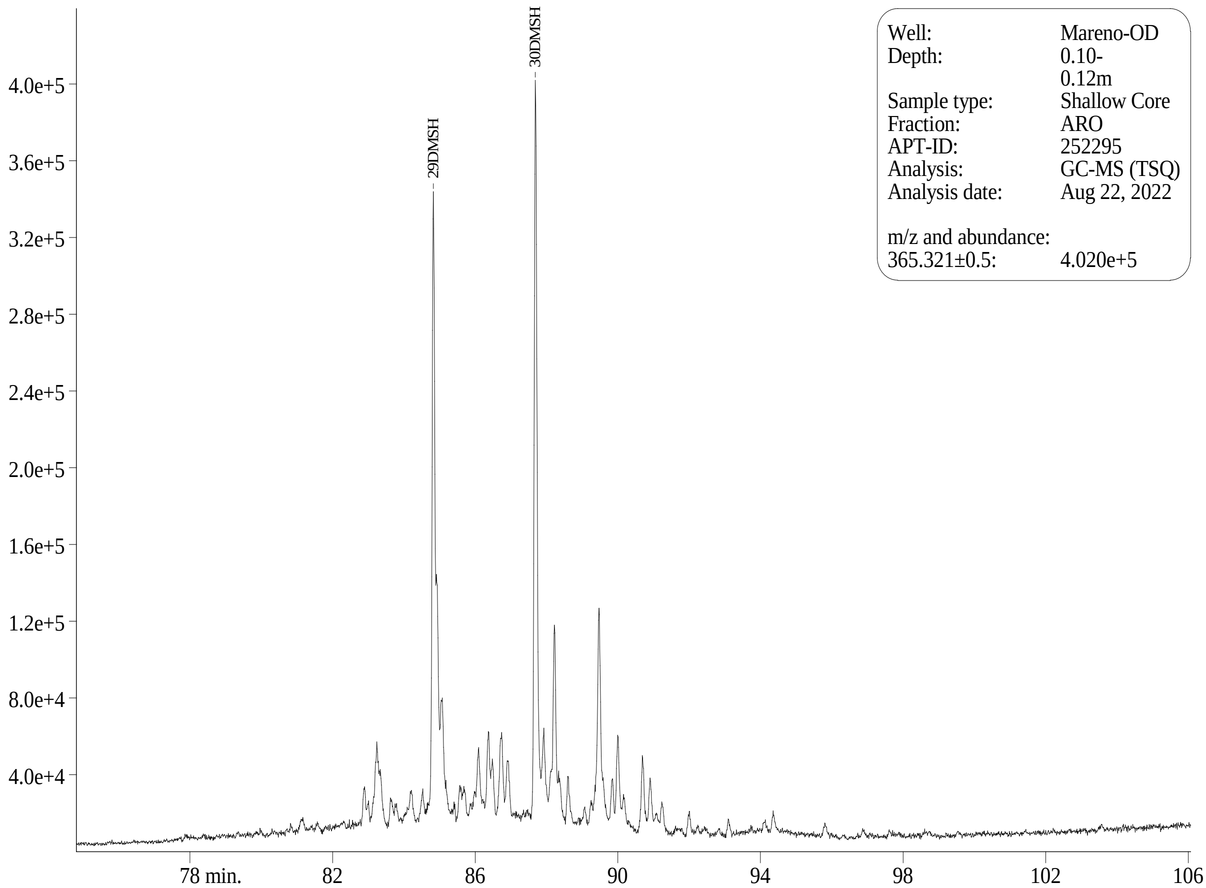


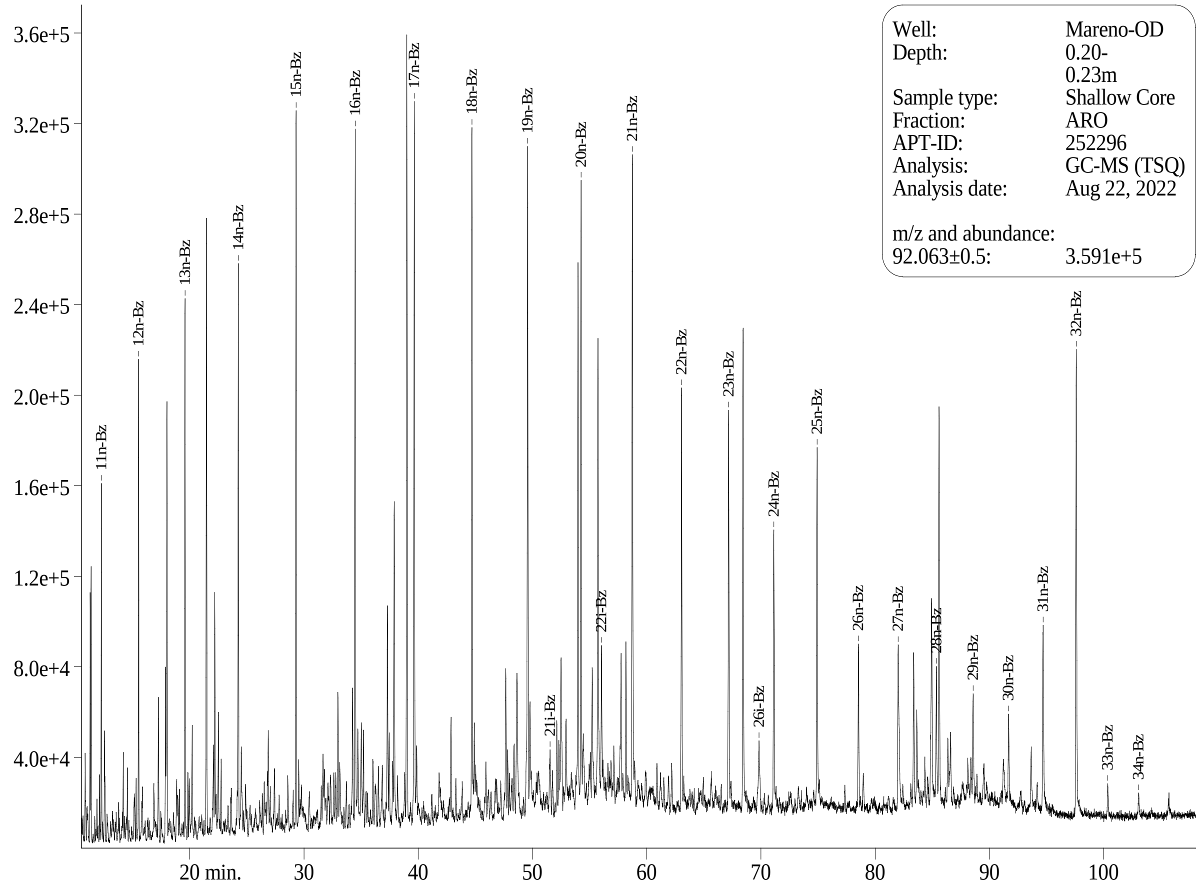
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
245.133±0.5: 8.521e+4
1.0e+5
9.0e+4
8.0e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
86 min.
88
90
92
94
96
98
100
102
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA

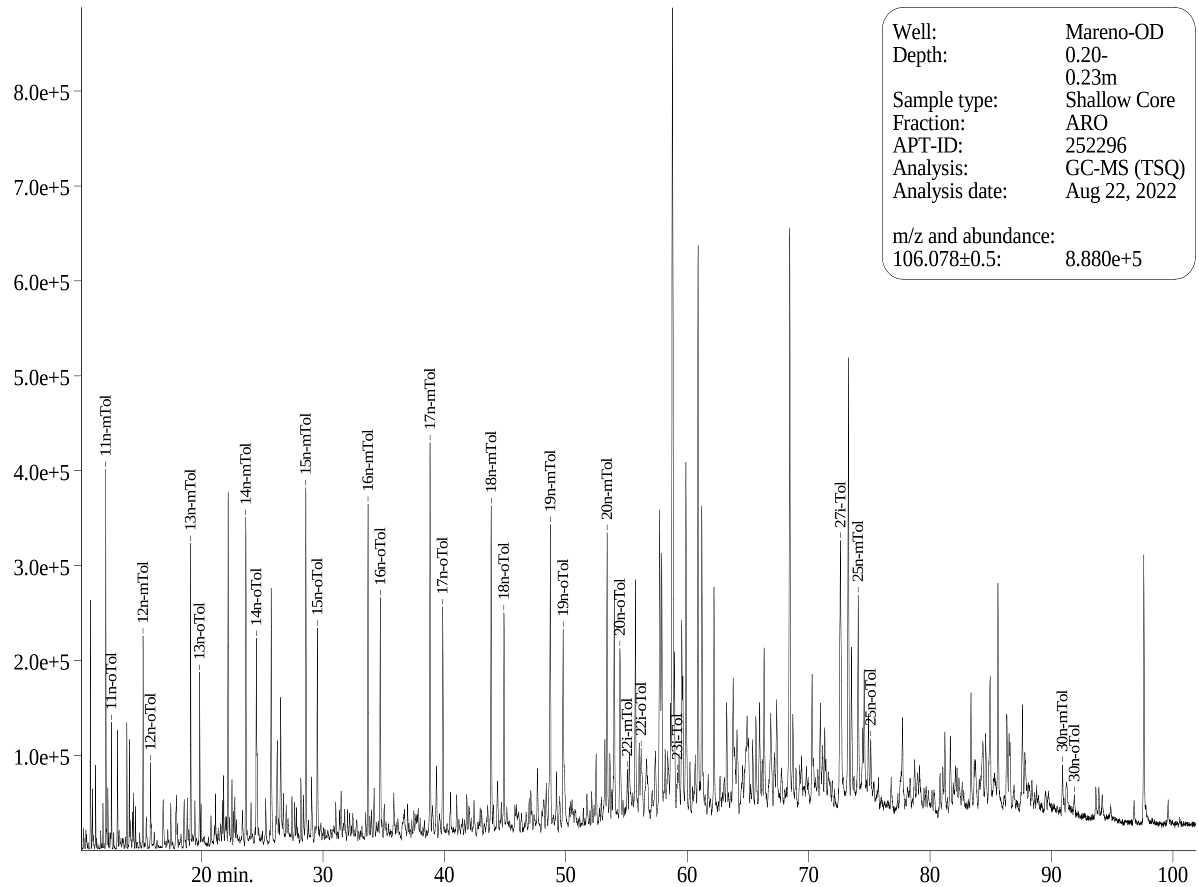


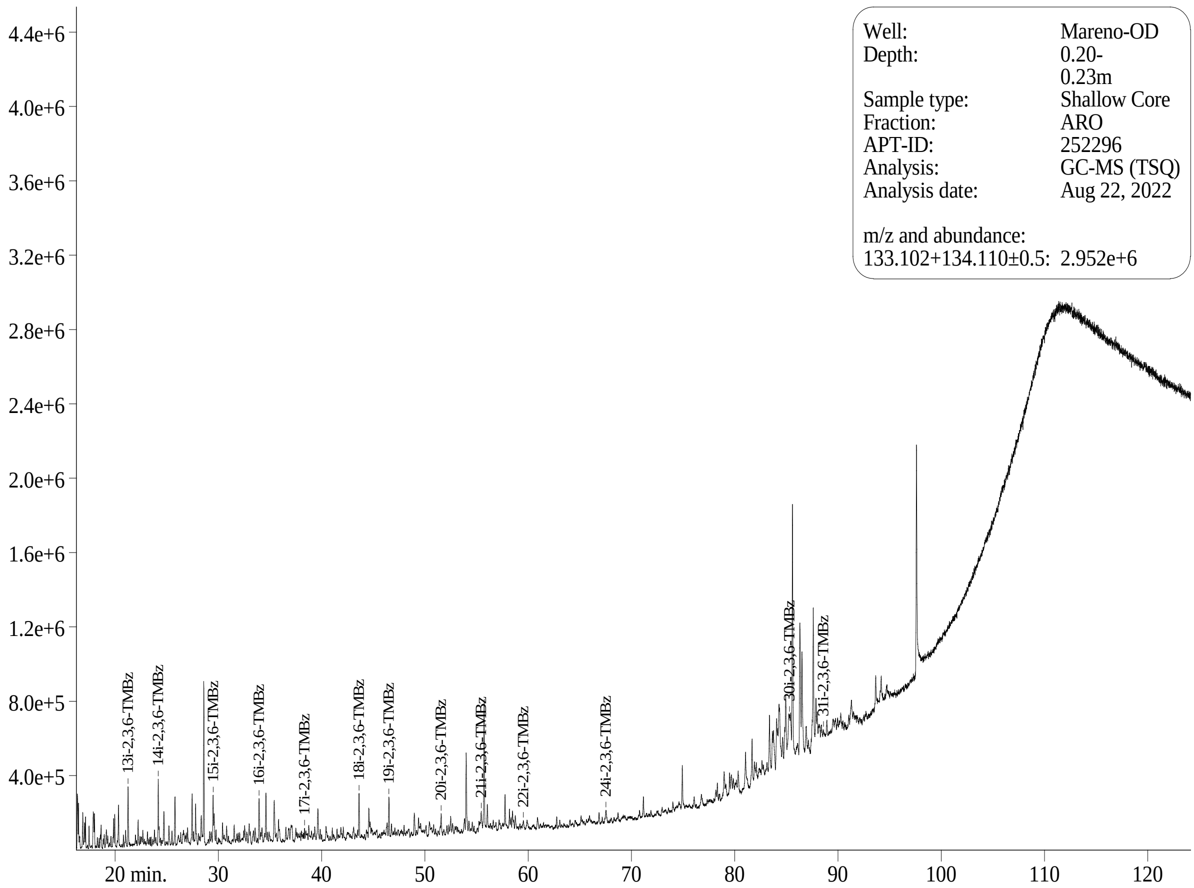
Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
252.094±0.5: 1.961e+7
253.196±0.5: 1.923e+6
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
72 min.
74
76
78
80
82
84
86
88
90
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
BzFa
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
Bz[e]Py
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
aRC29MA

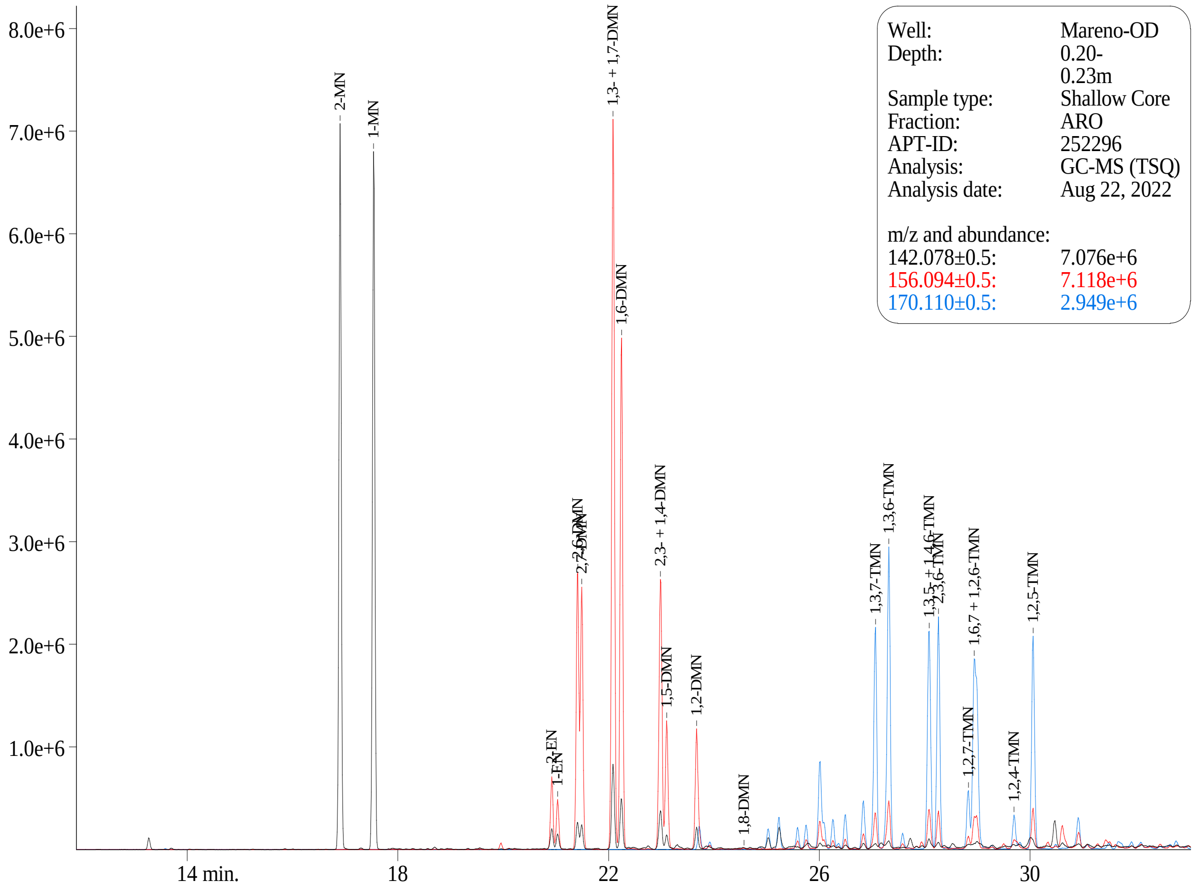

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
253.196±0.5: 1.923e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
60 min.
70
80
90
C21MA
C21DMA
C22MA
C22DMA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA

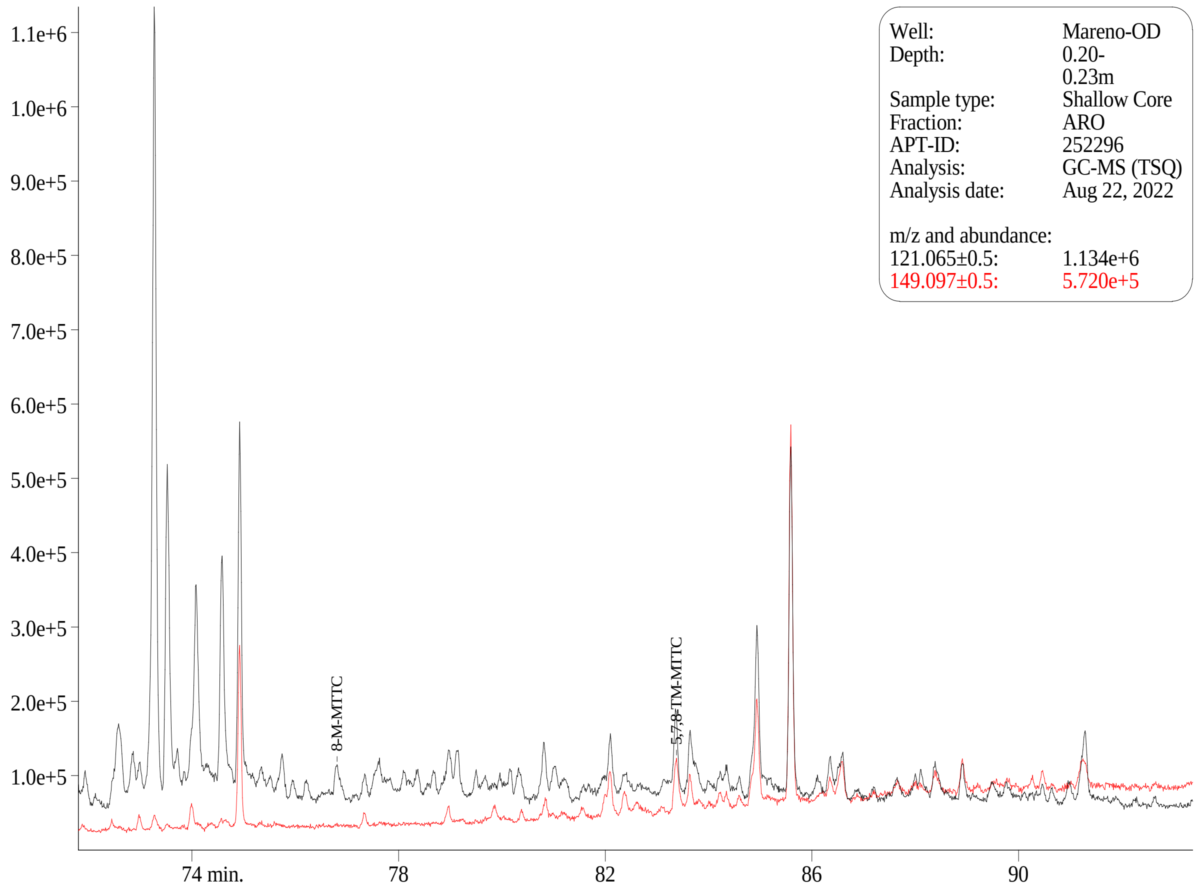

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252295
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
365.321±0.5: 4.020e+5
4.0e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
78 min.
82
86
90
94
98
102
106
29DMSH
30DMSH


Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
92.063±0.5: 3.591e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21n-Bz
21i-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
25n-Bz
26i-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

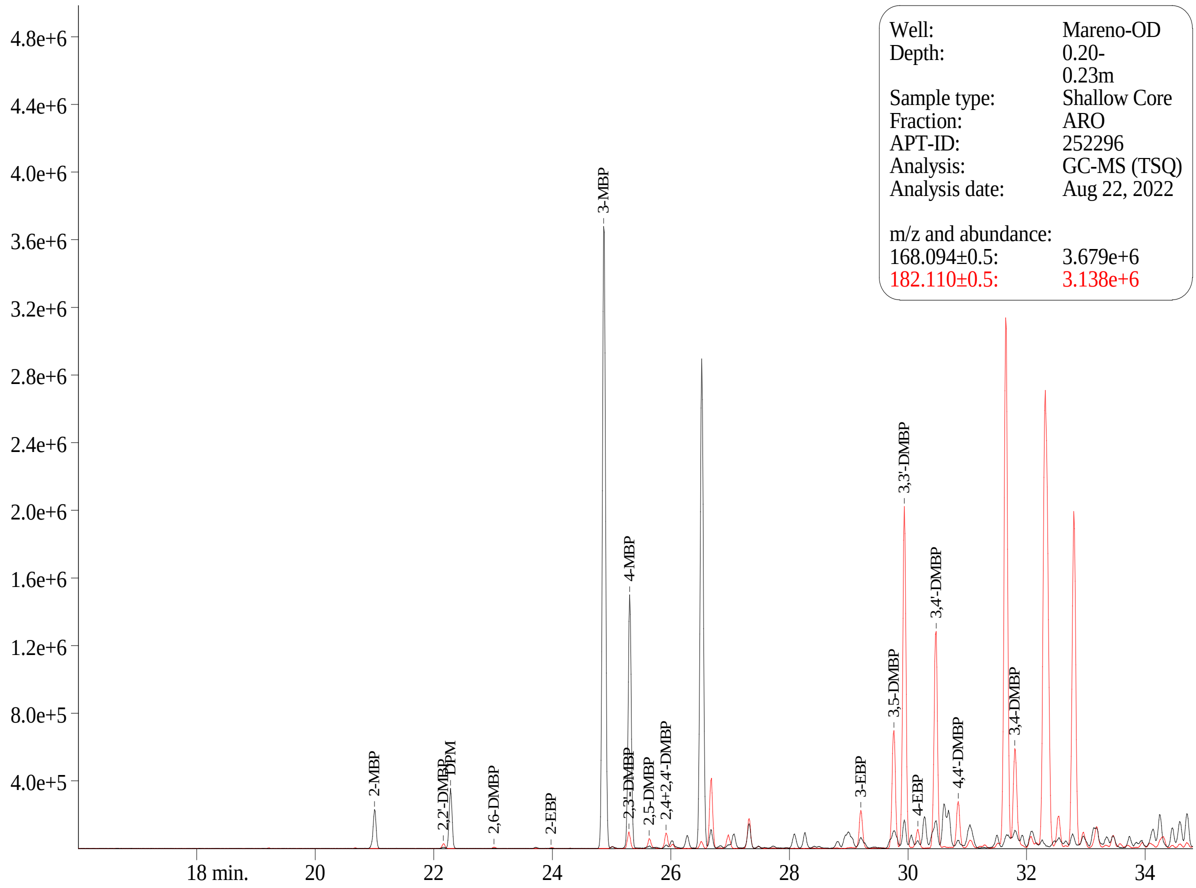

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
106.078±0.5: 8.880e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol


Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
133.102+134.110±0.5: 2.952e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.

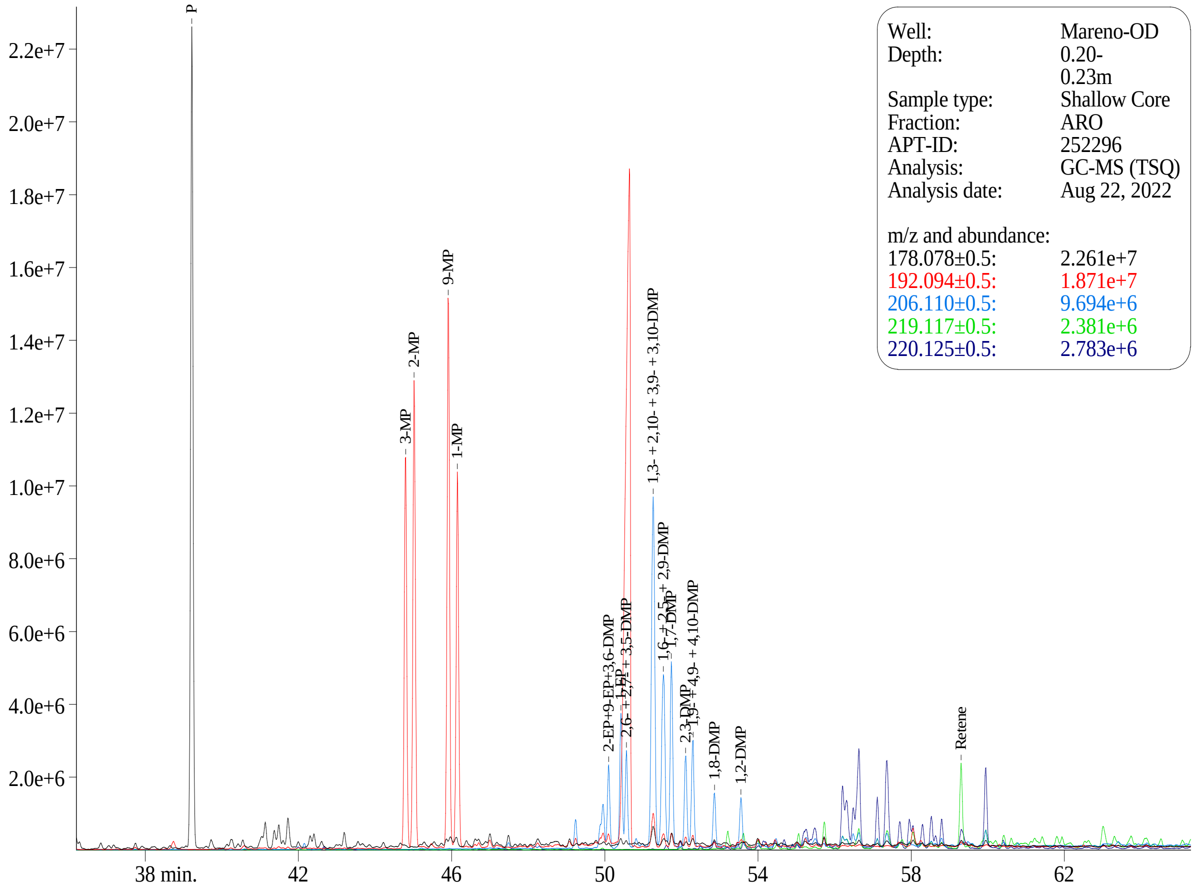

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
142.078±0.5: 7.076e+6
156.094±0.5: 7.118e+6
170.110±0.5: 2.949e+6
2-MN
1-MN
2-EN
1-EN
2,6-DMN
2,7-DMN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.

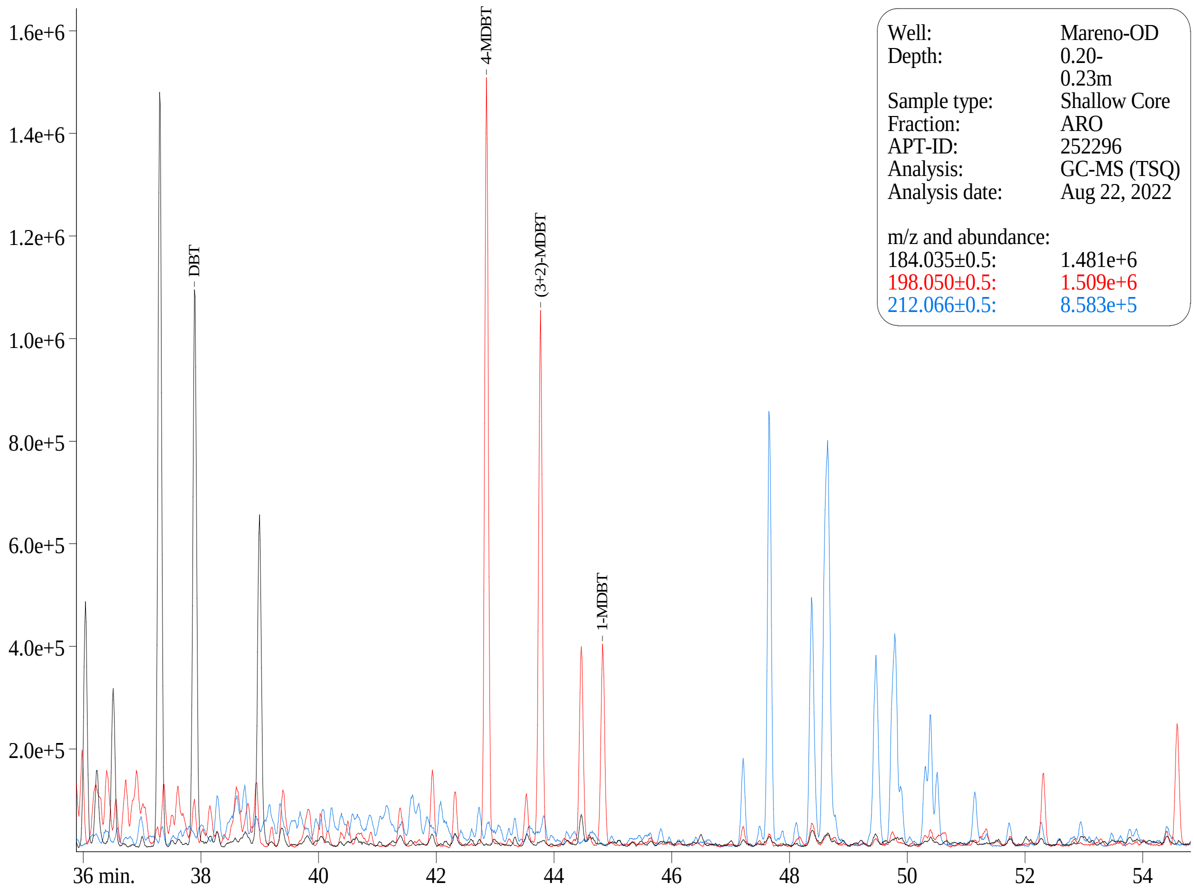


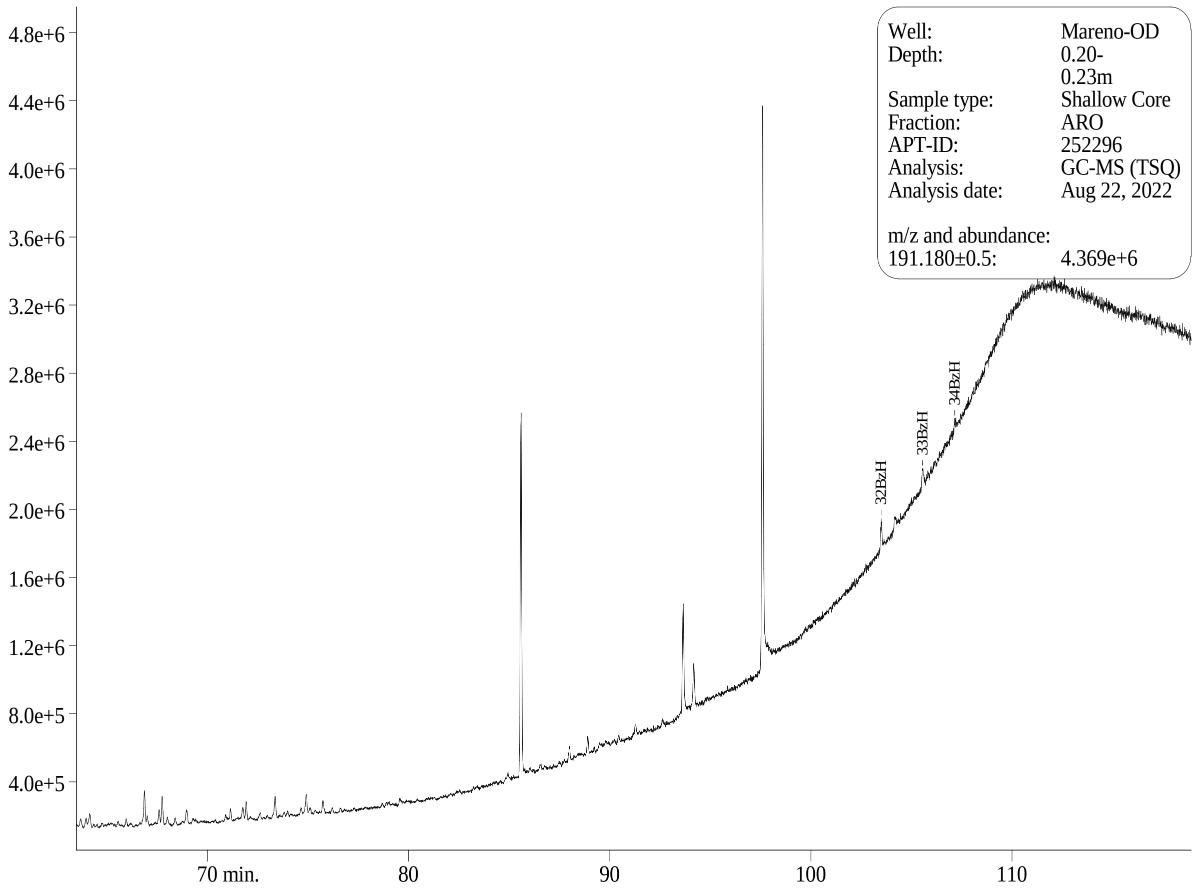
1.1e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90
Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
121.065±0.5: 1.134e+6
149.097±0.5: 5.720e+5

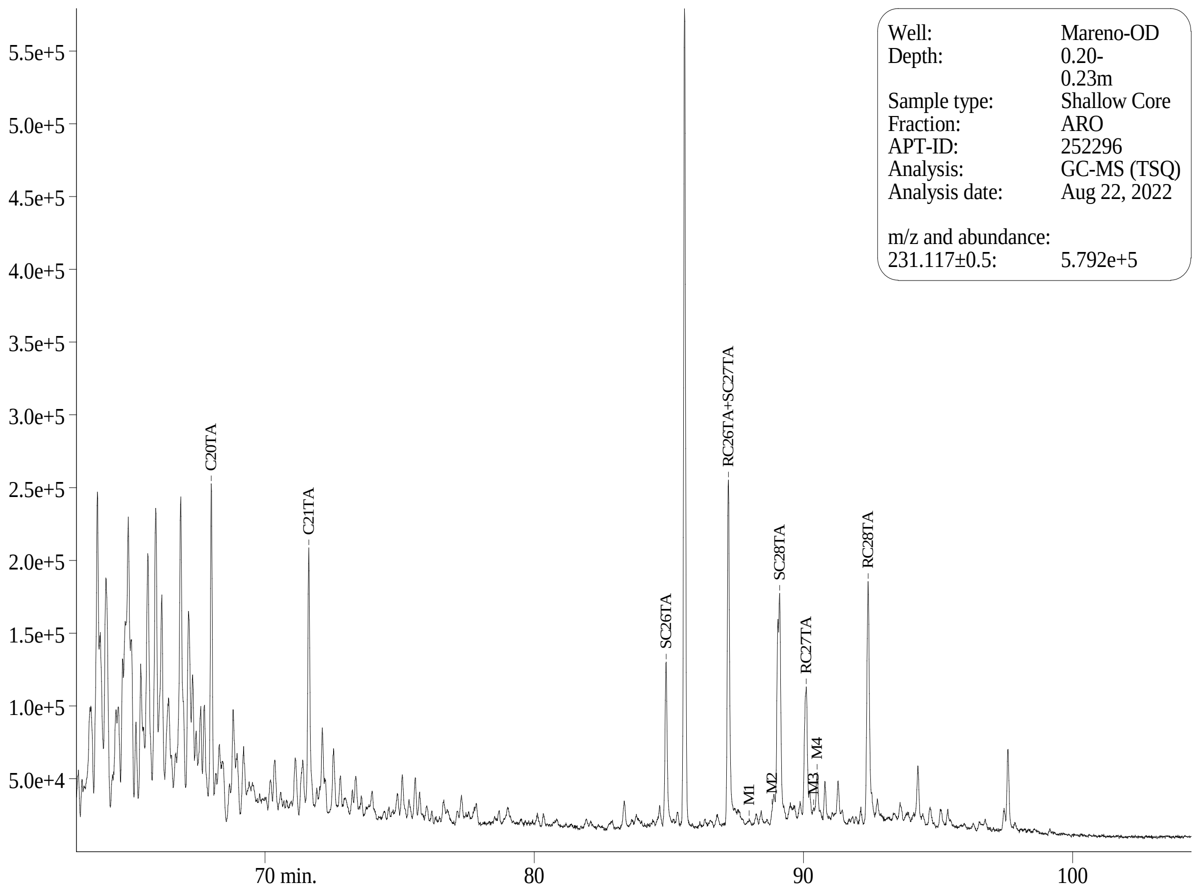


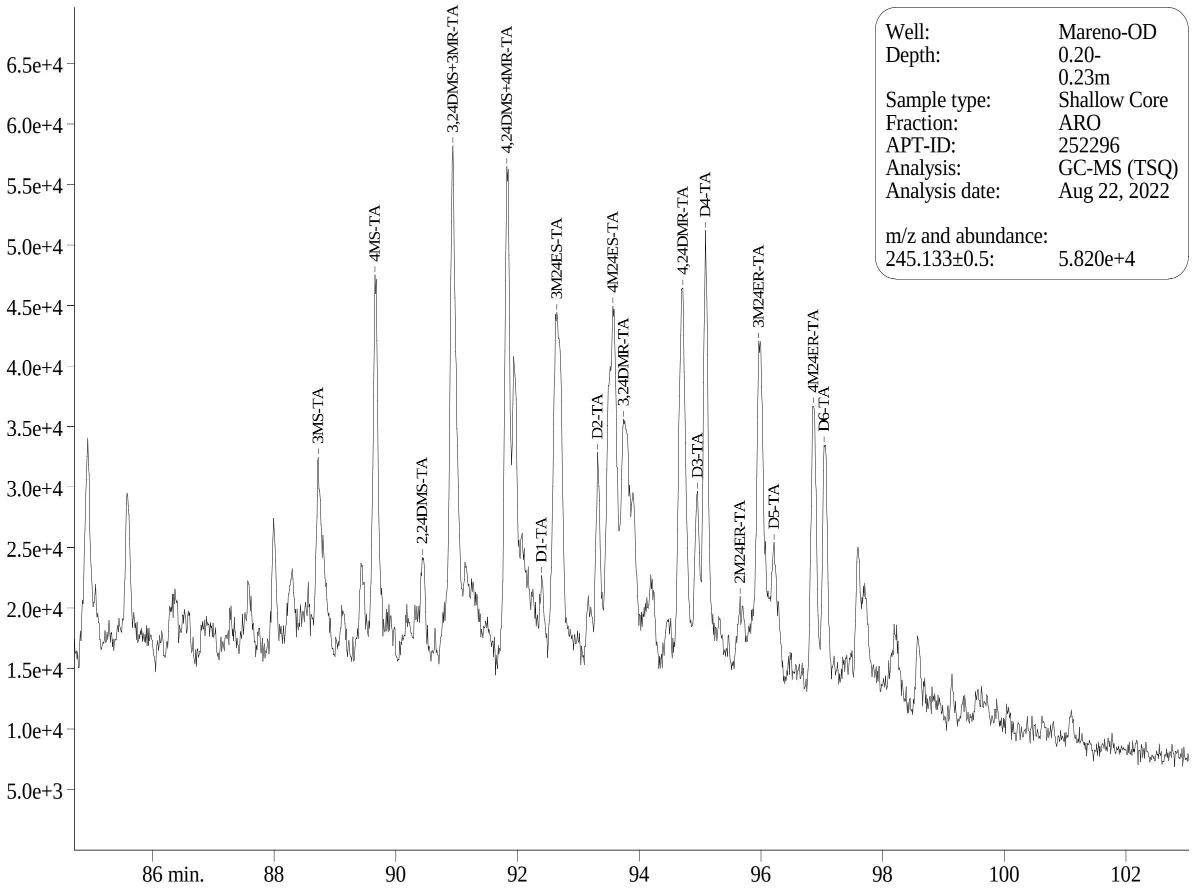
4.8e+6
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
4-MBP
2,3'-DMBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
18 min.
20
22
24
26
28
30
32
34
Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
168.094±0.5: 3.679e+6
182.110±0.5: 3.138e+6

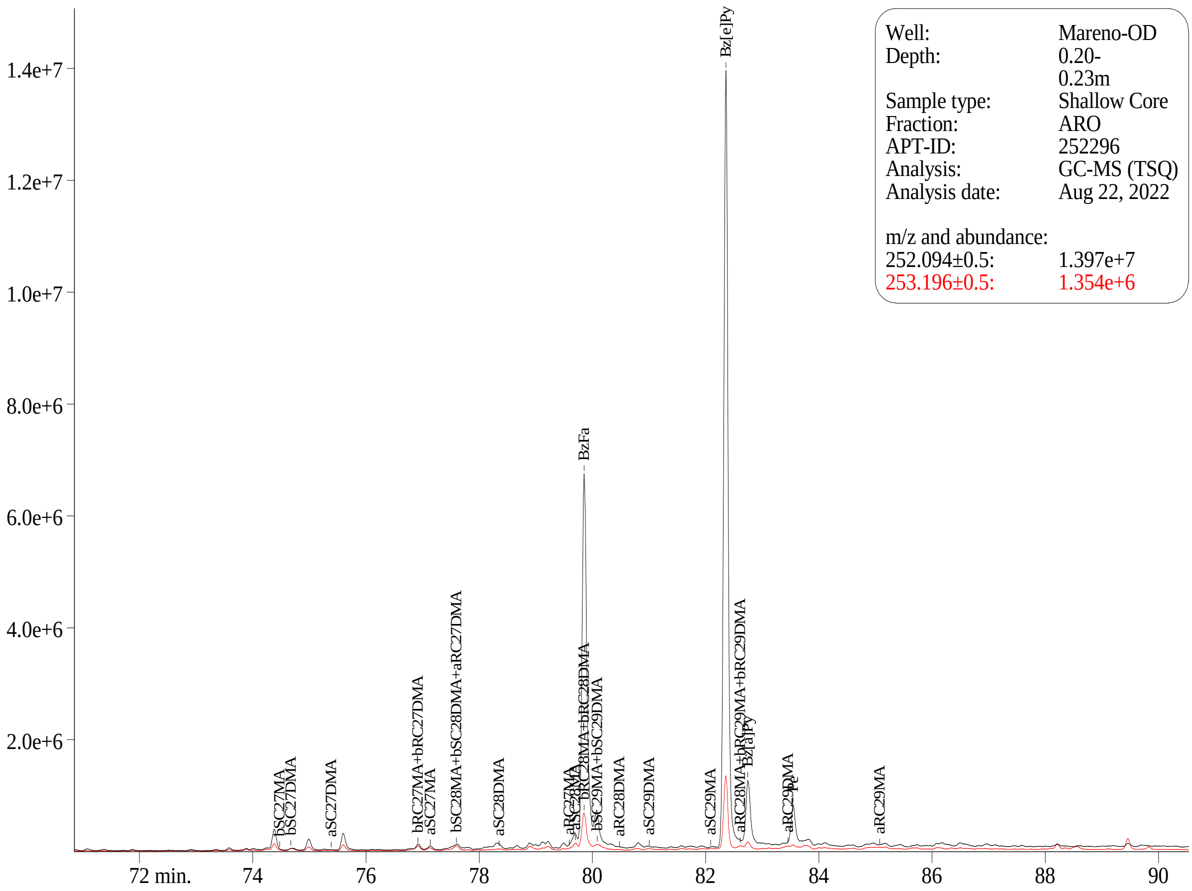

P
3-MP
2-MP
9-MP
1-MP
2-EP+9-EP+3,6-DMP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,8-DMP
1,2-DMP
Retene
2.2e+7
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
38 min.
42
46
50
54
58
62
Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
178.078±0.5: 2.261e+7
192.094±0.5: 1.871e+7
206.110±0.5: 9.694e+6
219.117±0.5: 2.381e+6
220.125±0.5: 2.783e+6

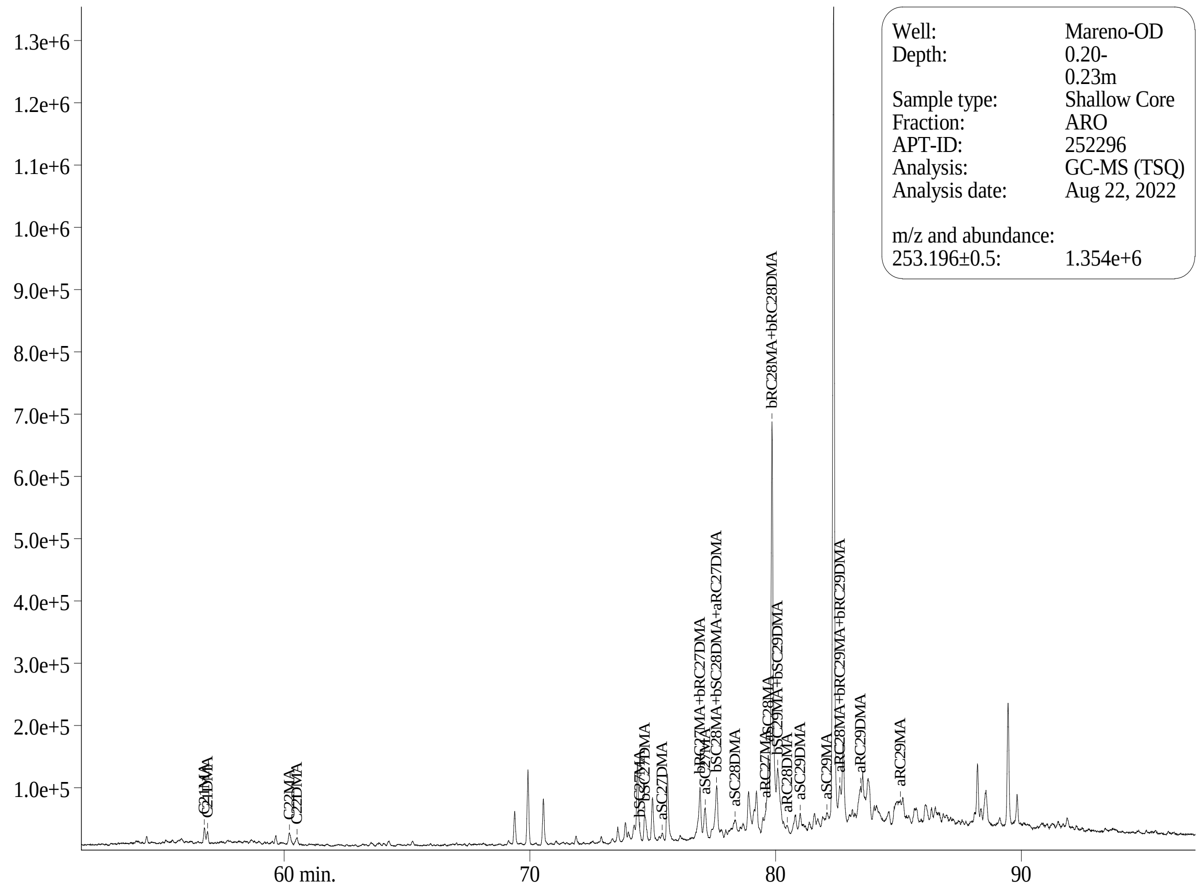

DBT
4-MDBT
(3+2)-MDBT
1-MDBT
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
36 min.
38
40
42
44
46
48
50
52
54
Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
184.035±0.5: 1.481e+6
198.050±0.5: 1.509e+6
212.066±0.5: 8.583e+5

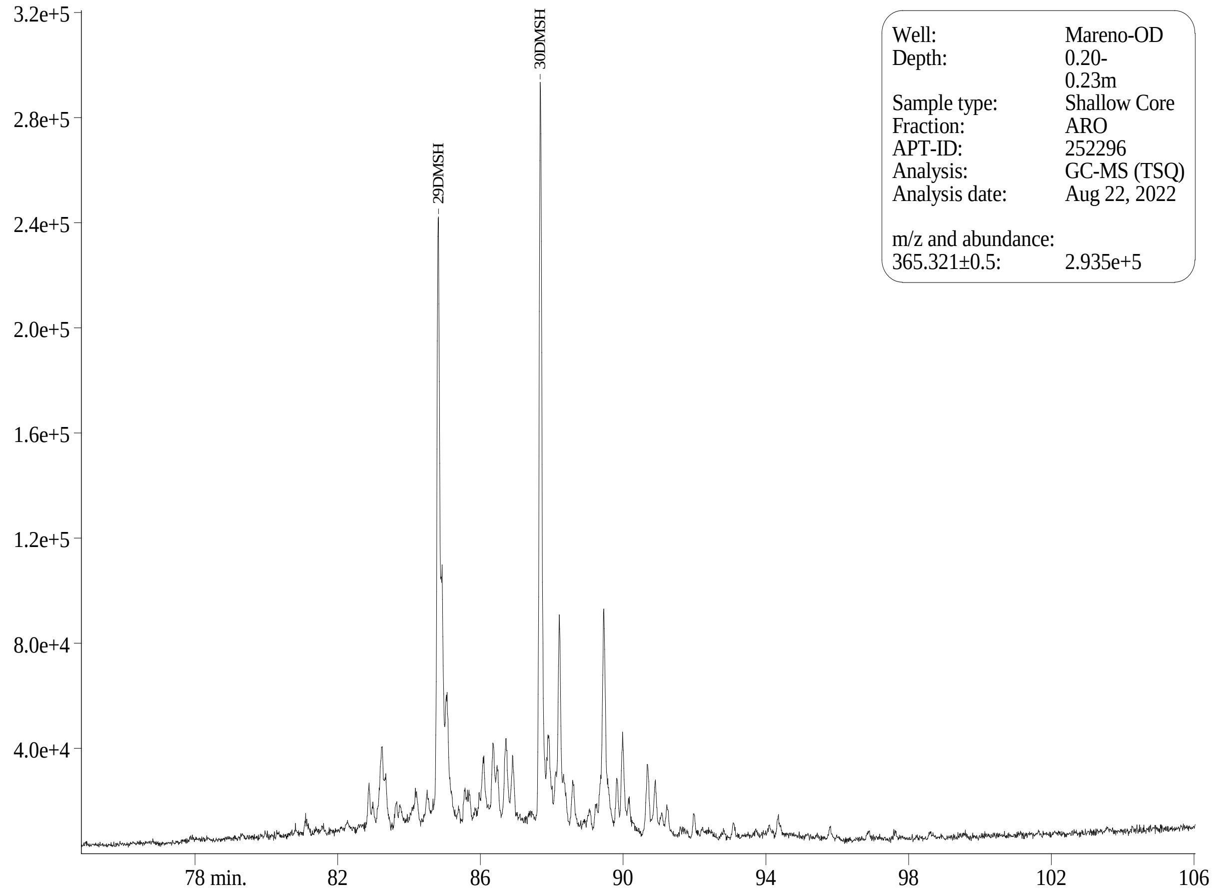

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
191.180±0.5: 4.369e+6
32BzH
33BzH
34BzH
4.8e+6
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
70 min.
80
90
100
110

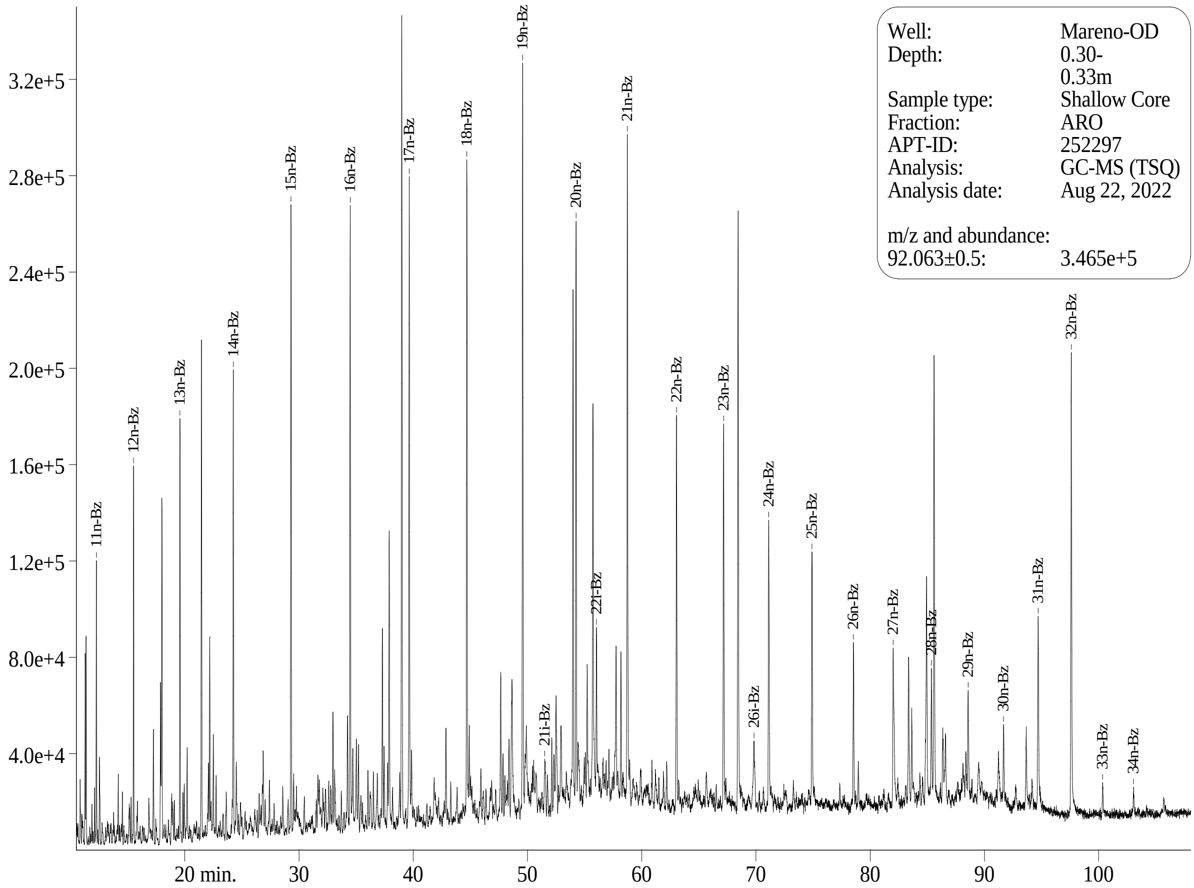

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
231.117±0.5: 5.792e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
70 min.
80
90
100


Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
245.133±0.5: 5.820e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
86 min.
88
90
92
94
96
98
100
102

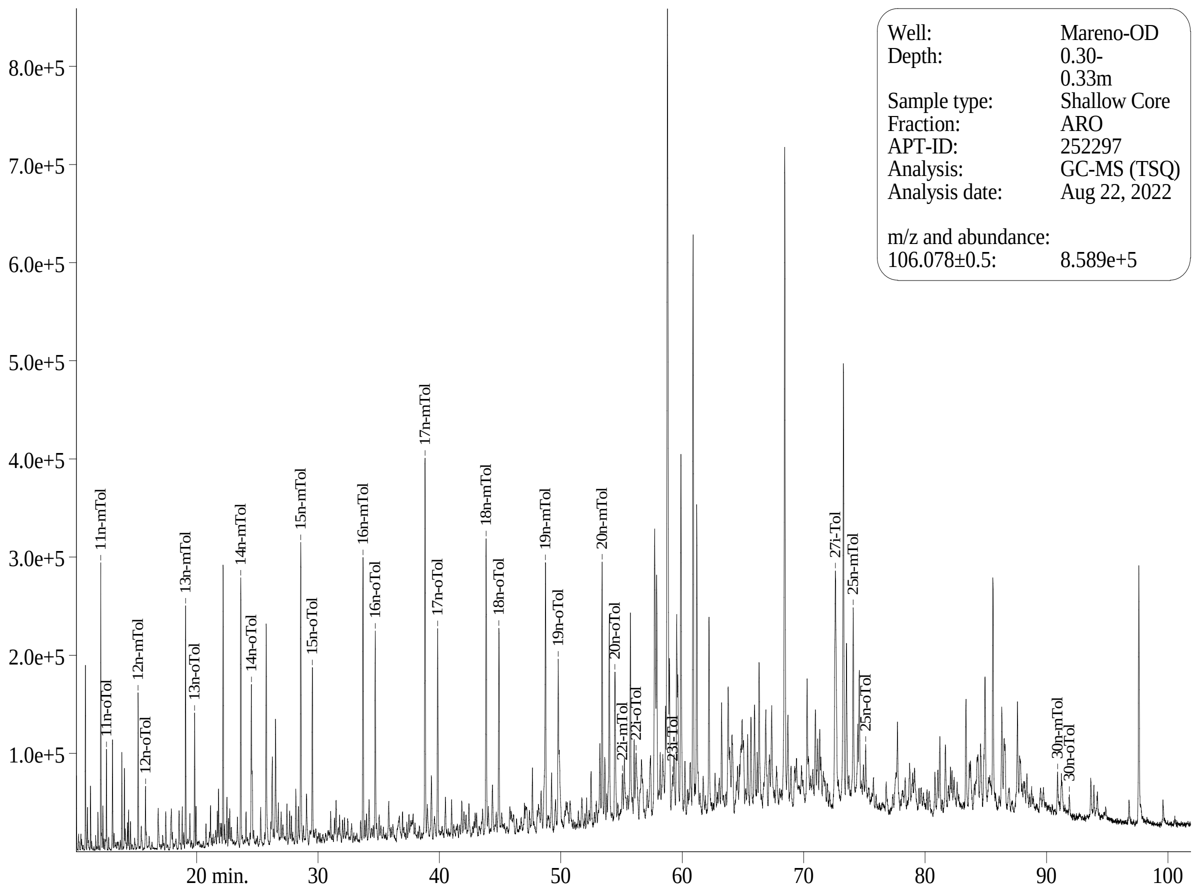

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
252.094±0.5: 1.397e+7
253.196±0.5: 1.354e+6
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
aRC29MA
72 min.
74
76
78
80
82
84
86
88
90


Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
253.196±0.5: 1.354e+6
bRC28MA+bRC28DMA
aSC28MA+bRC28MA+bRC29MA+bRC29DMA
bSC28MA+bSC28DMA+aRC27DMA
bRC27MA+bRC27DMA
aSC29MA+bSC29DMA
aSC28DMA
aSC27DMA
aRC29DMA
aRC29MA
aSC29DMA
aSC29MA
aRC28DMA
C21MA
C21DMA
C22MA
C22DMA
1.3e+6
1.2e+6
1.1e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
60 min.
70
80
90

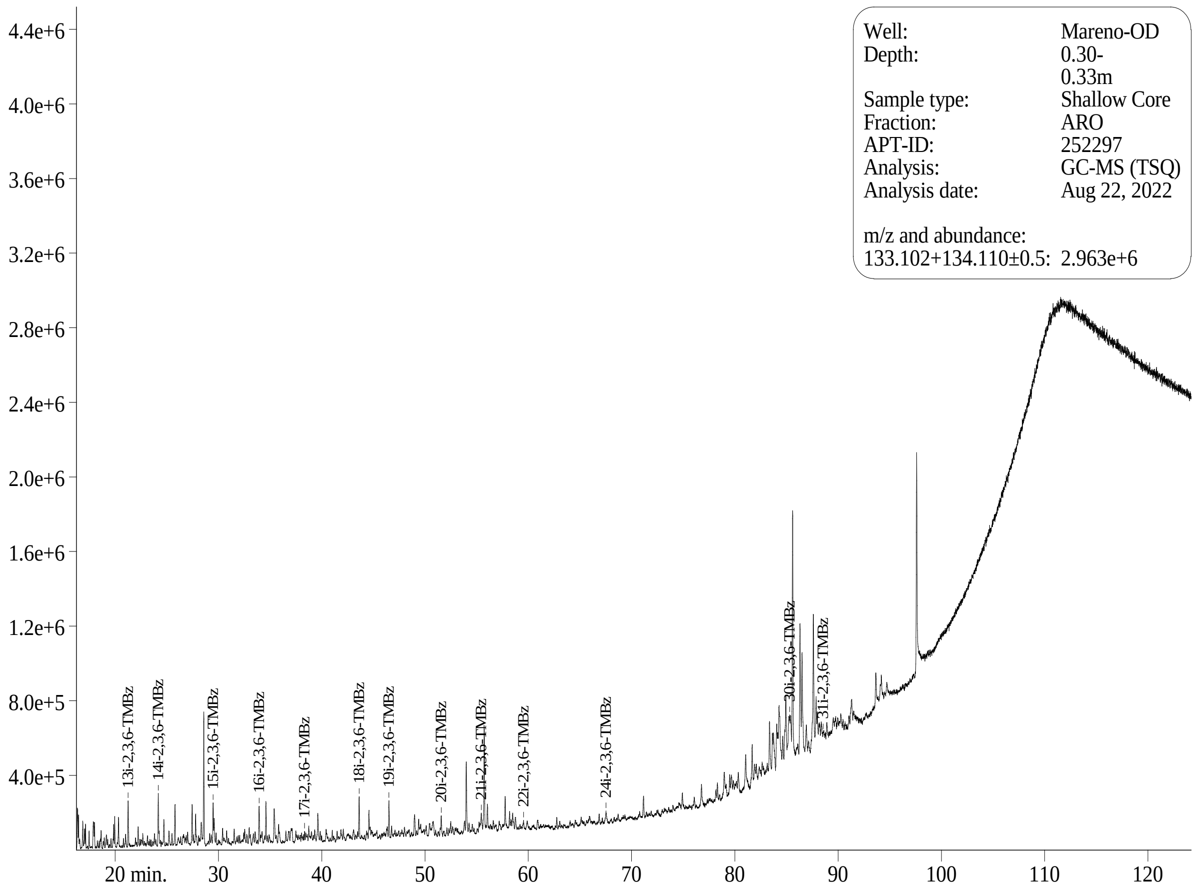

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252296
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
365.321±0.5: 2.935e+5
30DMSH
29DMSH
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
78 min.
82
86
90
94
98
102
106

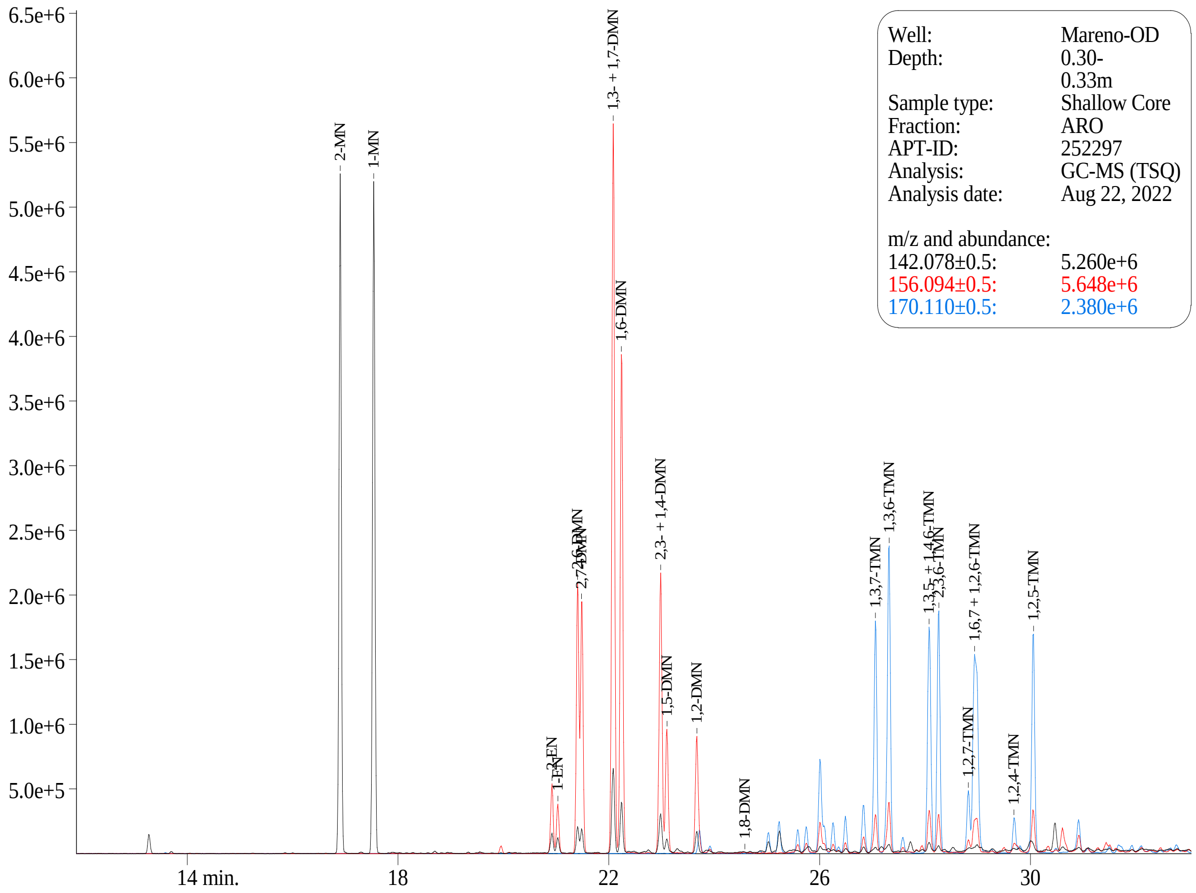


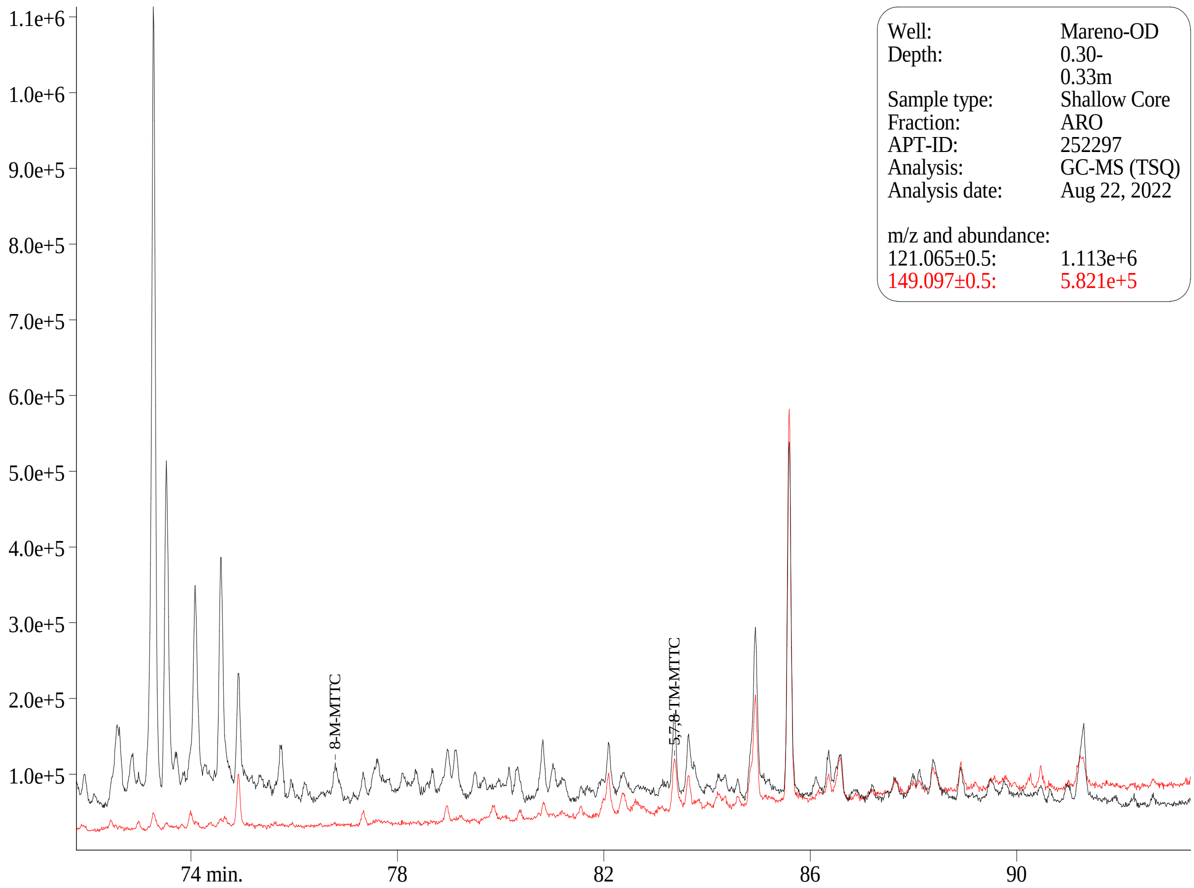
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
92.063±0.5: 3.465e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
21n-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
25n-Bz
26i-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz



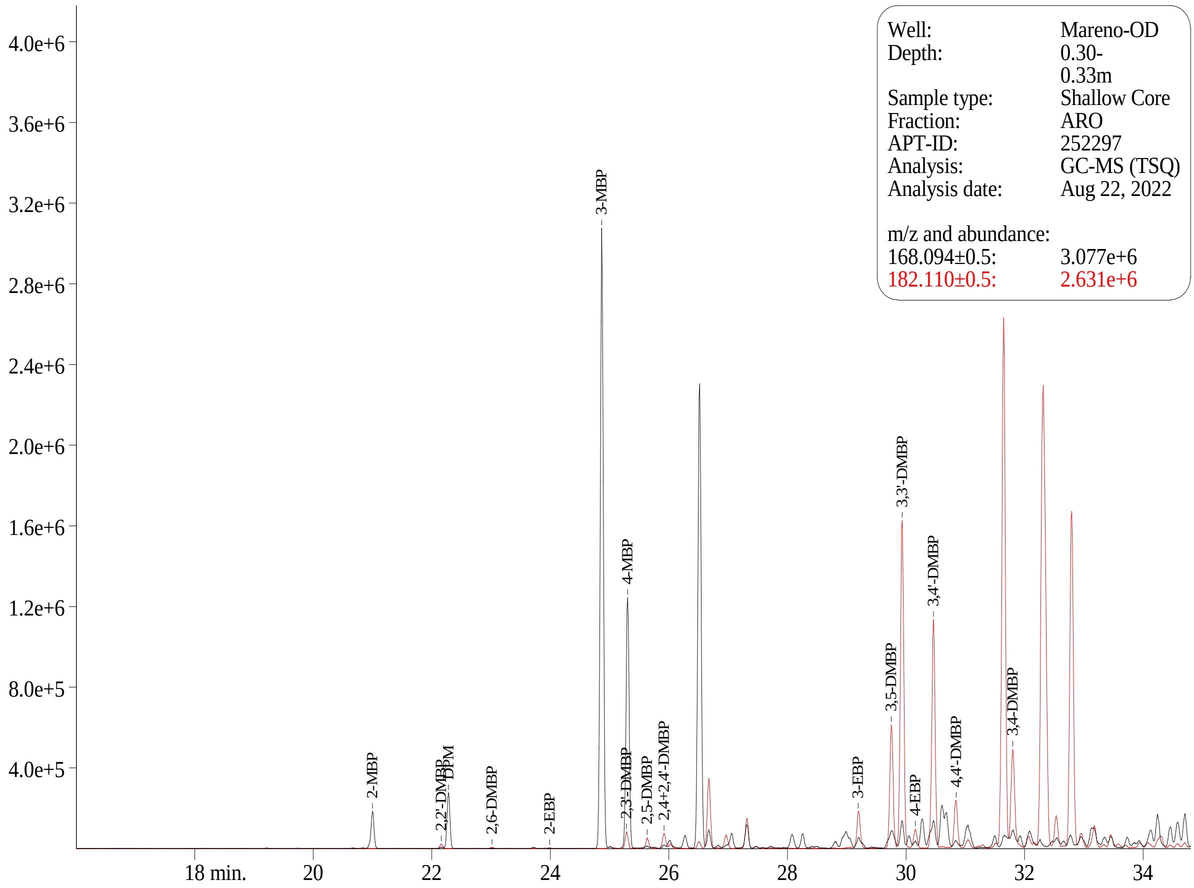
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
106.078±0.5: 8.589e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol


Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
133.102+134.110±0.5: 2.963e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.

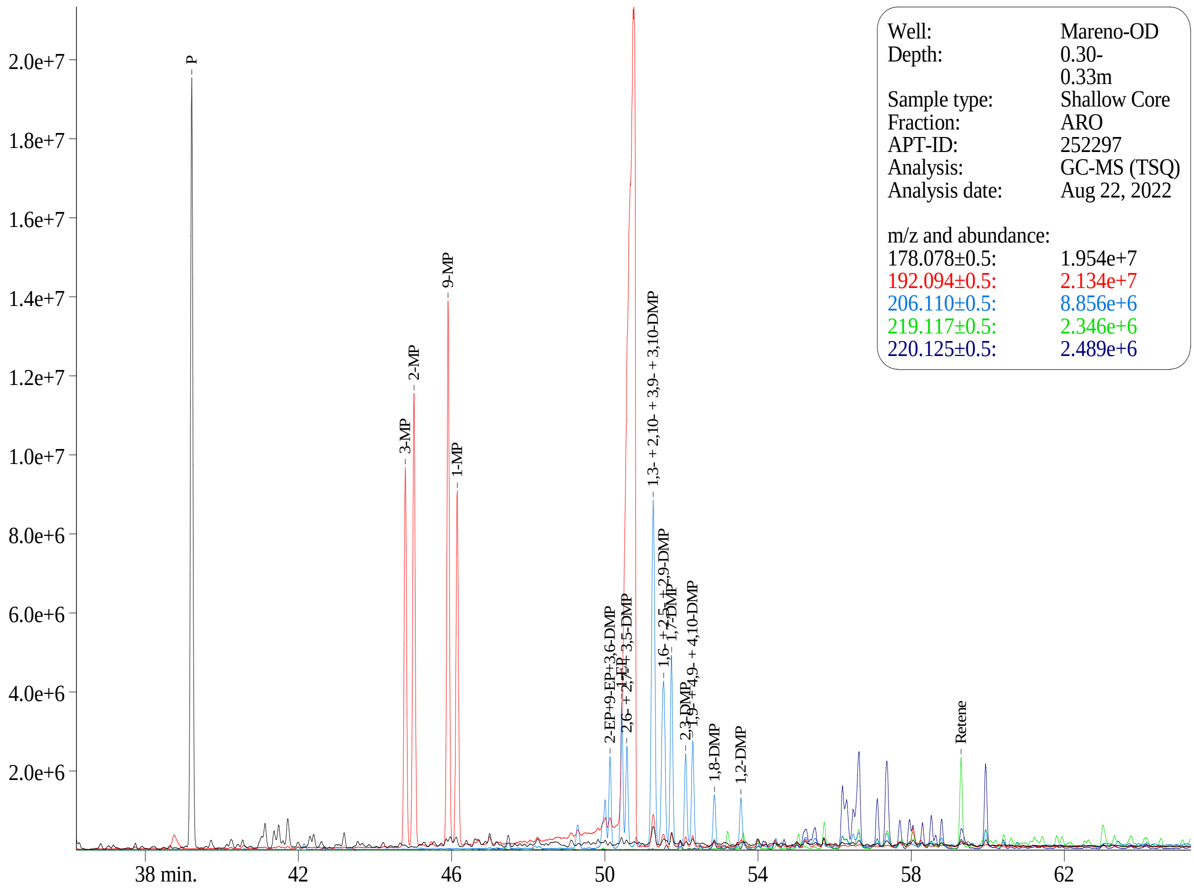

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
142.078±0.5: 5.260e+6
156.094±0.5: 5.648e+6
170.110±0.5: 2.380e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.

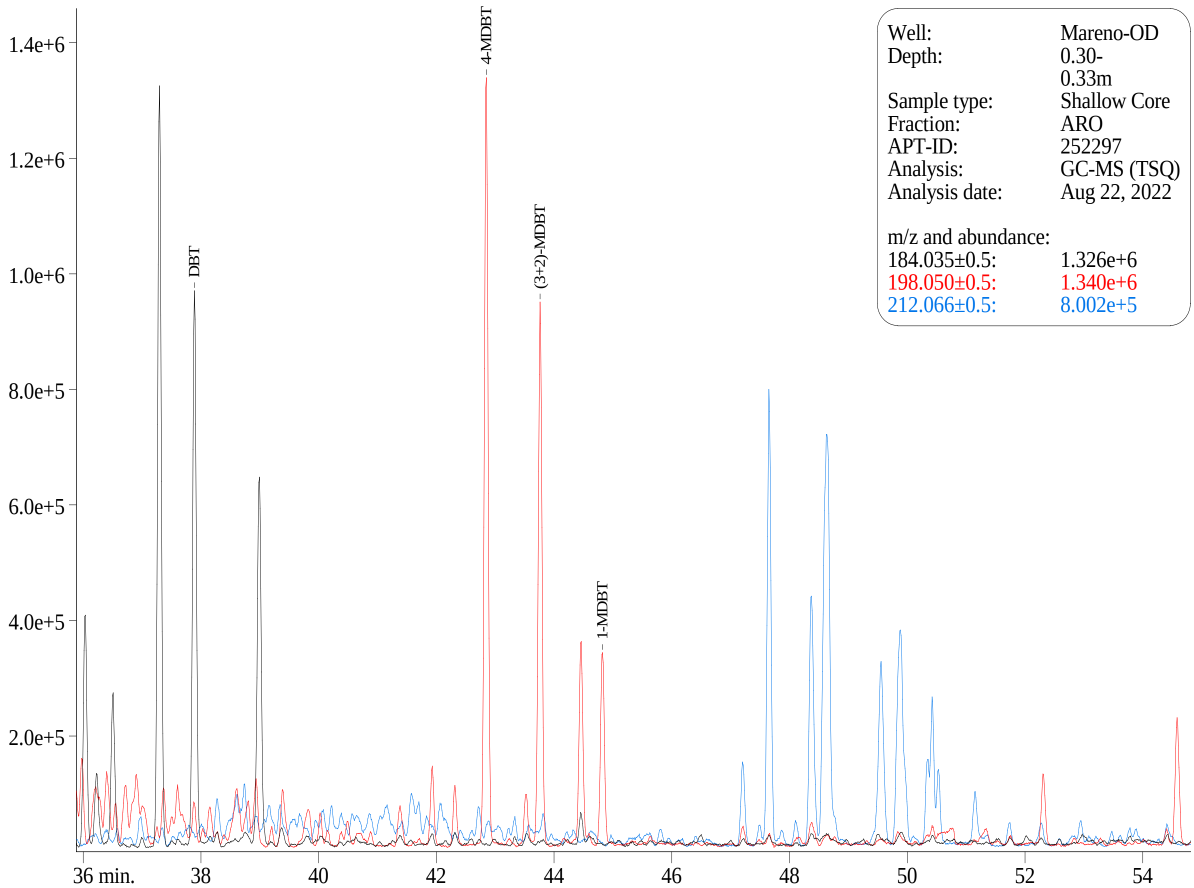


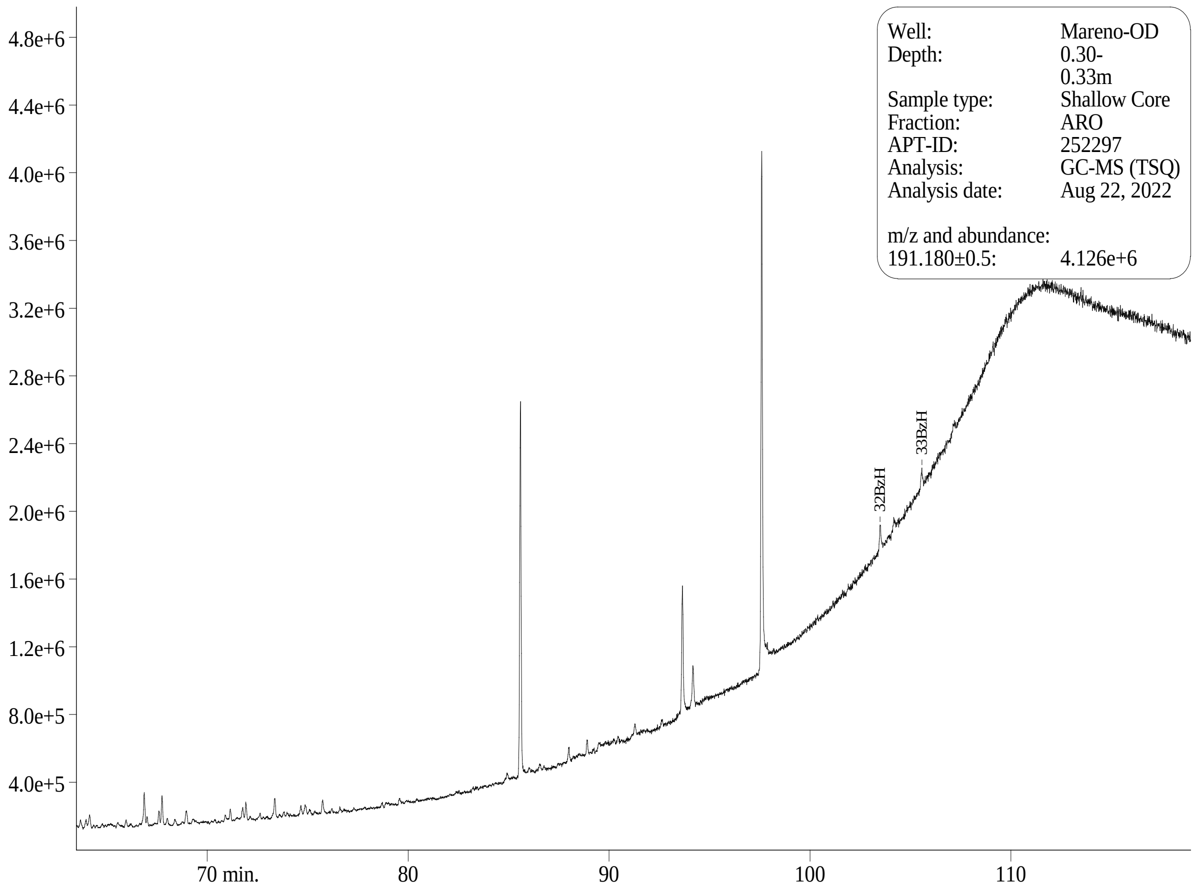
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
121.065±0.5: 1.113e+6
149.097±0.5: 5.821e+5
8-M-MTTC
5,7,8-TM-MTTC
1.1e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
74 min.
78
82
86
90

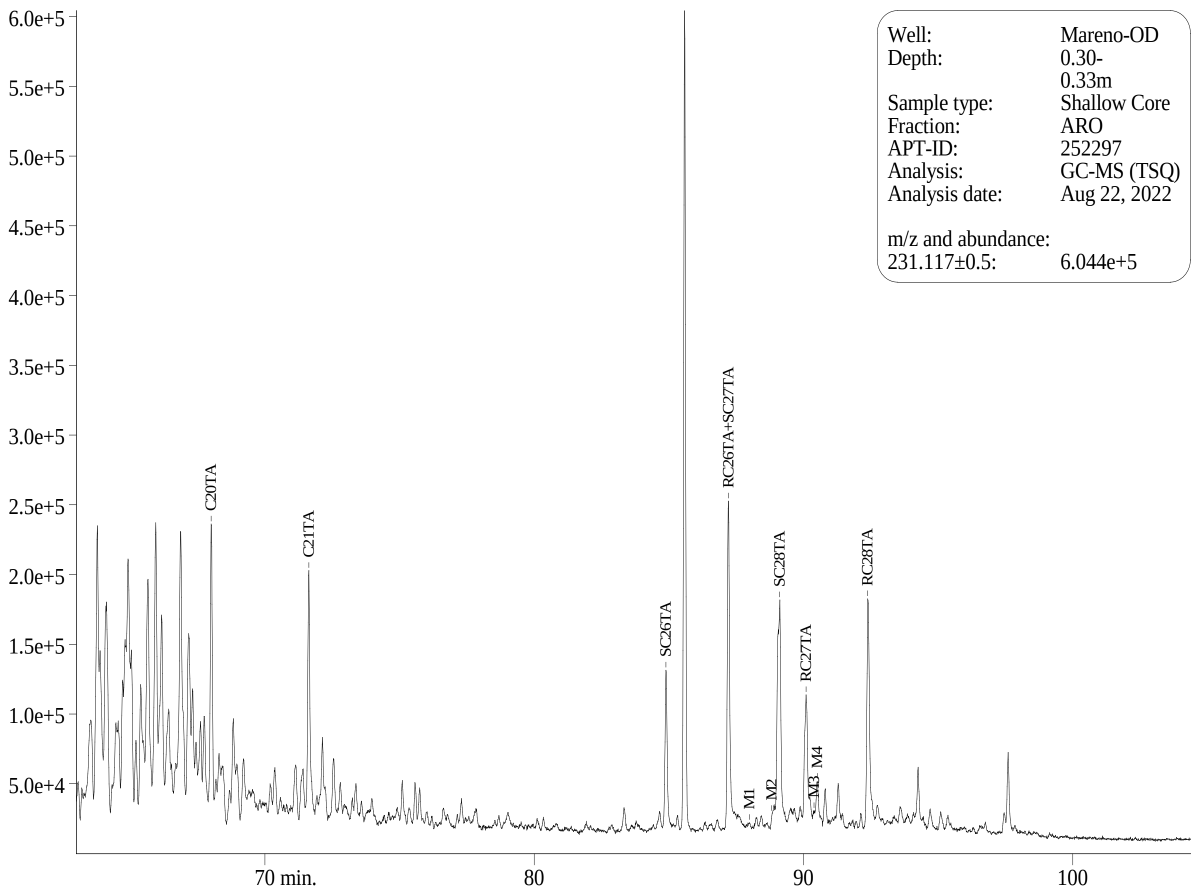


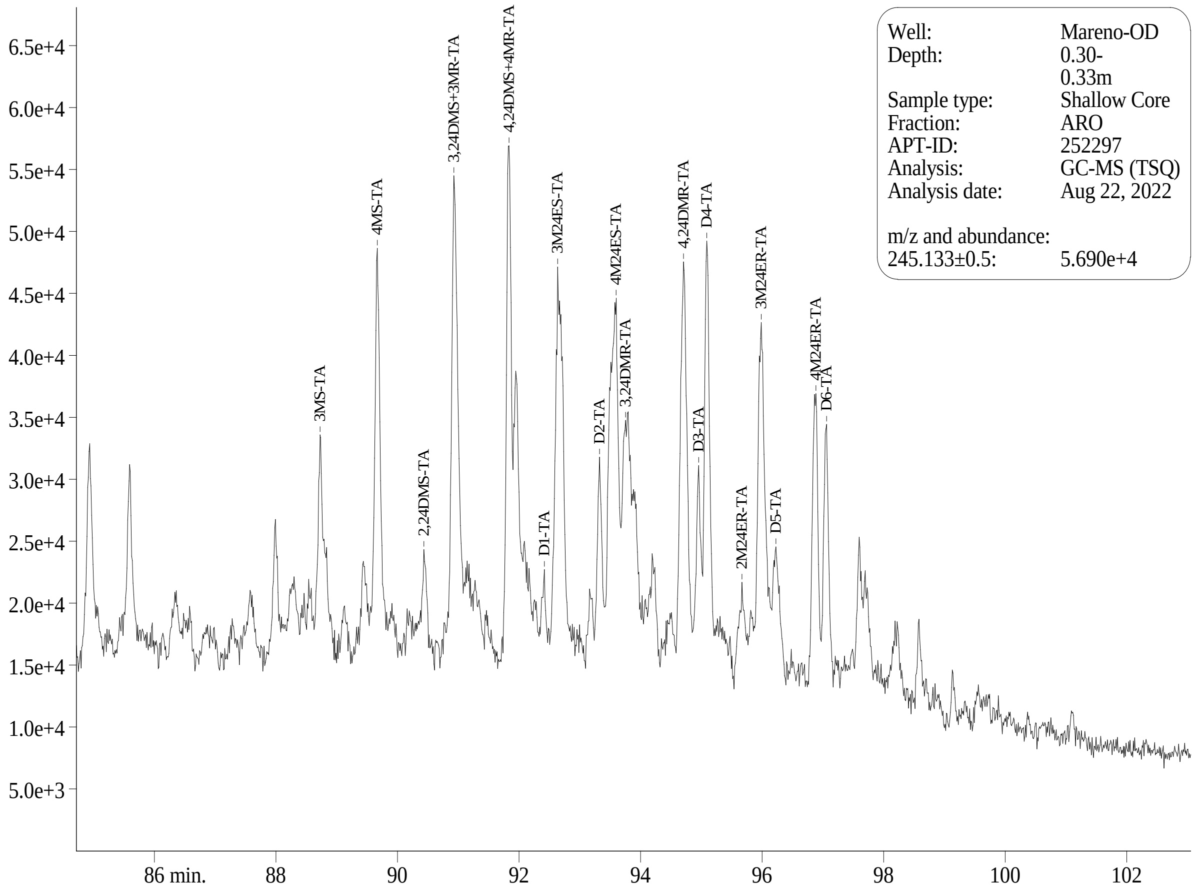
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
168.094±0.5: 3.077e+6
182.110±0.5: 2.631e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3'-DMBP
4-MBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
18 min.
20
22
24
26
28
30
32
34


Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
178.078±0.5: 1.954e+7
192.094±0.5: 2.134e+7
206.110±0.5: 8.856e+6
219.117±0.5: 2.346e+6
220.125±0.5: 2.489e+6
P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
2-EP+9-EP+3,6-DMP
3,5-DMP
1,7-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
38 min.
42
46
50
54
58
62

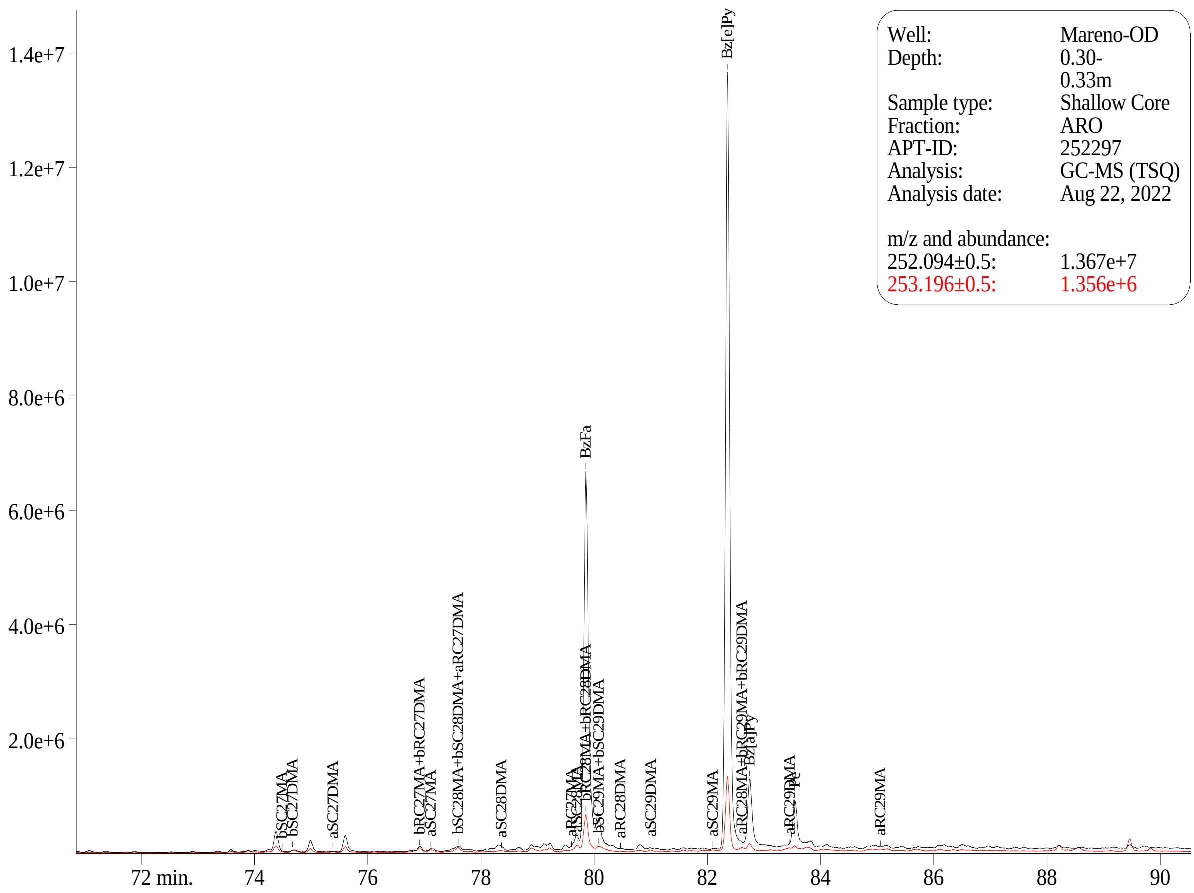

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
184.035±0.5: 1.326e+6
198.050±0.5: 1.340e+6
212.066±0.5: 8.002e+5
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
36 min.
38
40
42
44
46
48
50
52
54


Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
191.180±0.5: 4.126e+6
4.8e+6
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
32BzH
33BzH
70 min.
80
90
100
110

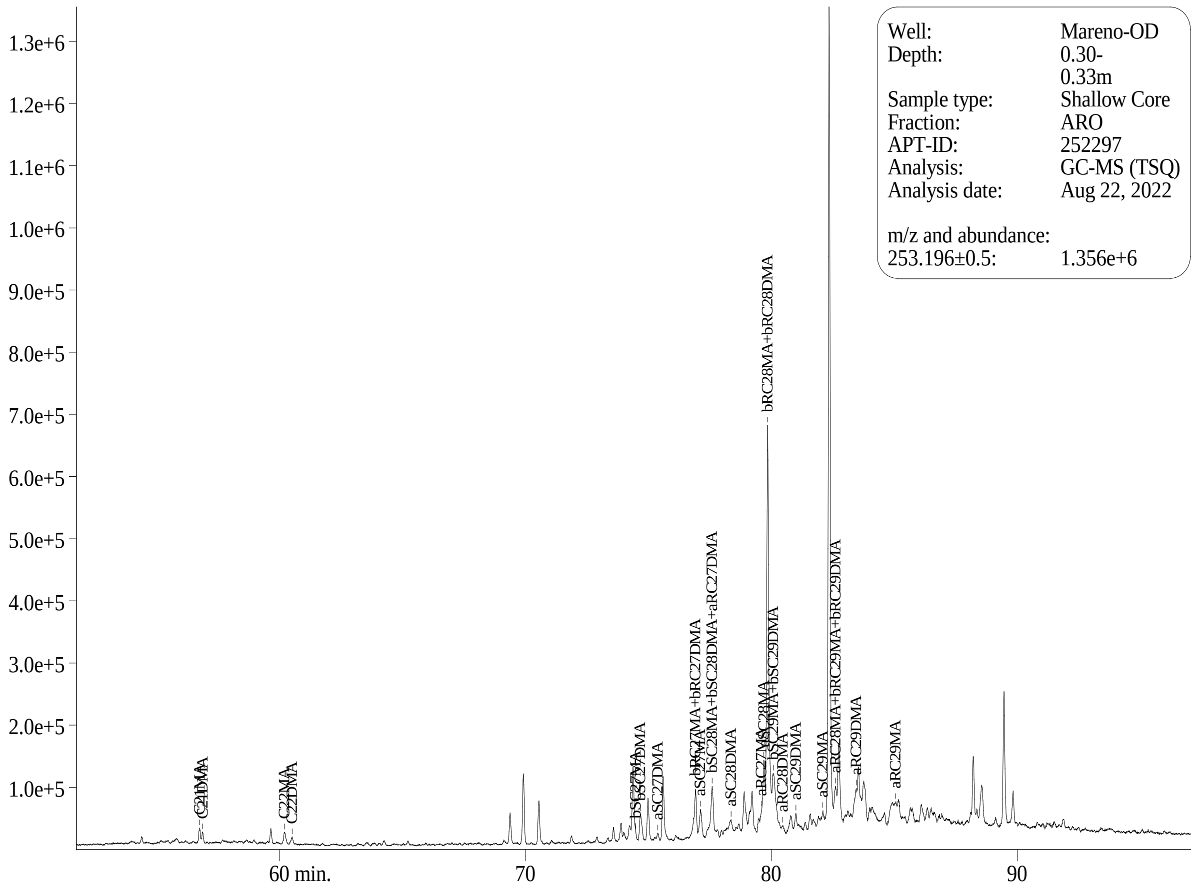

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
231.117±0.5: 6.044e+5
6.0e+5
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
70 min.
80
90
100

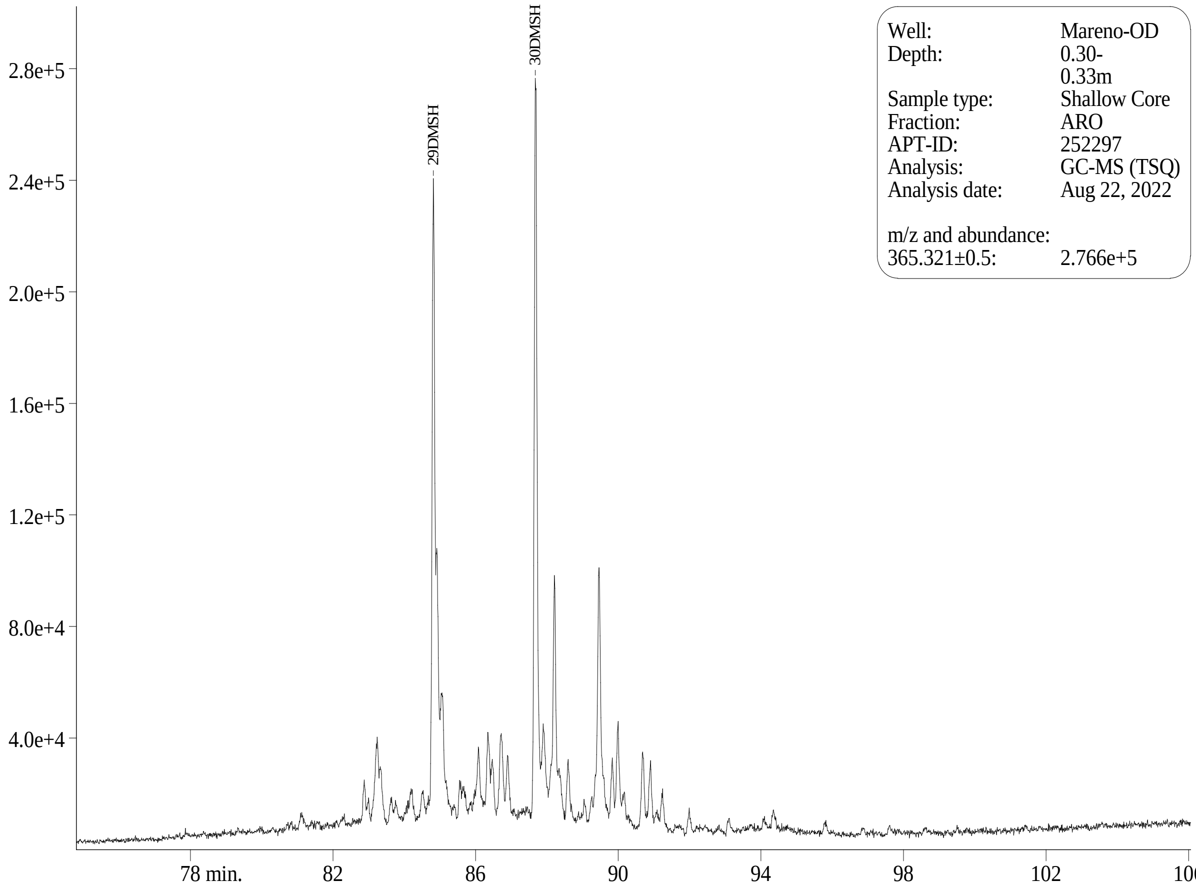


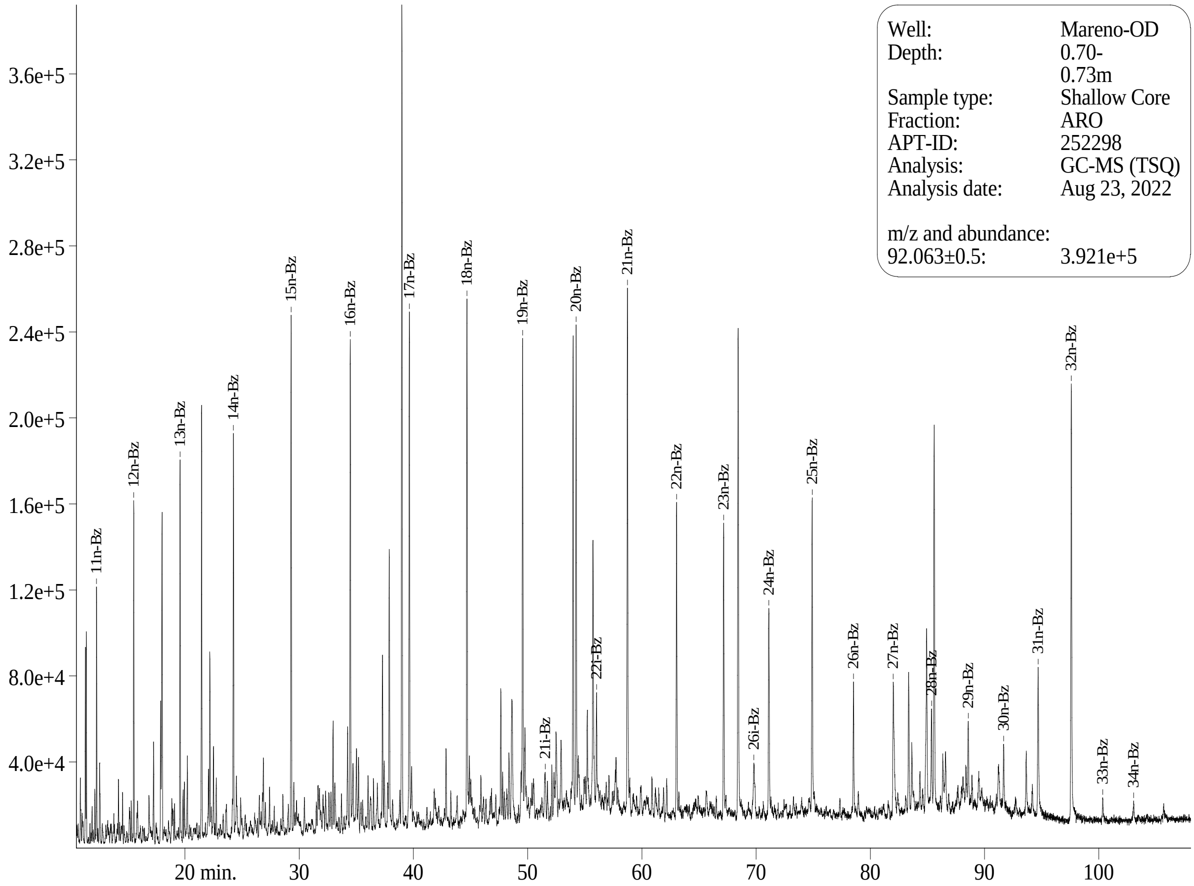
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
245.133±0.5: 5.690e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
86 min.
88
90
92
94
96
98
100
102

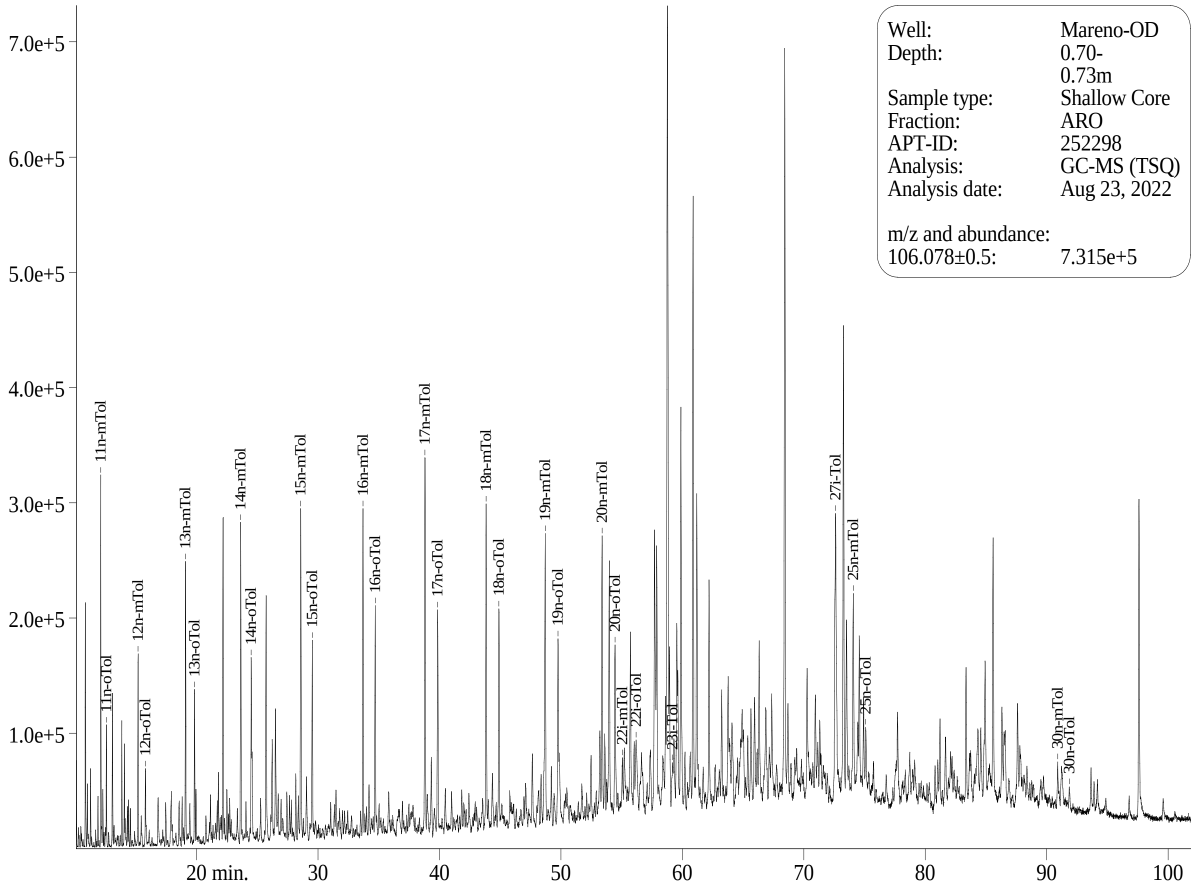


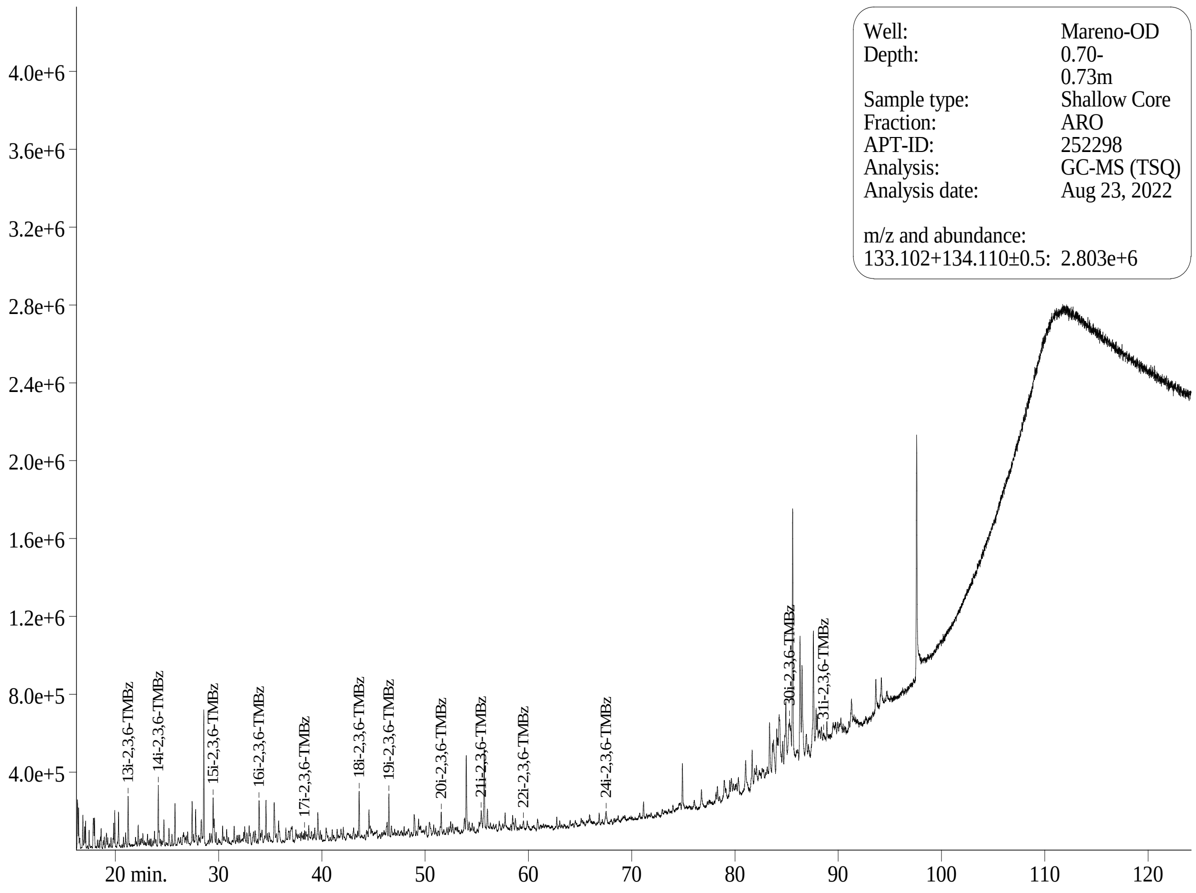
Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
252.094±0.5: 1.367e+7
253.196±0.5: 1.356e+6
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
aRC29MA
72 min.
74
76
78
80
82
84
86
88
90

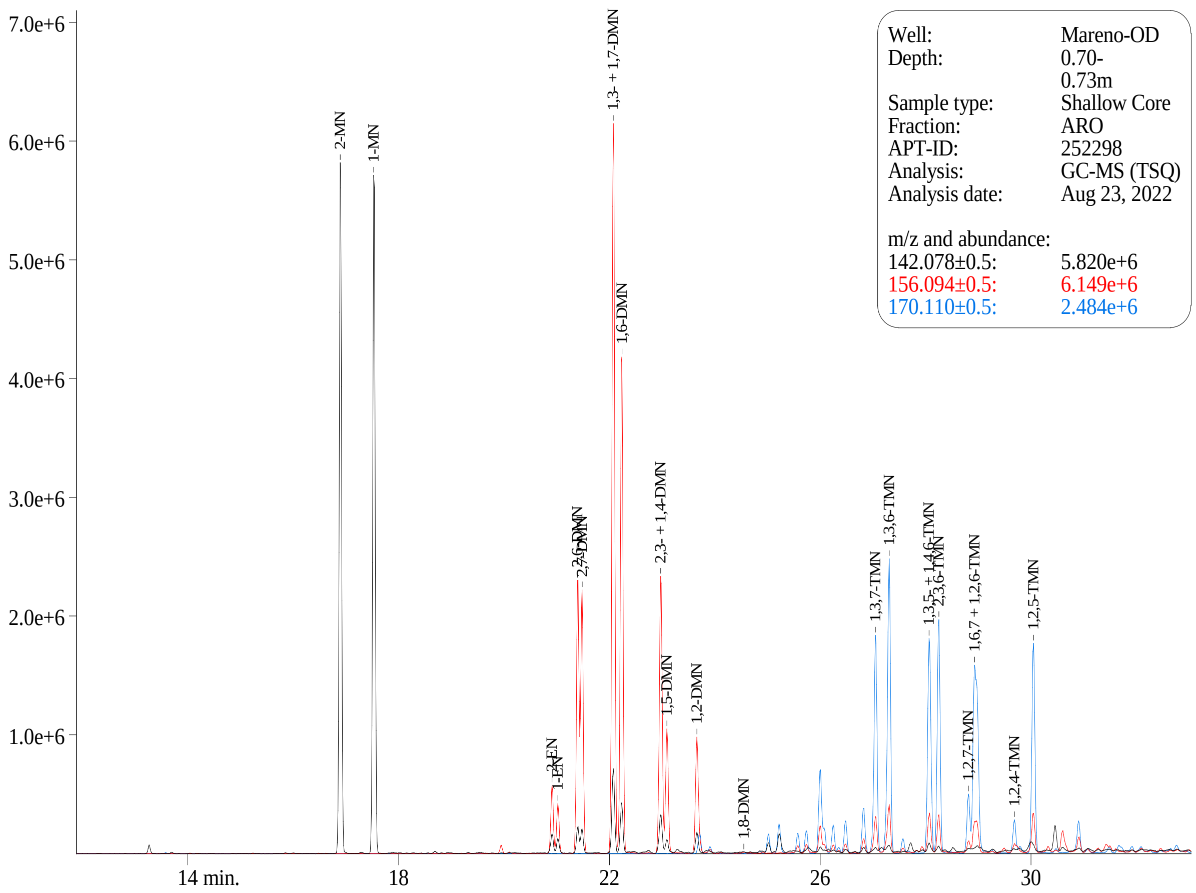

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
253.196±0.5: 1.356e+6
bRC28MA+bRC28DMA
aRC28MA+bRC29MA+bRC29DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aSC29DMA
aRC29DMA
aRC29MA
aSC28DMA
aSC27DMA
aSC29MA
aRC28DMA
60 min.
70
80
90

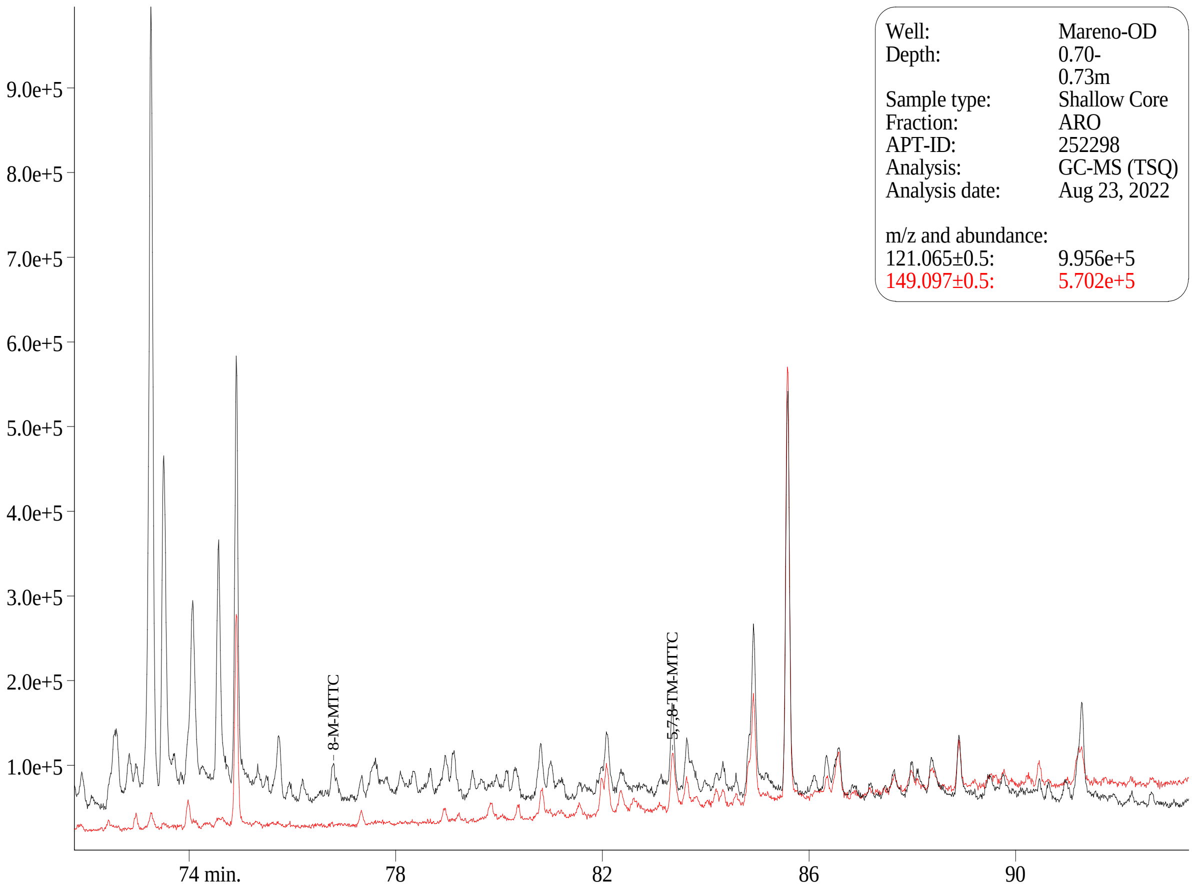

Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252297
Analysis: GC-MS (TSQ)
Analysis date: Aug 22, 2022
m/z and abundance:
365.321±0.5: 2.766e+5
30DMSH
29DMSH
78 min.
82
86
90
94
98
102
106

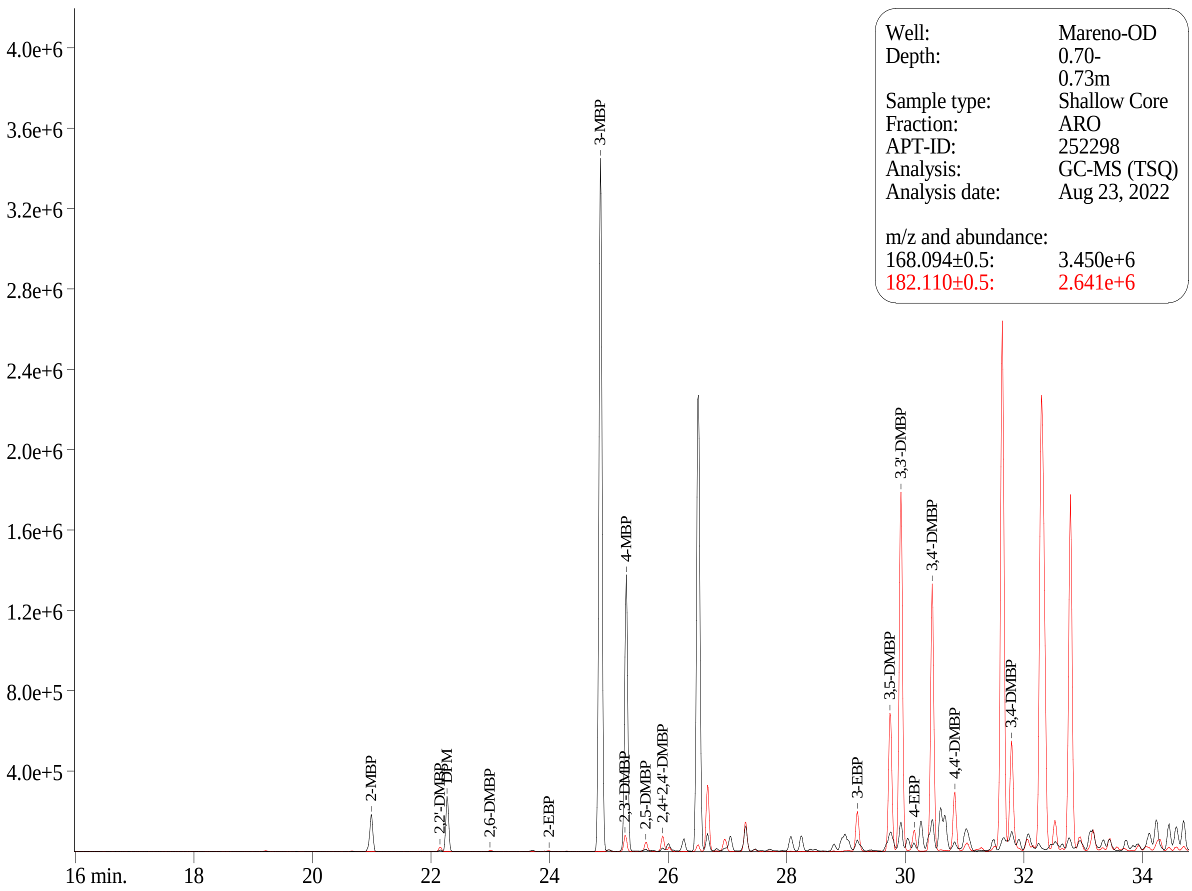

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 3.921e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
22i-Bz
21n-Bz
22n-Bz
23n-Bz
26i-Bz
24n-Bz
25n-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

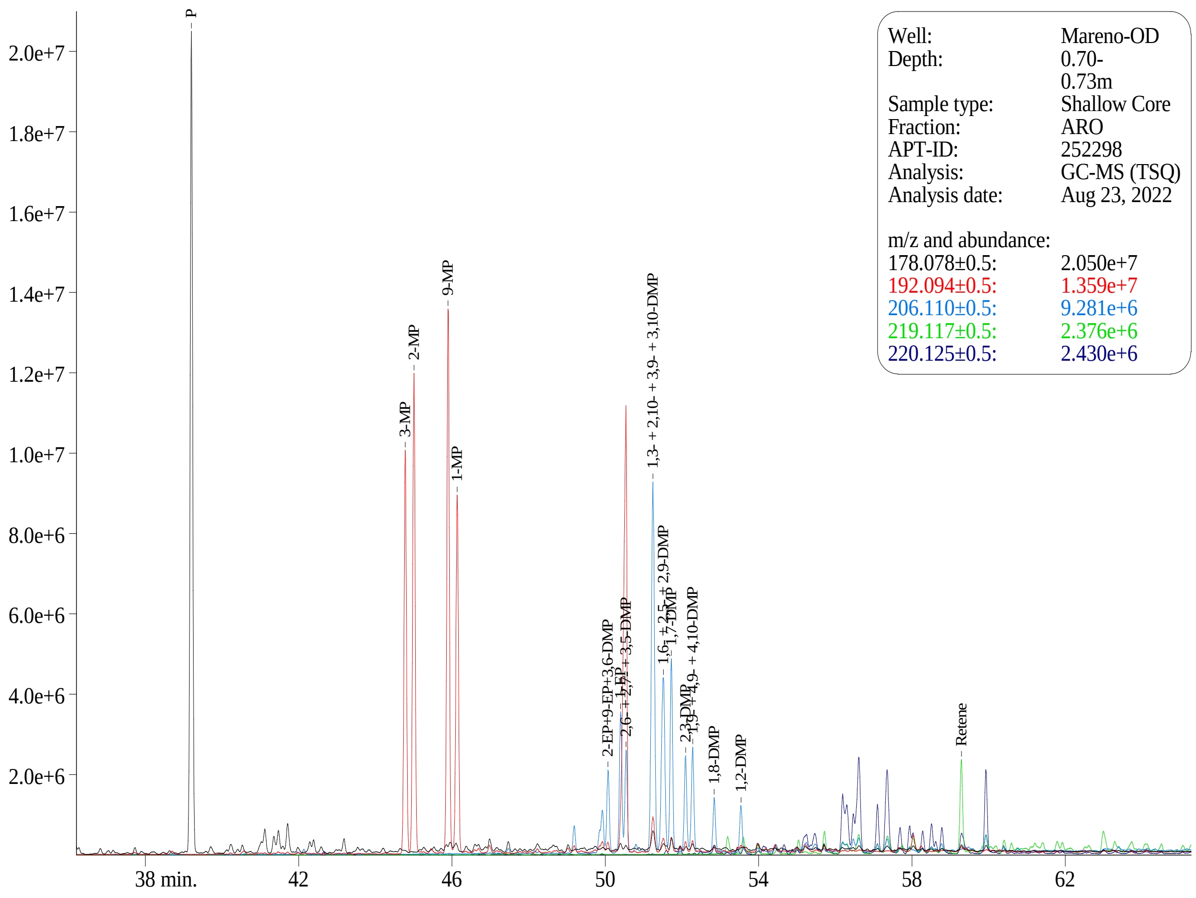

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 7.315e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol


Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 2.803e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.
30
40
50
60
70
80
90
100
110
120
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5

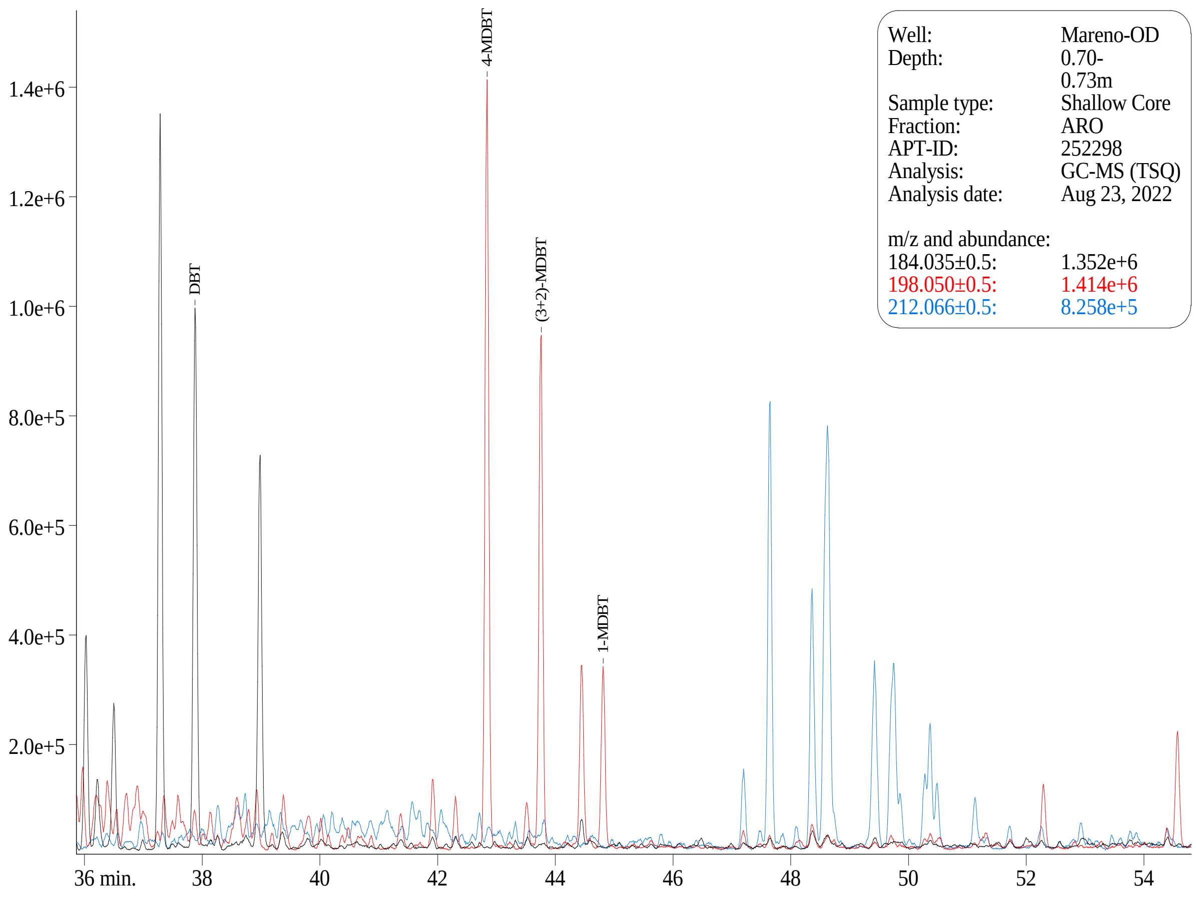

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 5.820e+6
156.094±0.5: 6.149e+6
170.110±0.5: 2.484e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2-EN
1-EN
2,6-DMN
2,7-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.
18
22
26
30
7.0e+6
6.0e+6
5.0e+6
4.0e+6
3.0e+6
2.0e+6
1.0e+6


Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 9.956e+5
149.097±0.5: 5.702e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90

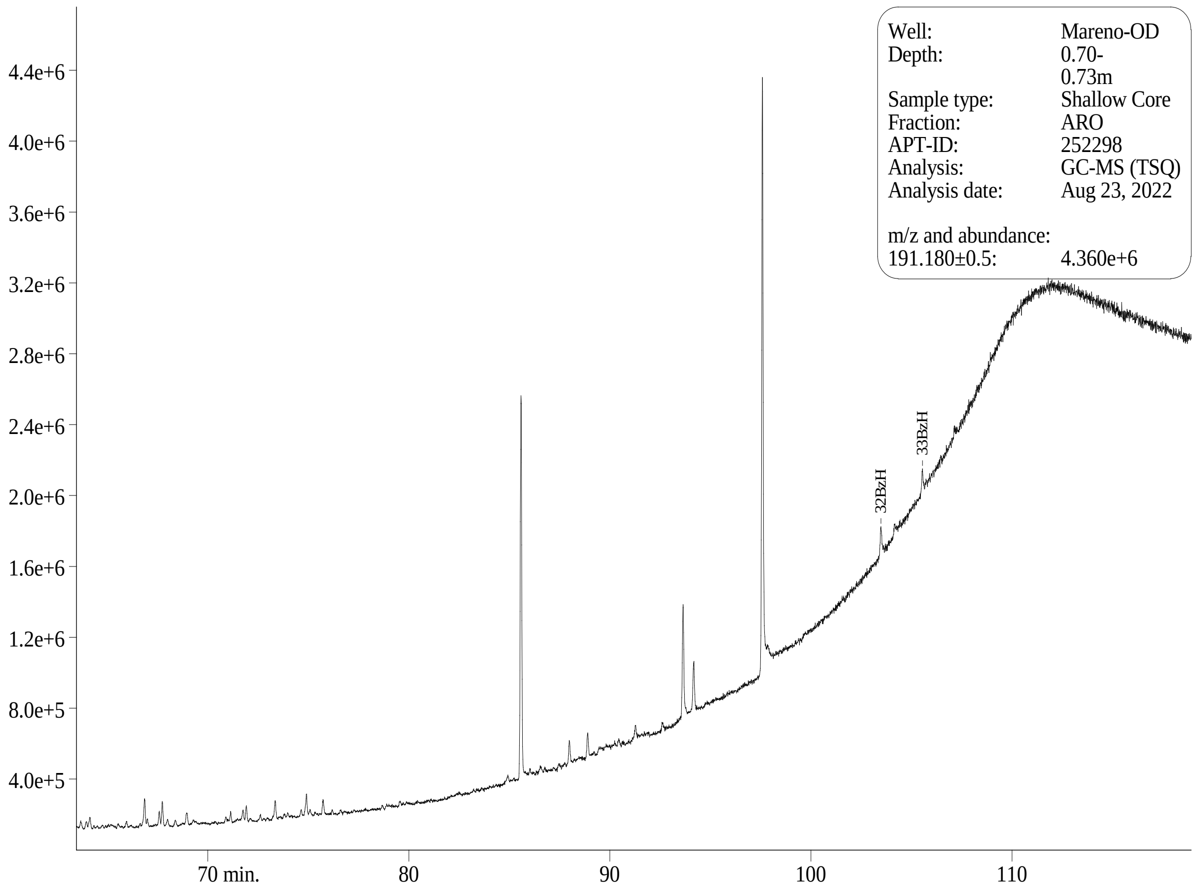

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 3.450e+6
182.110±0.5: 2.641e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
4-MBP
2,3-DMBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34

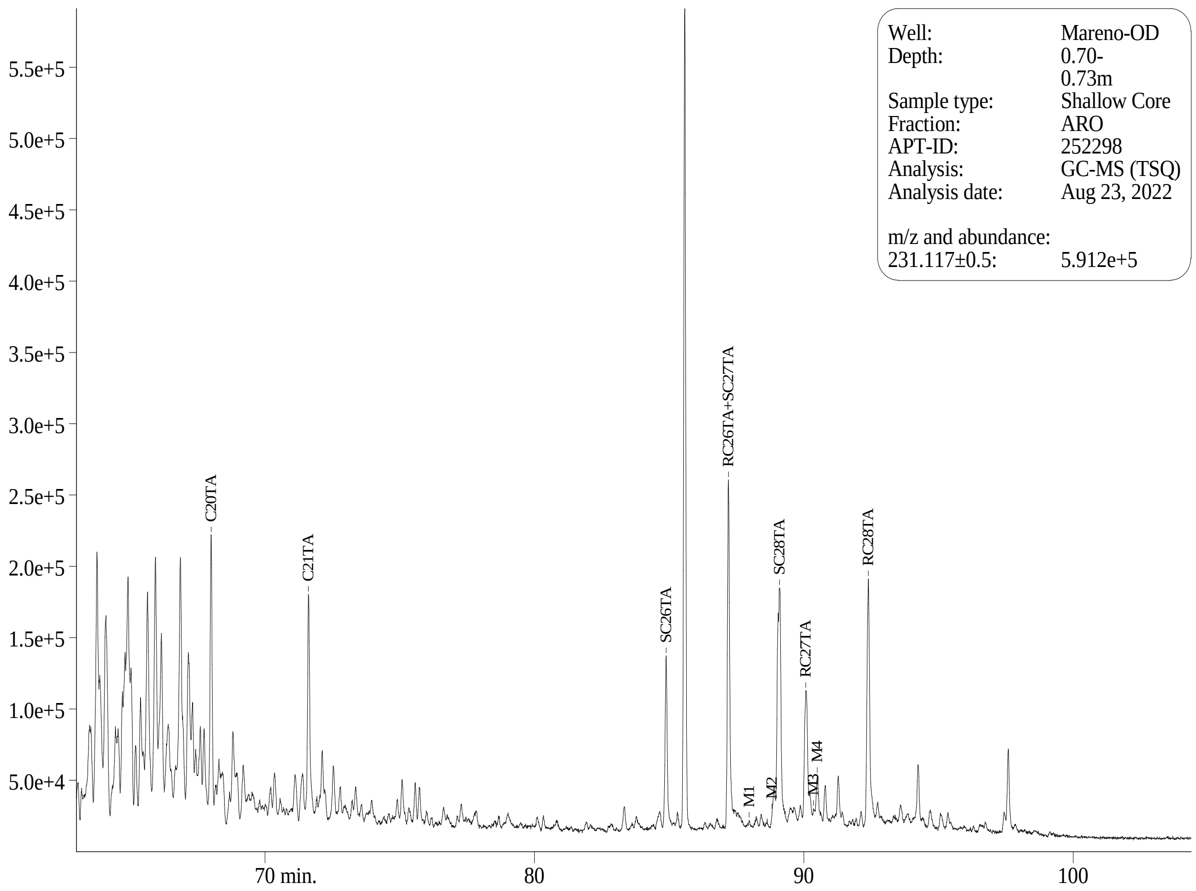


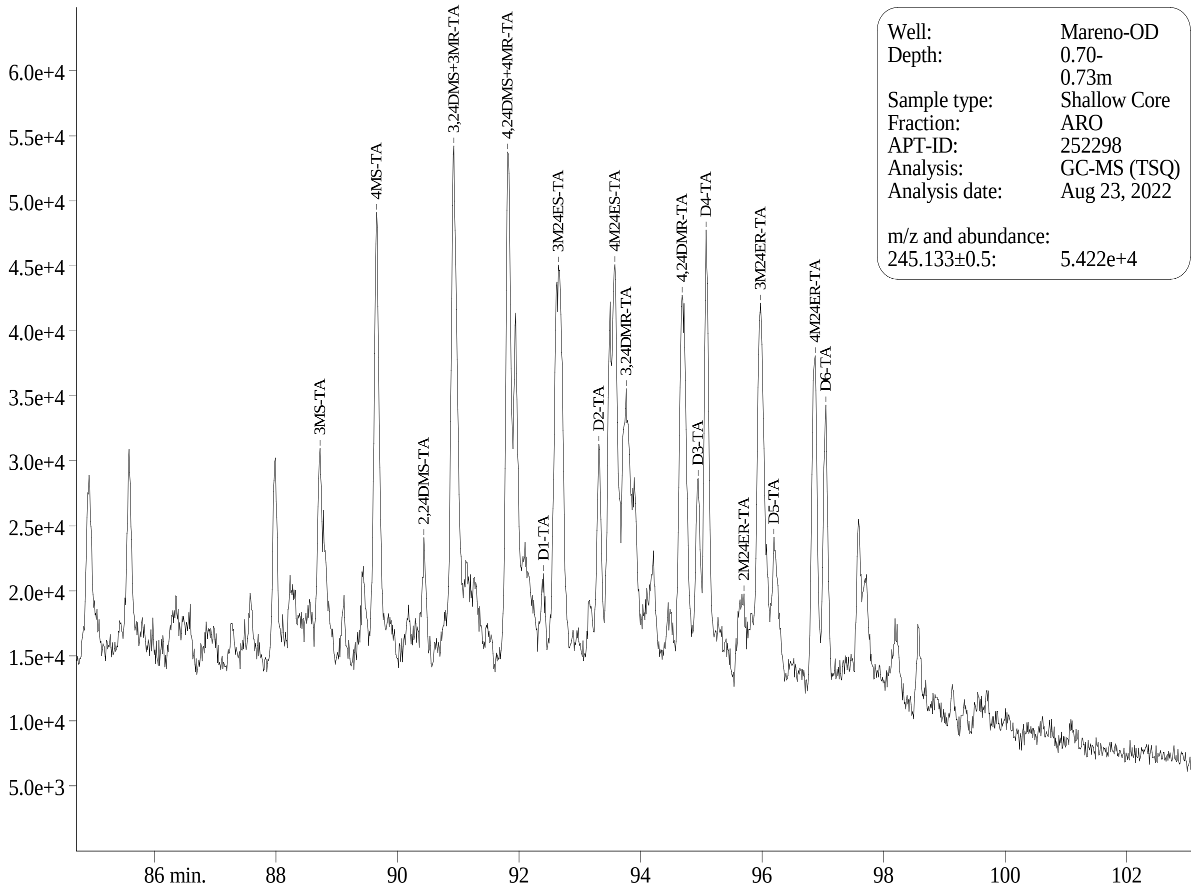
P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
2-EP+9-EP+3,6-DMP
2,6- + 2,7- + 3,5-DMP
1-EP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
38 min.
42
46
50
54
58
62
Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 2.050e+7
192.094±0.5: 1.359e+7
206.110±0.5: 9.281e+6
219.117±0.5: 2.376e+6
220.125±0.5: 2.430e+6

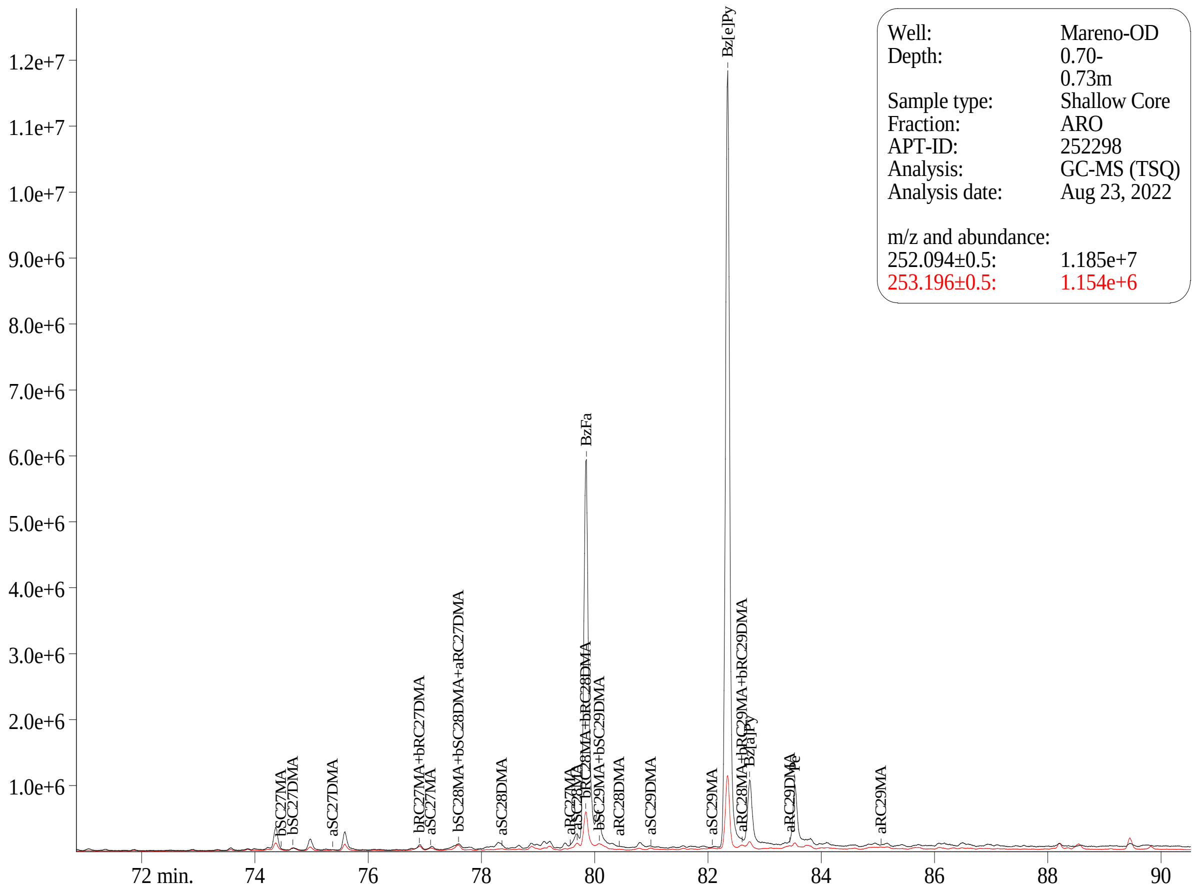


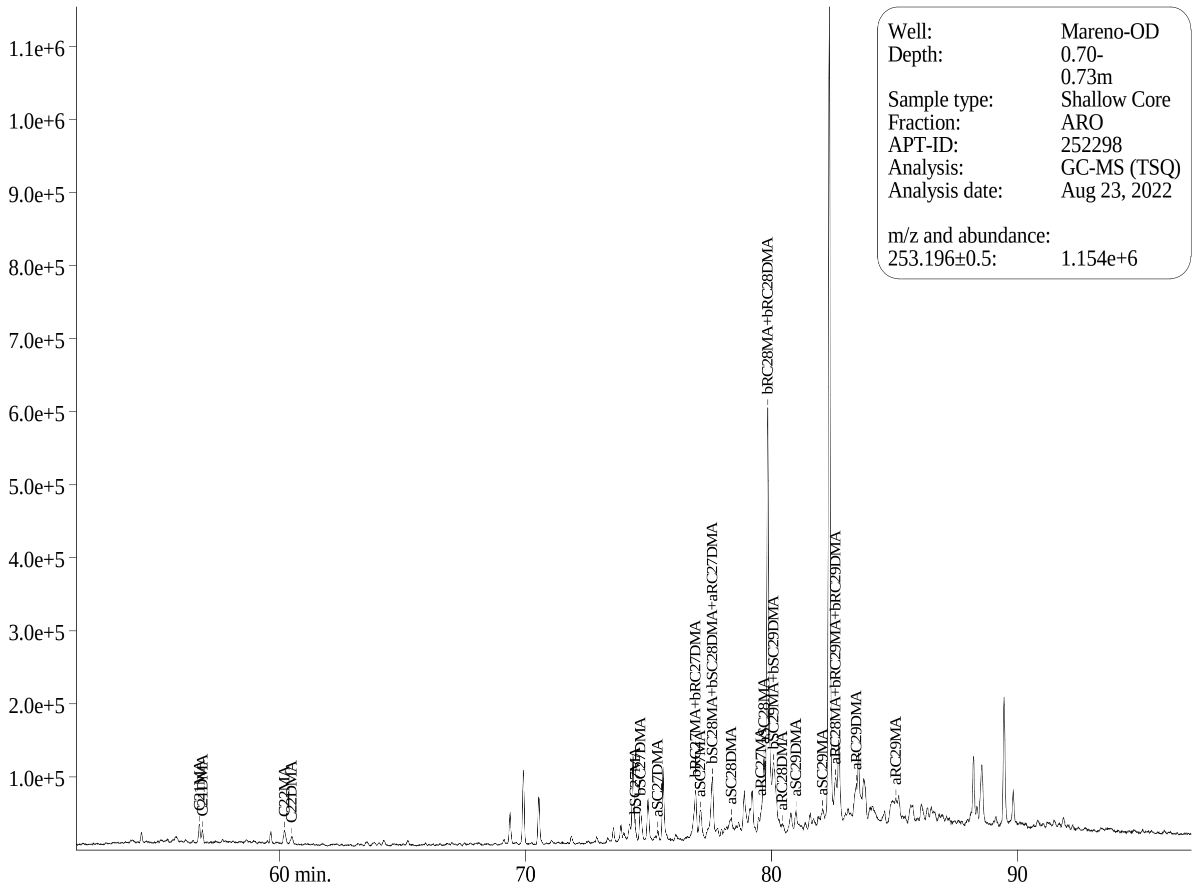
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
36 min.
38
40
42
44
46
48
50
52
54
Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 1.352e+6
198.050±0.5: 1.414e+6
212.066±0.5: 8.258e+5

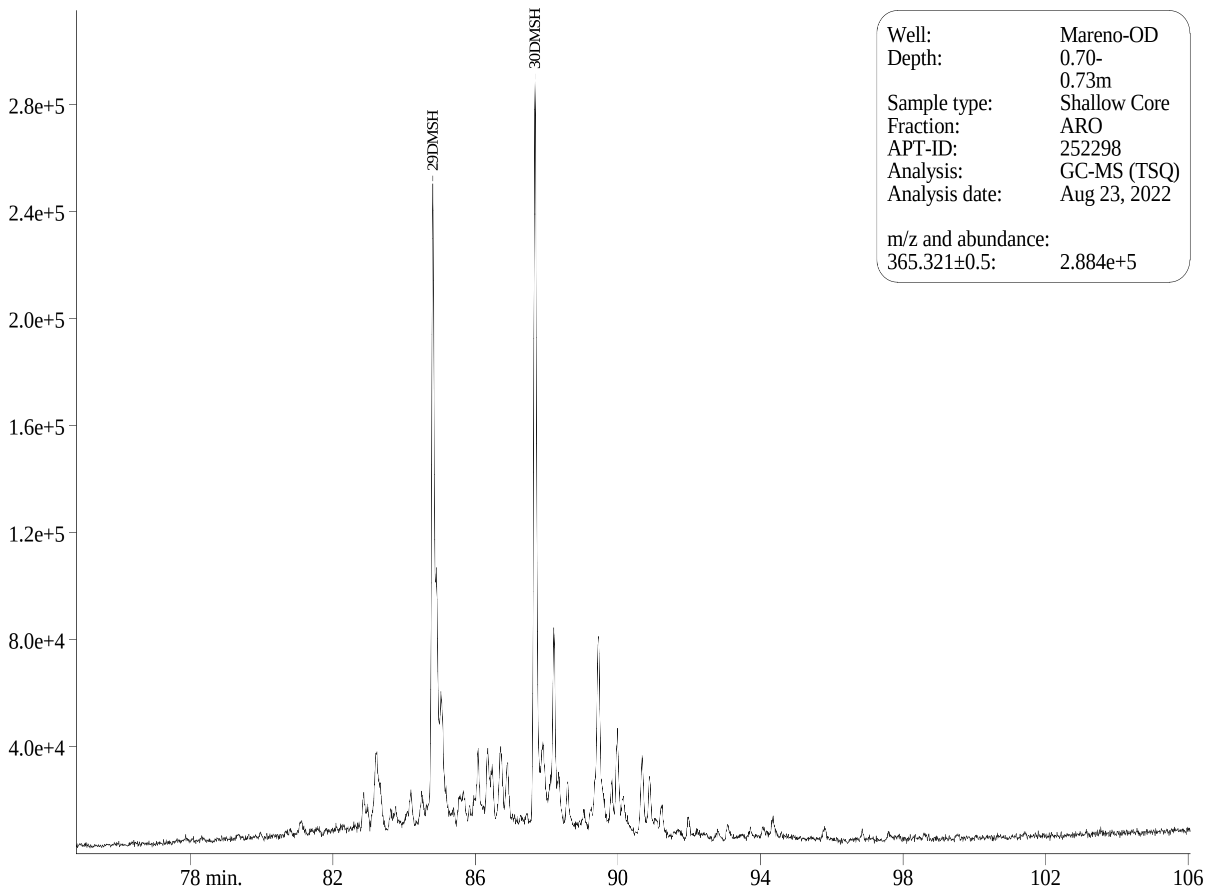

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 4.360e+6
32BzH
33BzH
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
70 min.
80
90
100
110

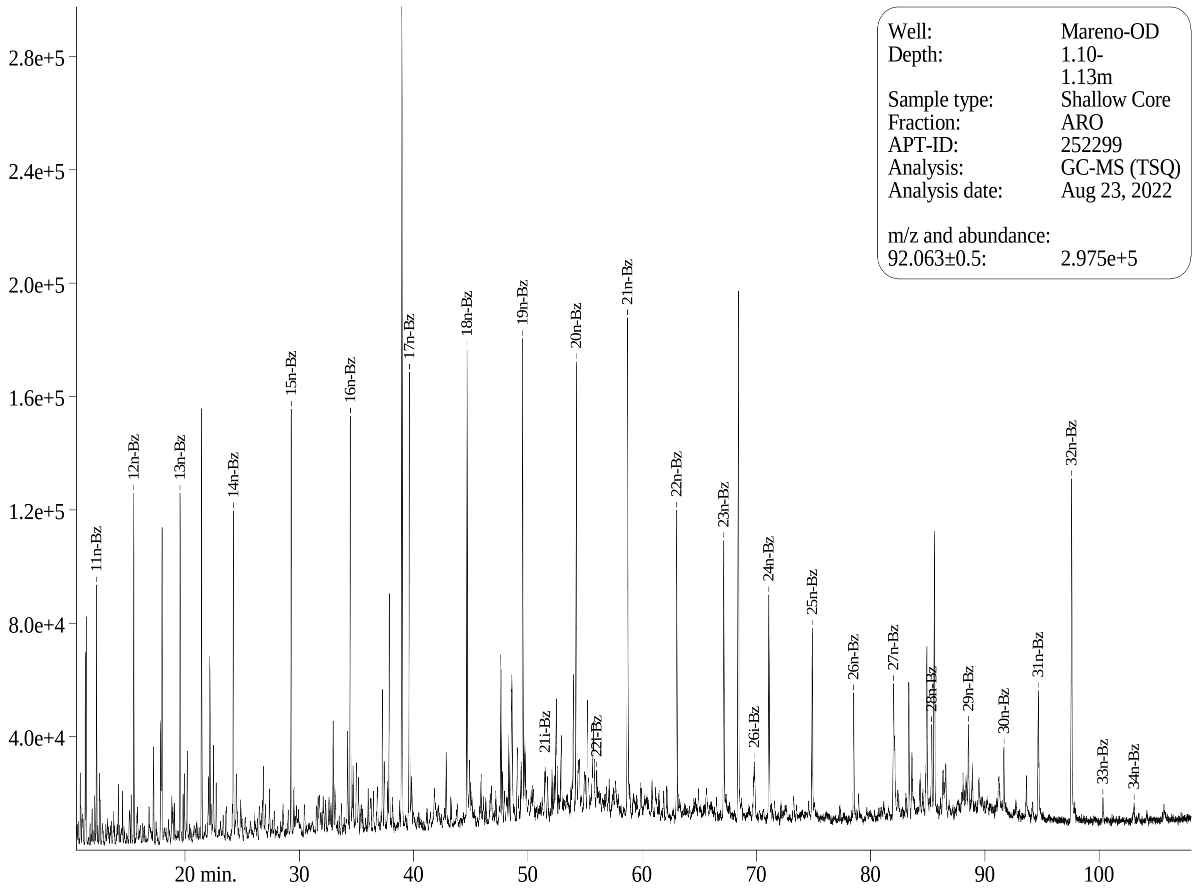

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 5.912e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
70 min.
80
90
100

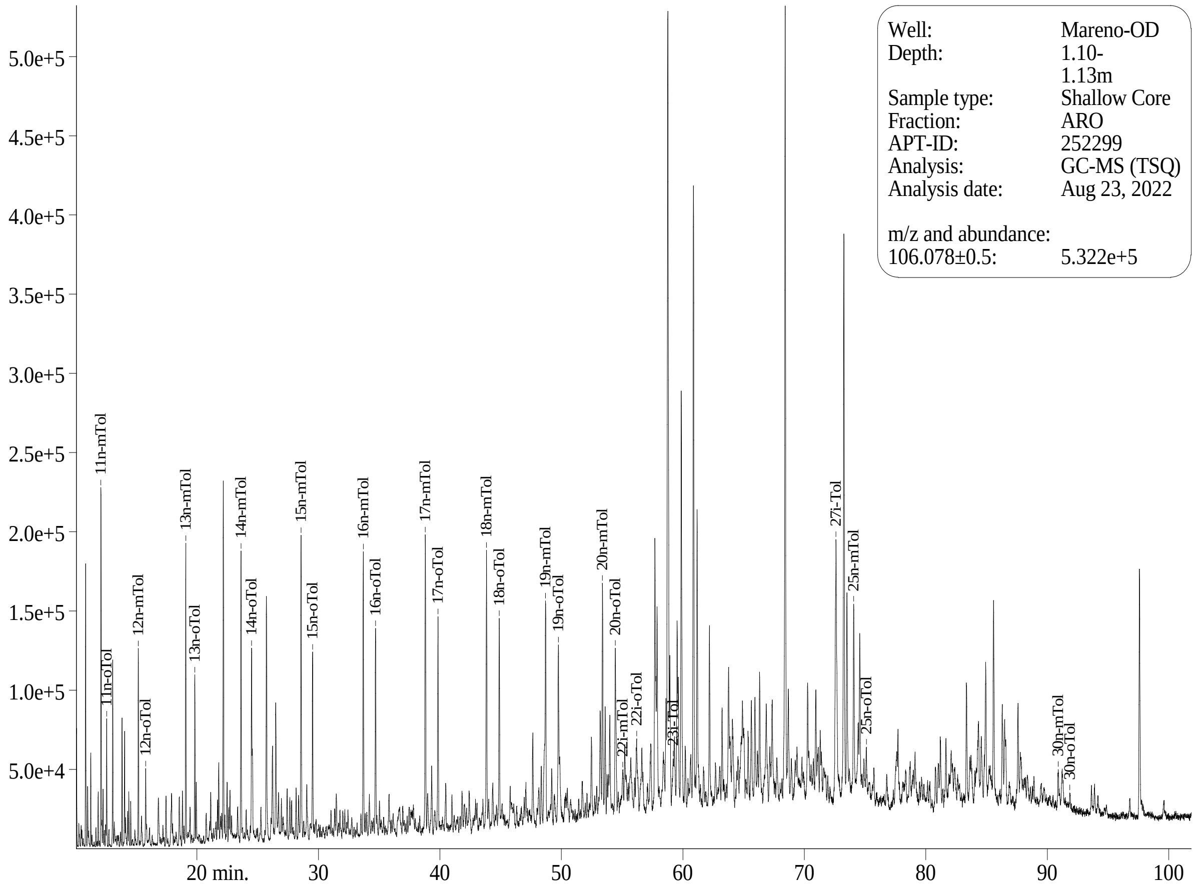

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 5.422e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
4M24ES-TA
D2-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
6.0e+4
5.5e+4
5.0e+4
4.5e+4
4.0e+4
3.5e+4
3.0e+4
2.5e+4
2.0e+4
1.5e+4
1.0e+4
5.0e+3
86 min.
88
90
92
94
96
98
100
102

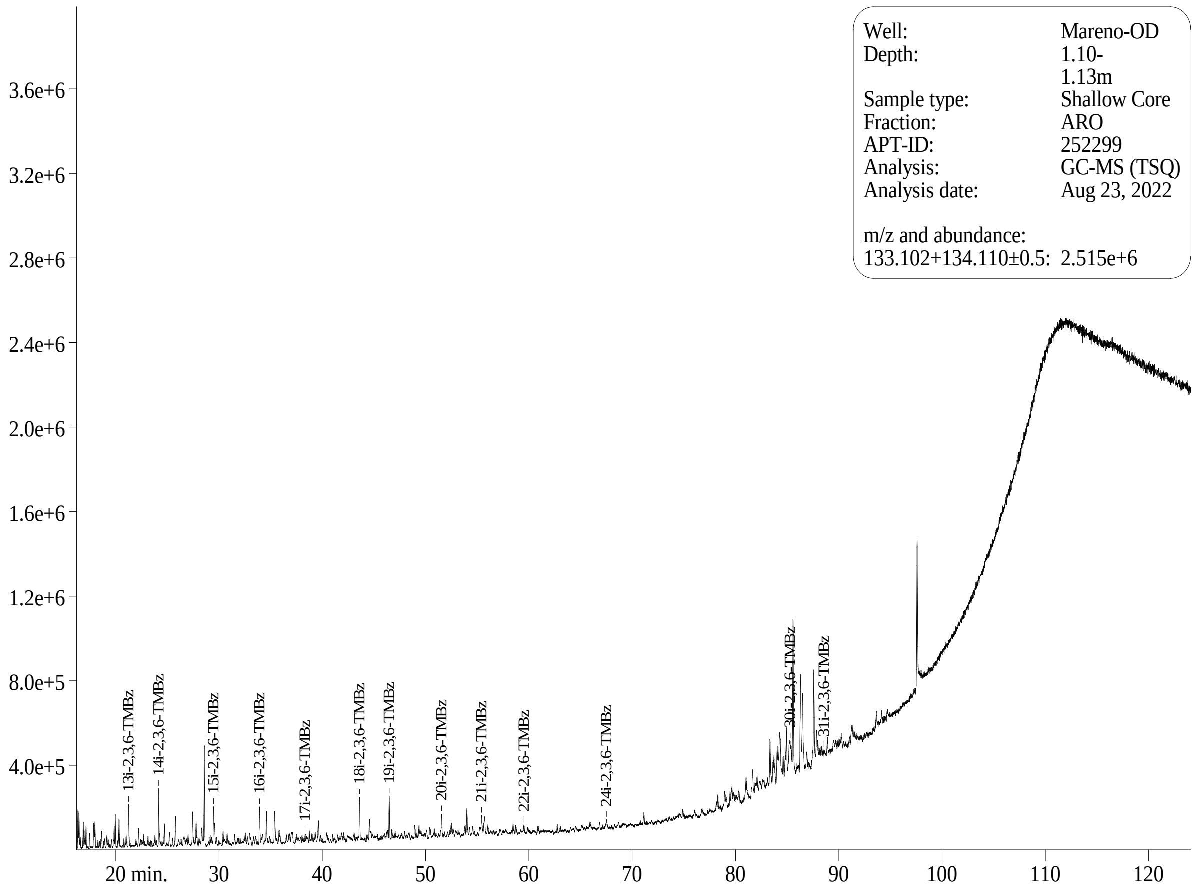

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 1.185e+7
253.196±0.5: 1.154e+6
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
aRC29MA
1.2e+7
1.1e+7
1.0e+7
9.0e+6
8.0e+6
7.0e+6
6.0e+6
5.0e+6
4.0e+6
3.0e+6
2.0e+6
1.0e+6
72 min.
74
76
78
80
82
84
86
88
90


Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 1.154e+6
bRC28MA+bRC28DMA
aRC28MA+bRC29MA+bRC29DMA
bSC28MA+bSC28DMA+aRC27DMA
bRC27MA+bRC27DMA
aRC29DMA
aRC29MA
aSC29DMA
aSC29MA
aSC28DMA
aRC28DMA
aSC27DMA
bSC27DMA
60 min.
70
80
90

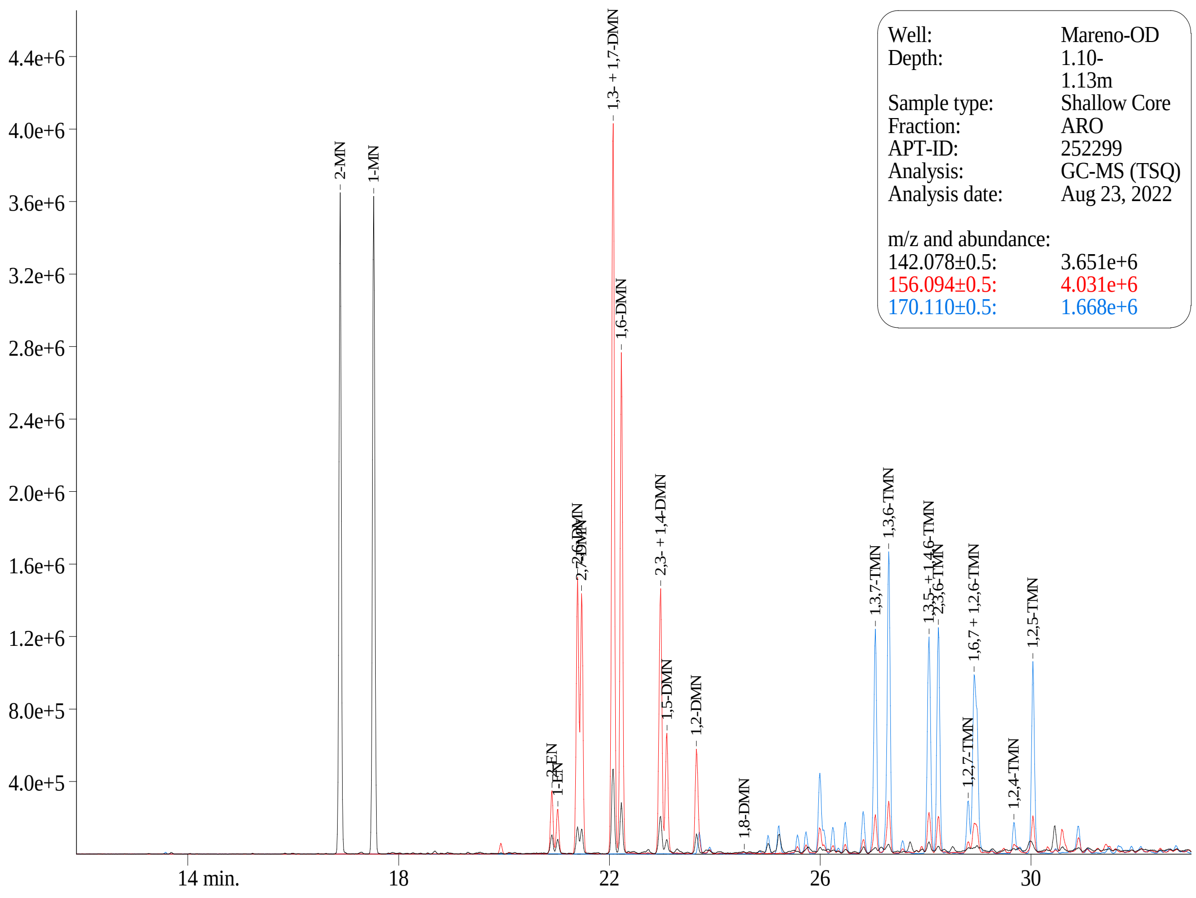

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252298
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 2.884e+5
30DMSH
29DMSH
78 min.
82
86
90
94
98
102
106


Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 2.975e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21n-Bz
21i-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
25n-Bz
26i-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

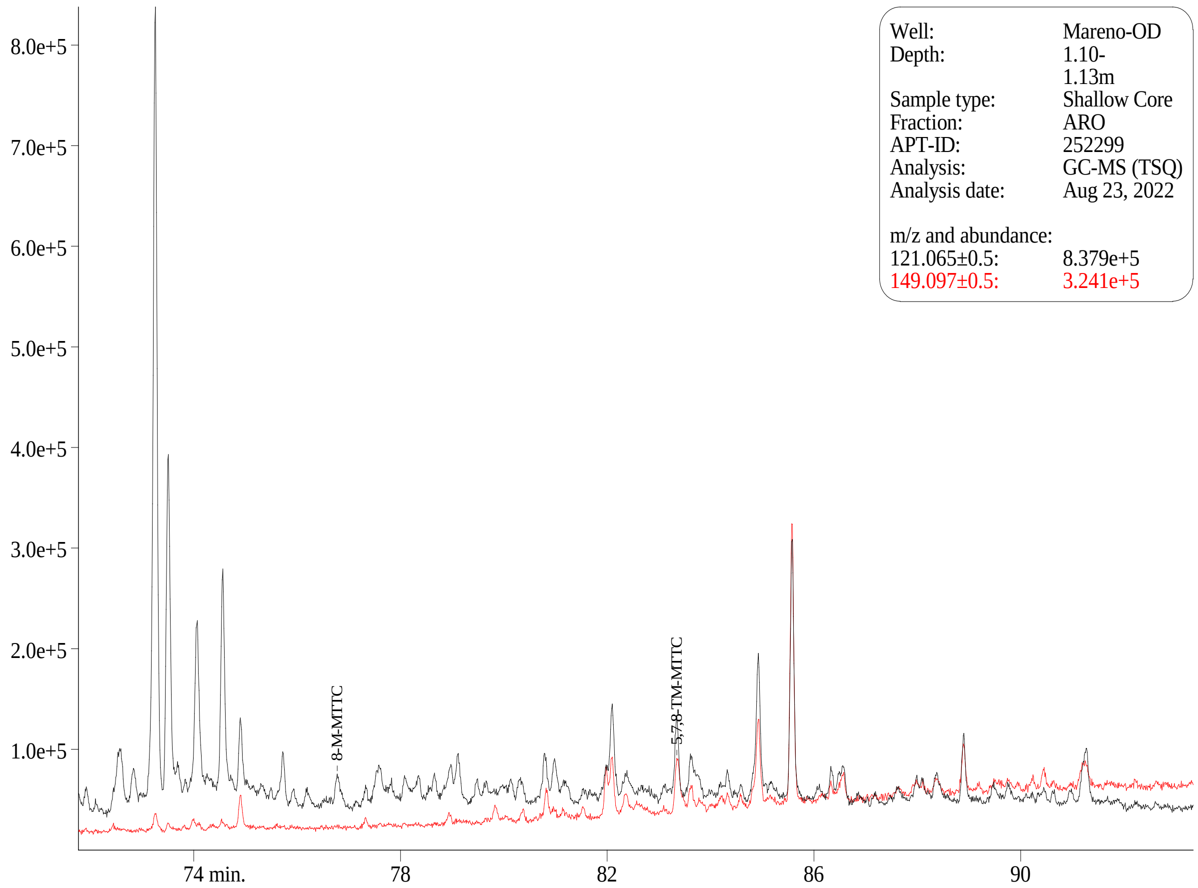

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 5.322e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol



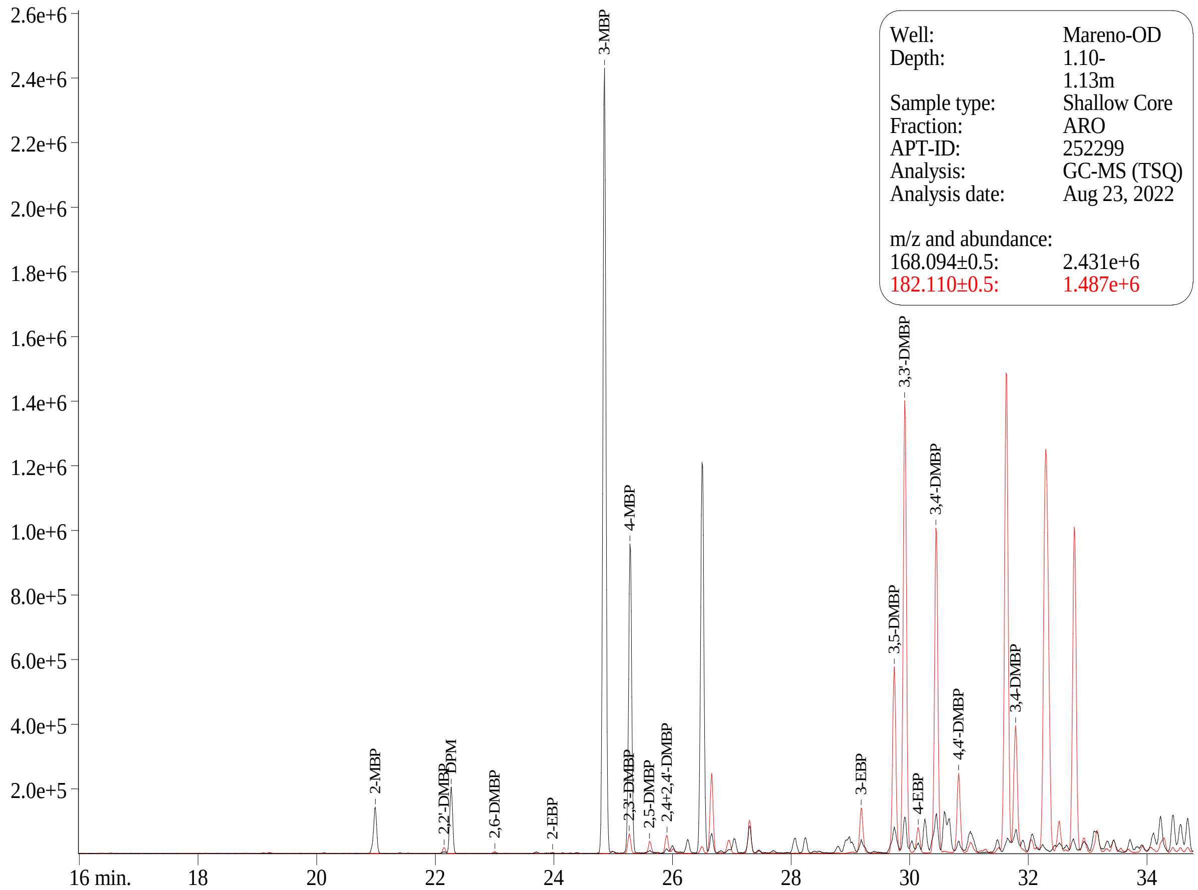
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 2.515e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.



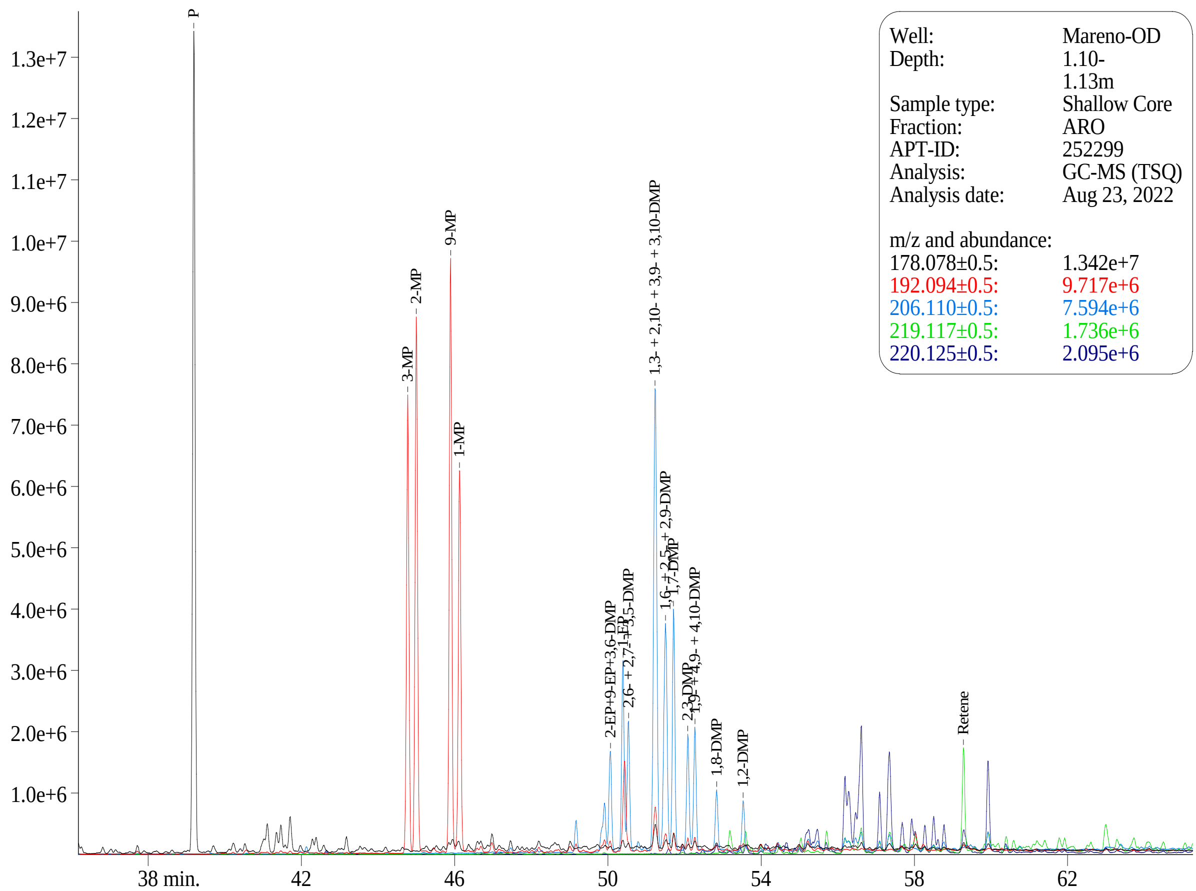
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 3.651e+6
156.094±0.5: 4.031e+6
170.110±0.5: 1.668e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.

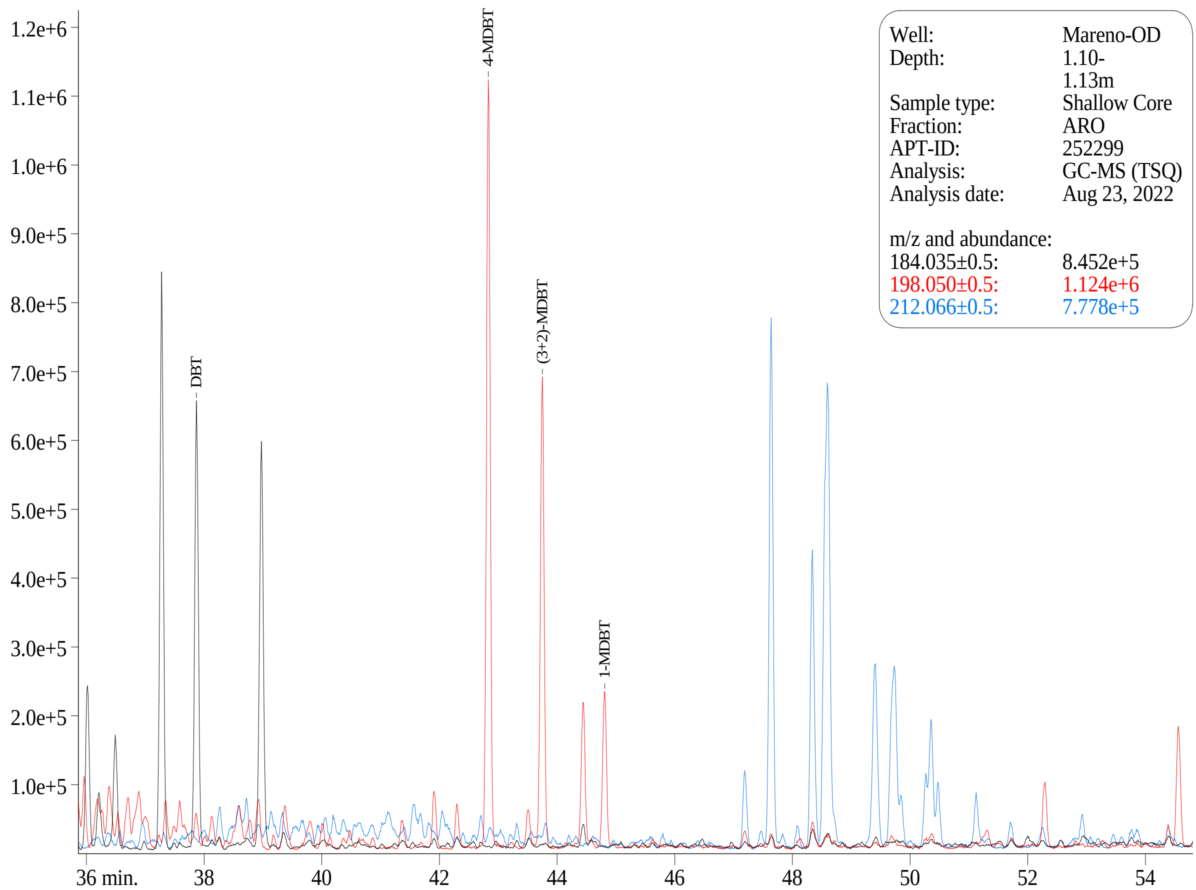


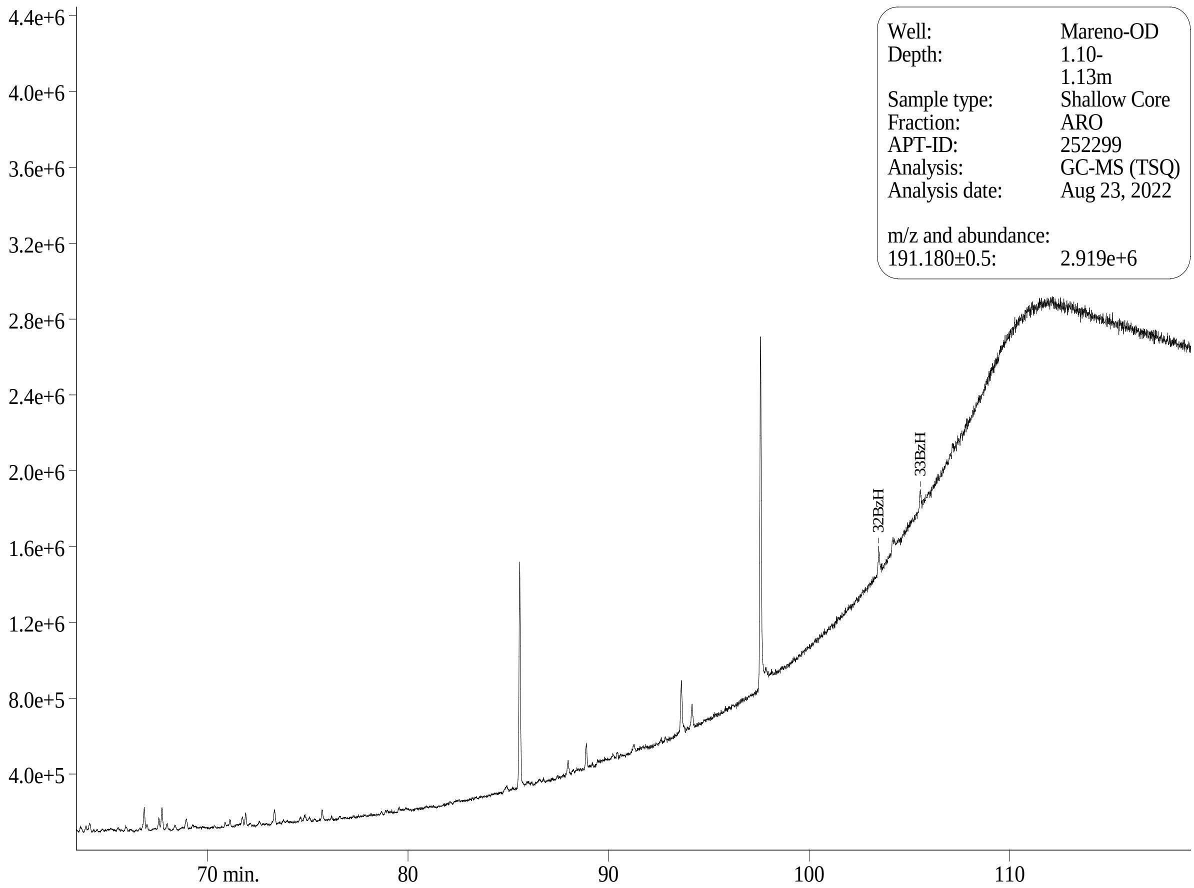
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 8.379e+5
149.097±0.5: 3.241e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90

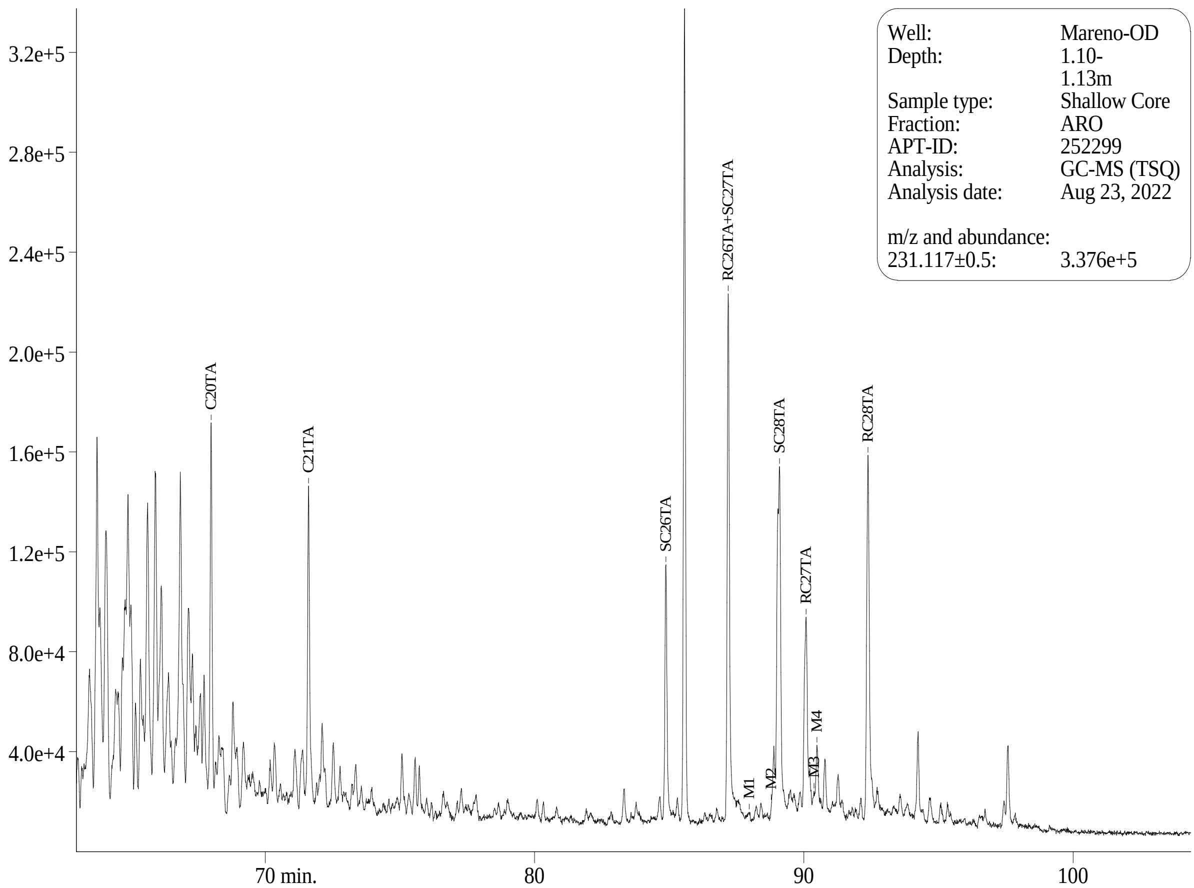


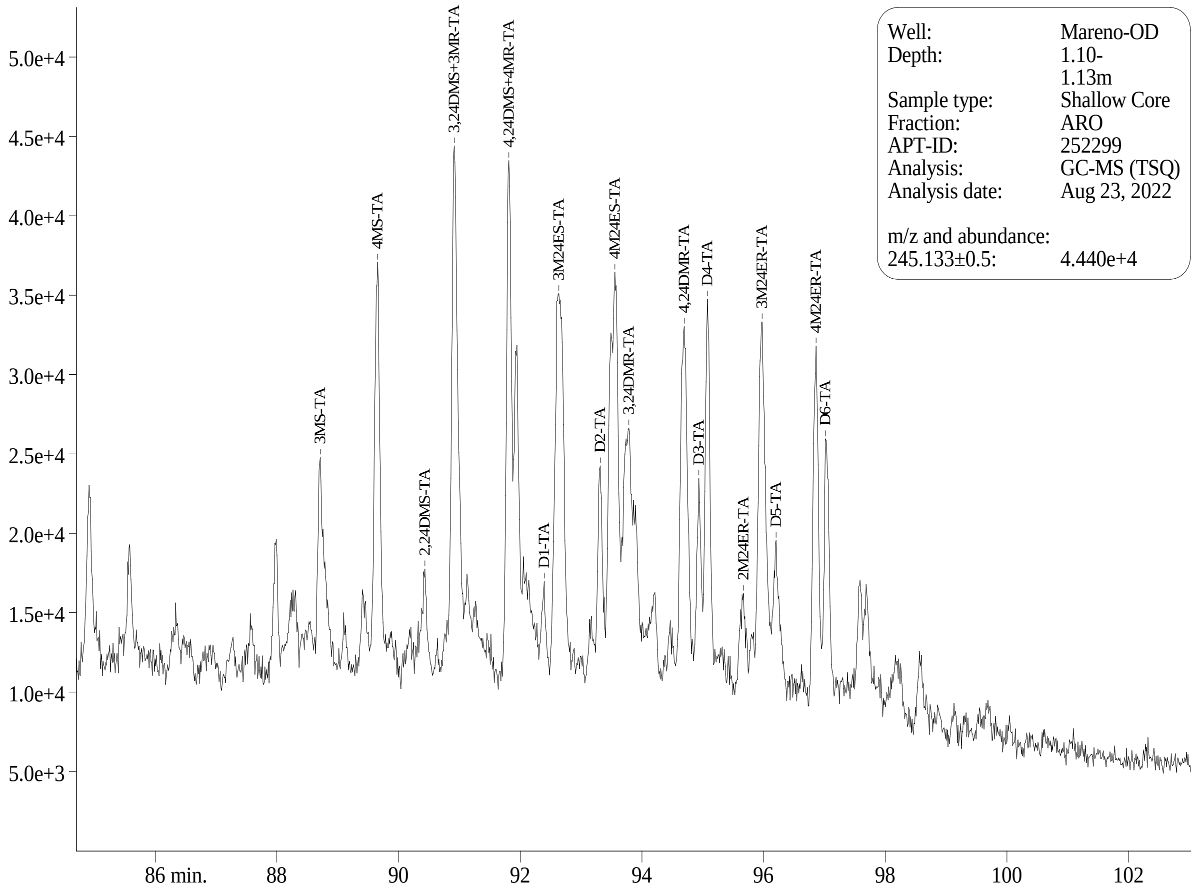
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 2.431e+6
182.110±0.5: 1.487e+6
2.6e+6
2.4e+6
2.2e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3'-DMBP
4-MBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34

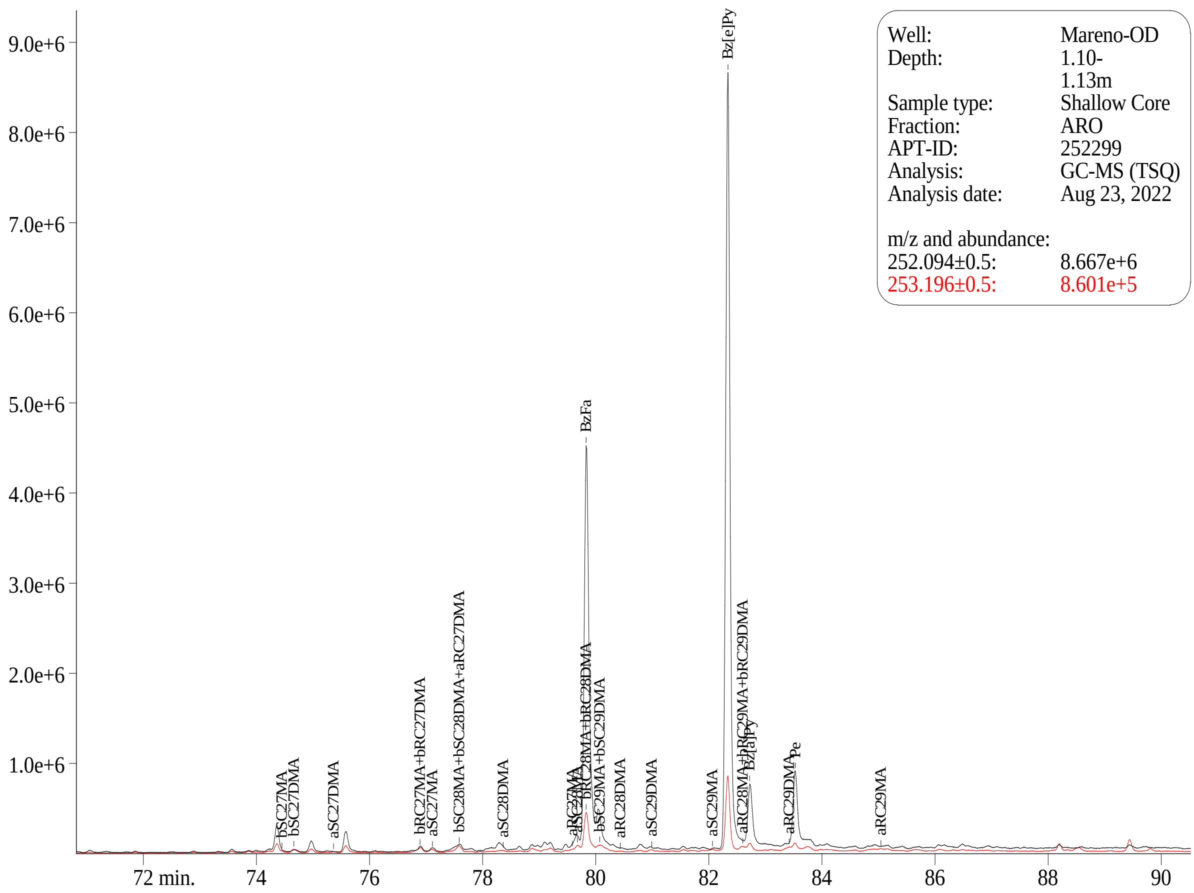

P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,8-DMP
1,2-DMP
Retene
1.3e+7
1.2e+7
1.1e+7
1.0e+7
9.0e+6
8.0e+6
7.0e+6
6.0e+6
5.0e+6
4.0e+6
3.0e+6
2.0e+6
1.0e+6
38 min.
42
46
50
54
58
62
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 1.342e+7
192.094±0.5: 9.717e+6
206.110±0.5: 7.594e+6
219.117±0.5: 1.736e+6
220.125±0.5: 2.095e+6

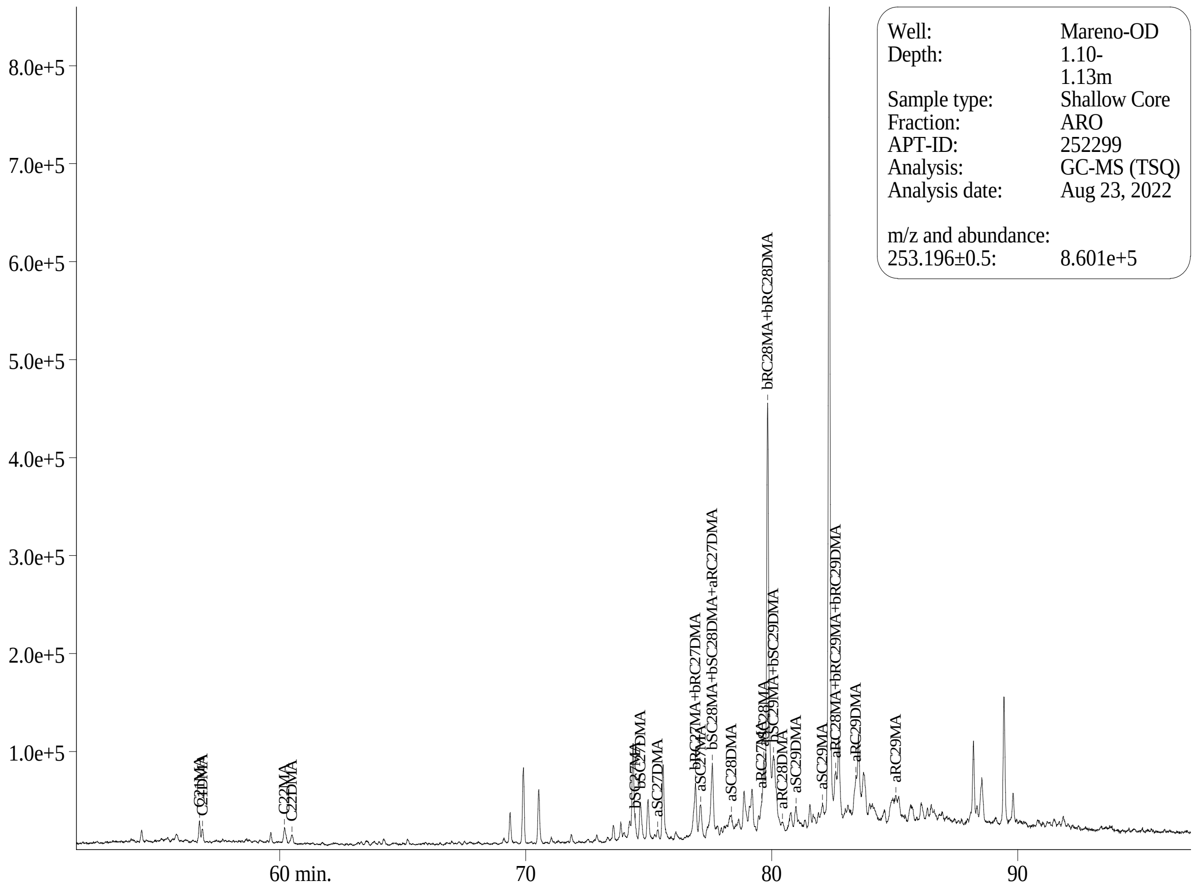

DBT
4-MDBT
(3+2)-MDBT
1-MDBT
1.2e+6
1.1e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
36 min.
38
40
42
44
46
48
50
52
54
Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 8.452e+5
198.050±0.5: 1.124e+6
212.066±0.5: 7.778e+5

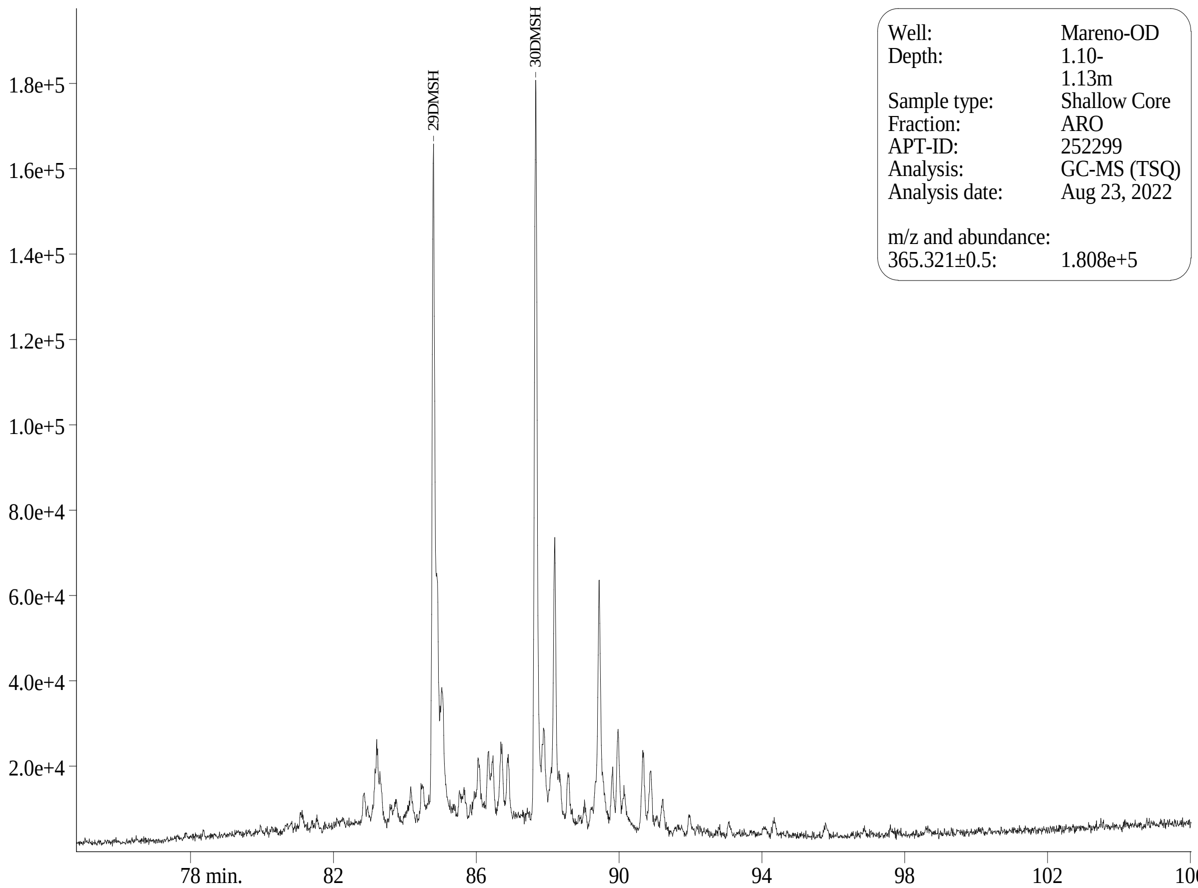

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 2.919e+6
32BzH
33BzH
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
70 min.
80
90
100
110

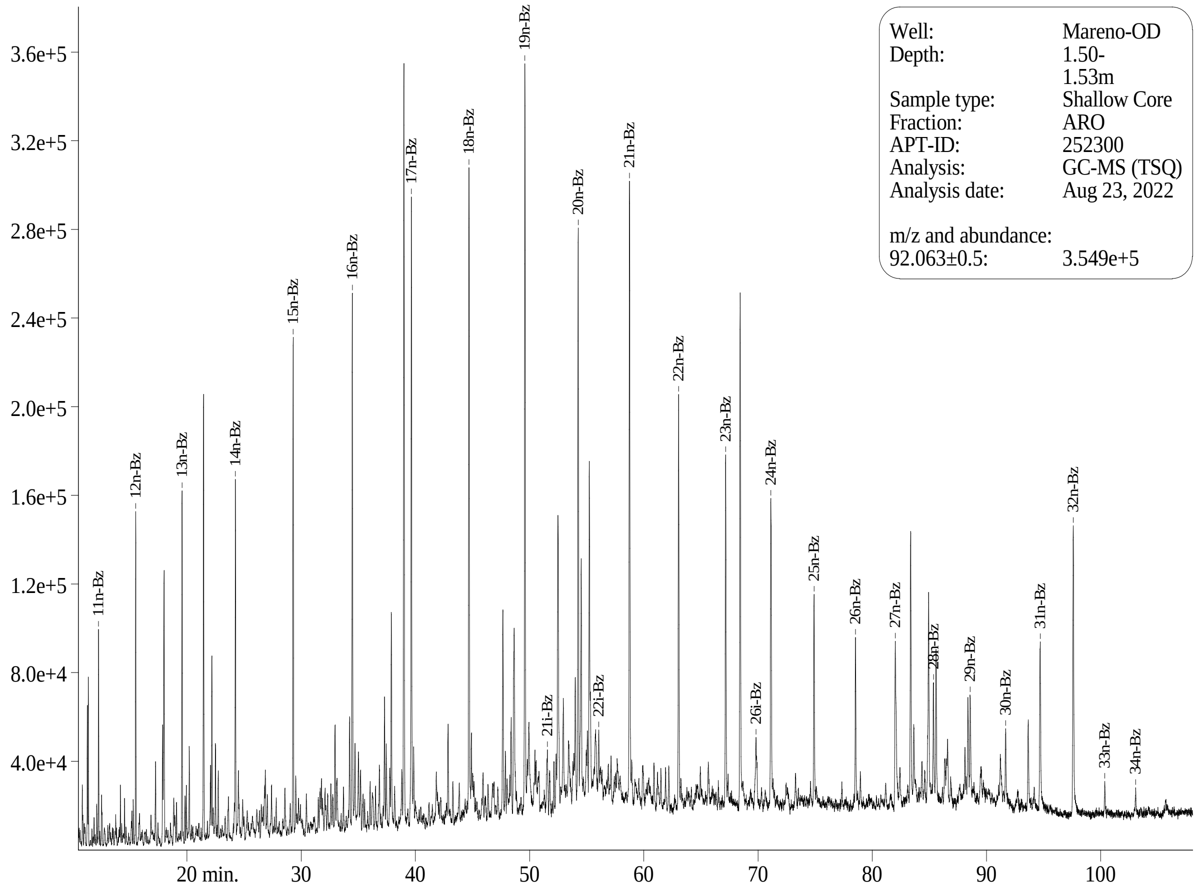

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 3.376e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
70 min.
80
90
100


Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 4.440e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
86 min.
88
90
92
94
96
98
100
102

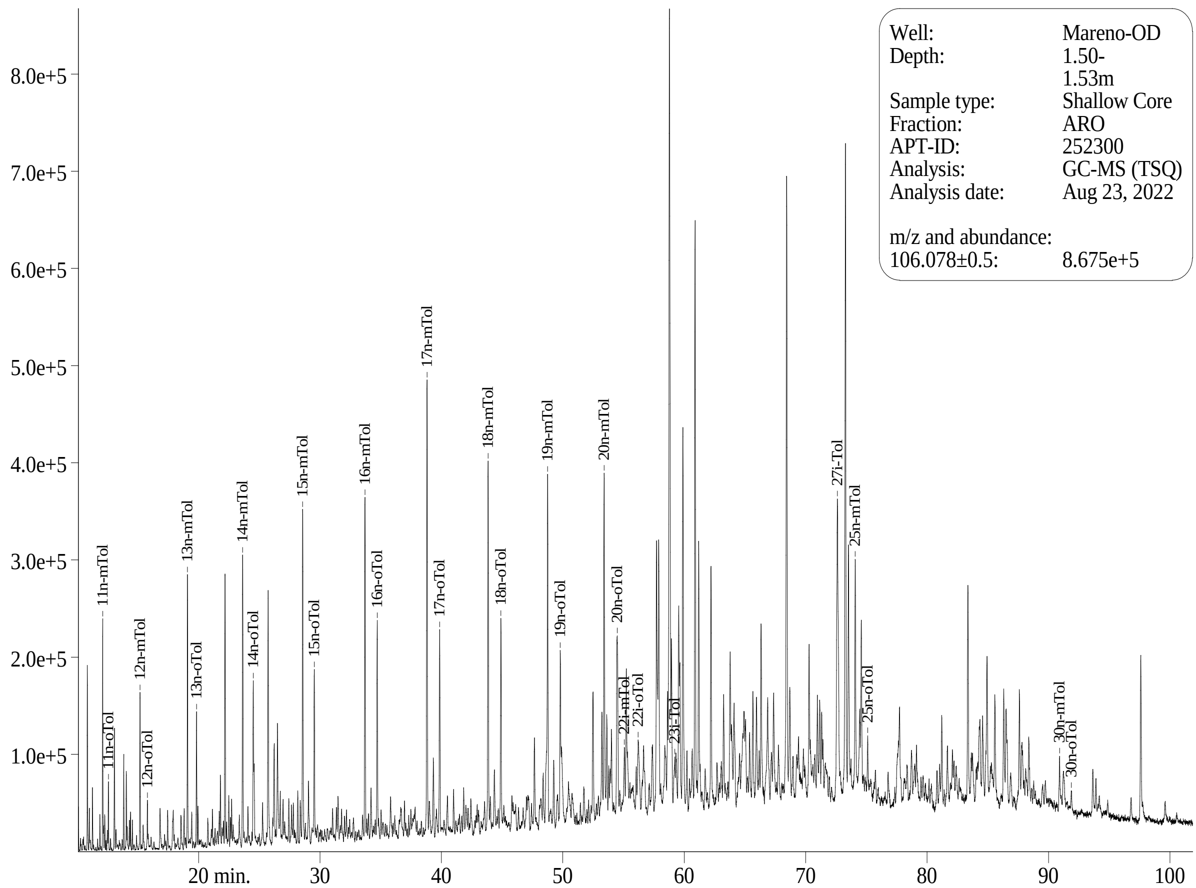

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 8.667e+6
253.196±0.5: 8.601e+5
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA
72 min.
74
76
78
80
82
84
86
88
90


Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 8.601e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
60 min.
70
80
90
C22MA
C22DMA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
bRC28MA+bRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA
aRC28DMA

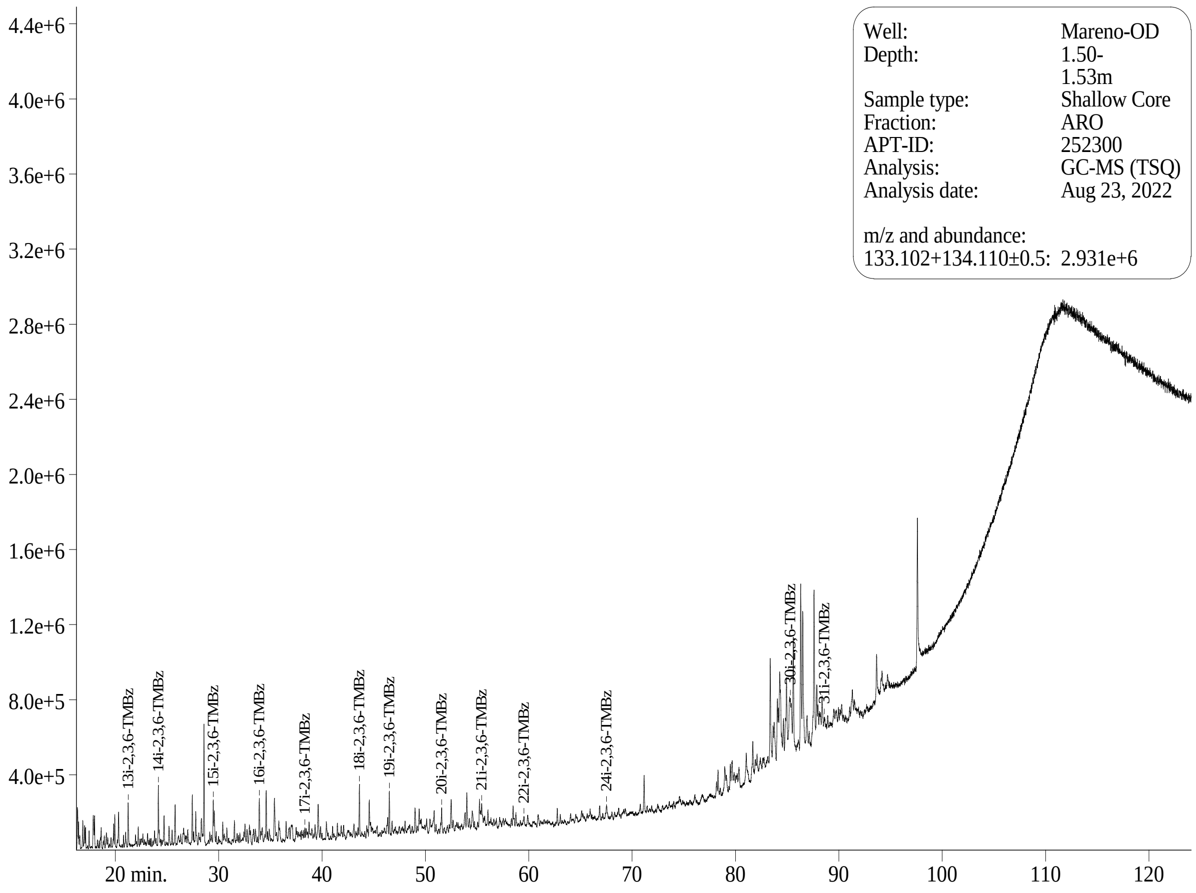

Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252299
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 1.808e+5
1.8e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
78 min.
82
86
90
94
98
102
106
29DMSH
30DMSH

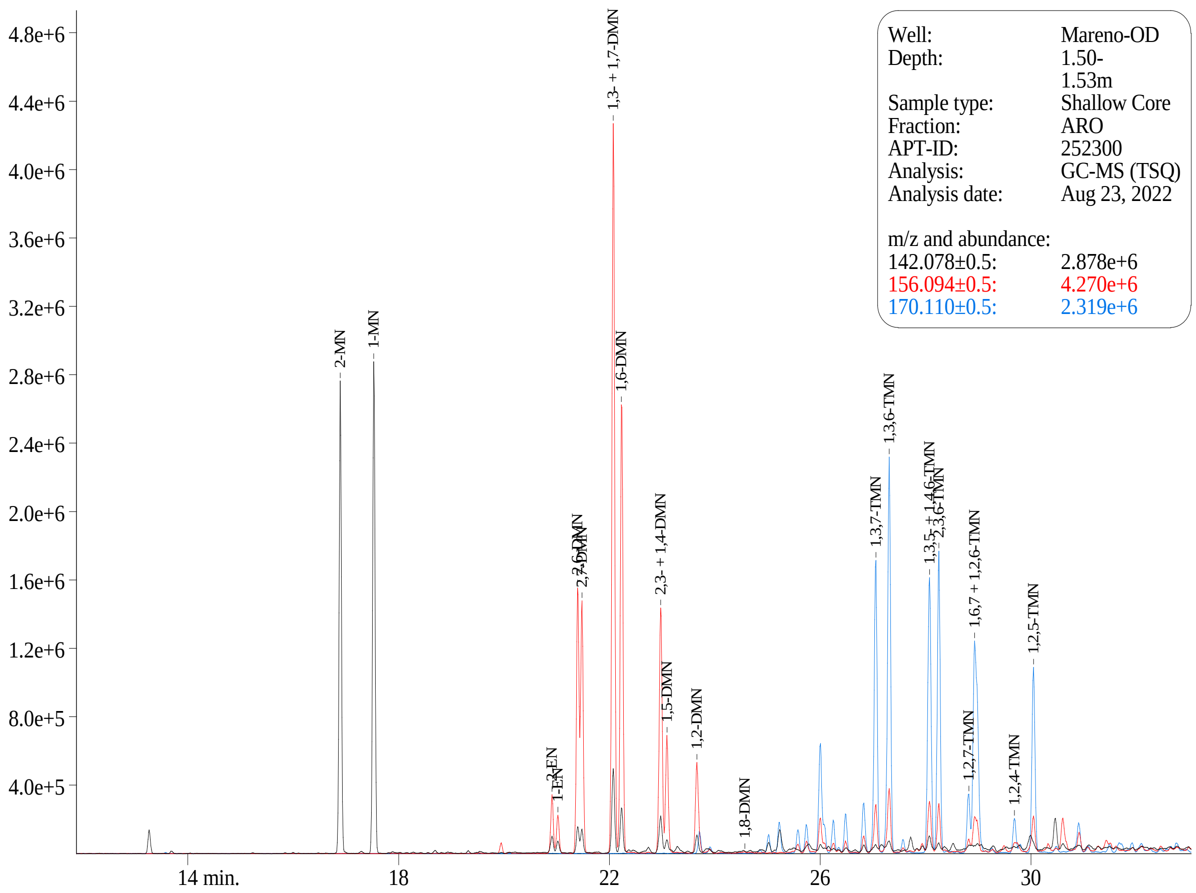


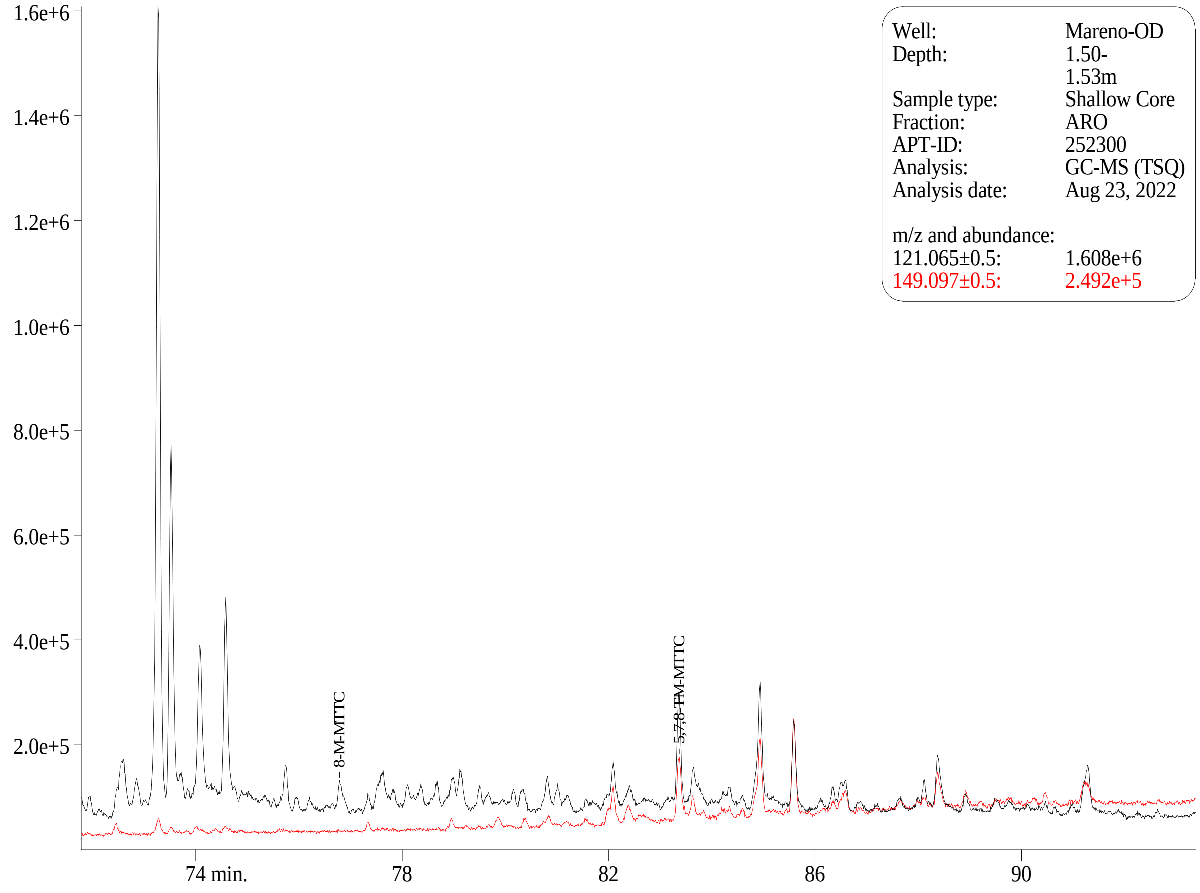
Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 3.549e+5

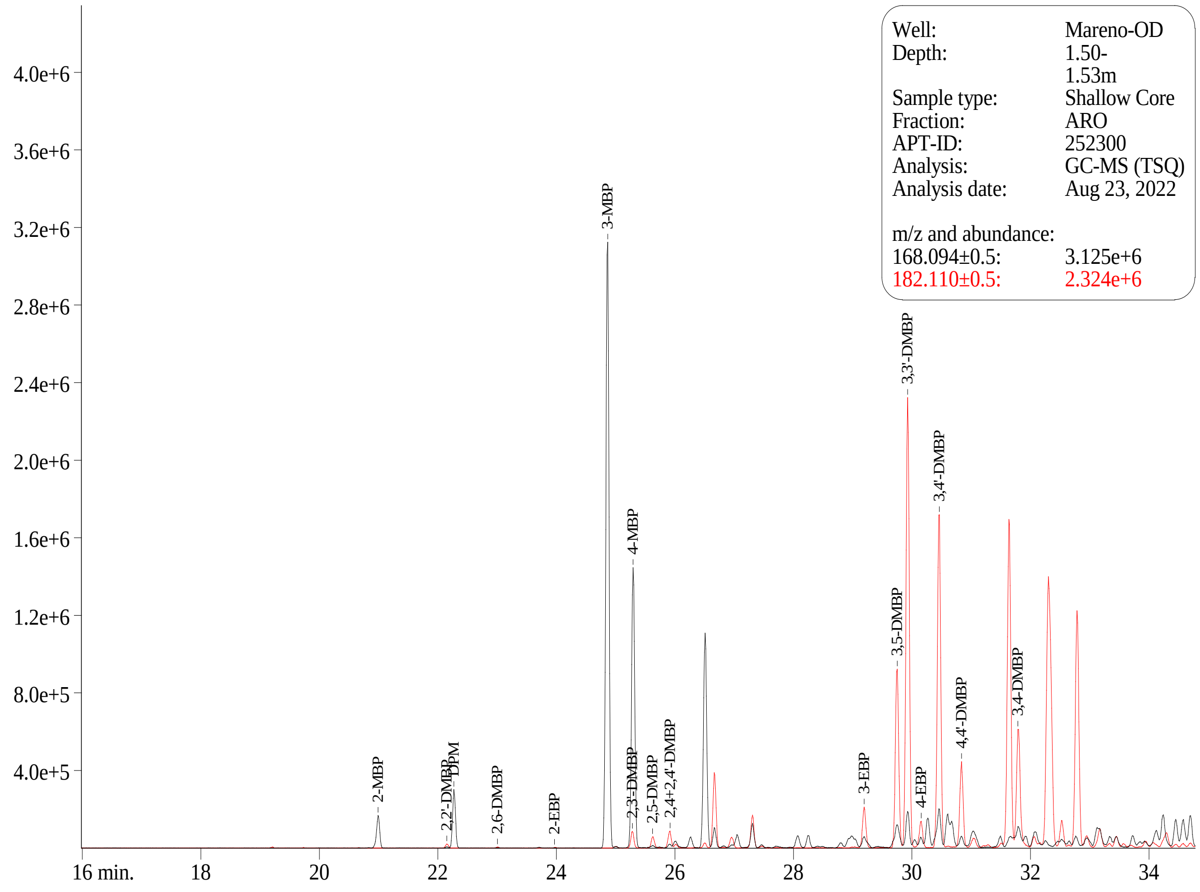


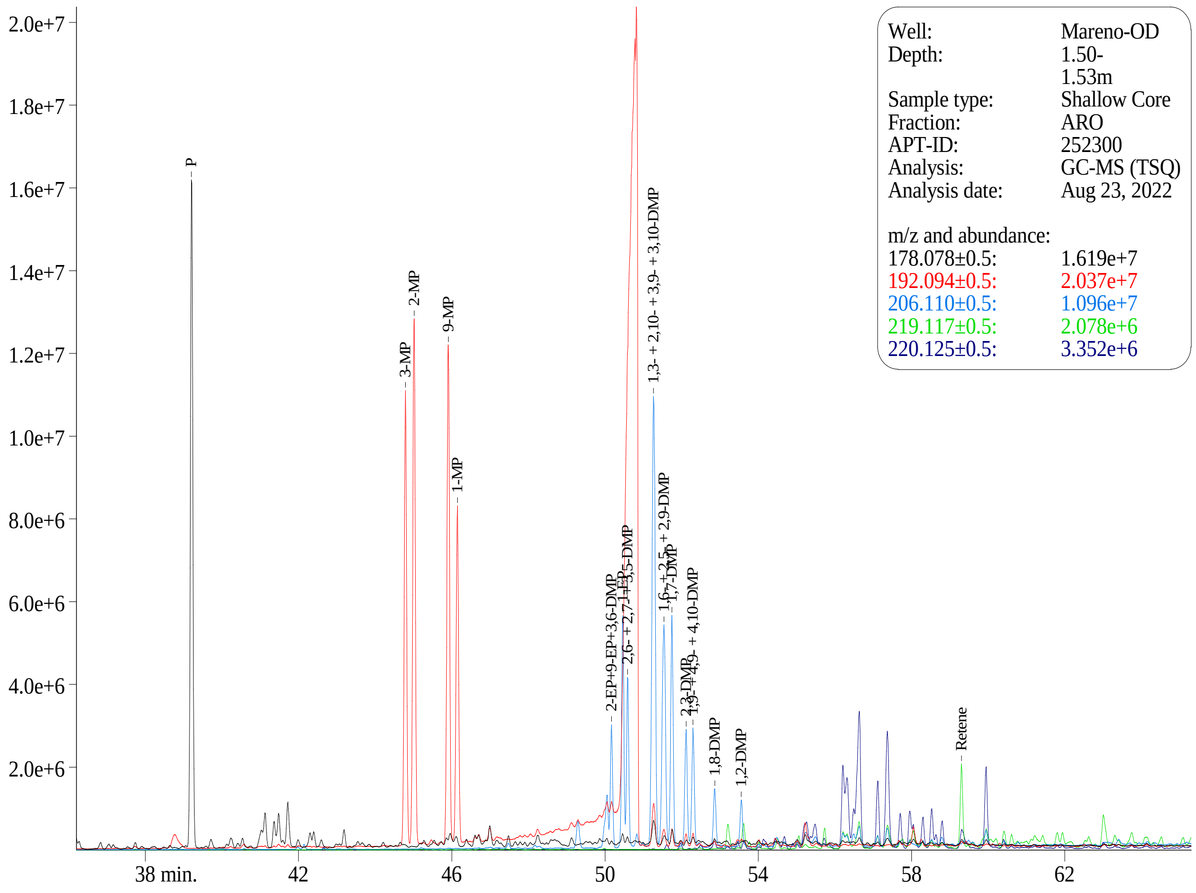
Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 8.675e+5


Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 2.931e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.

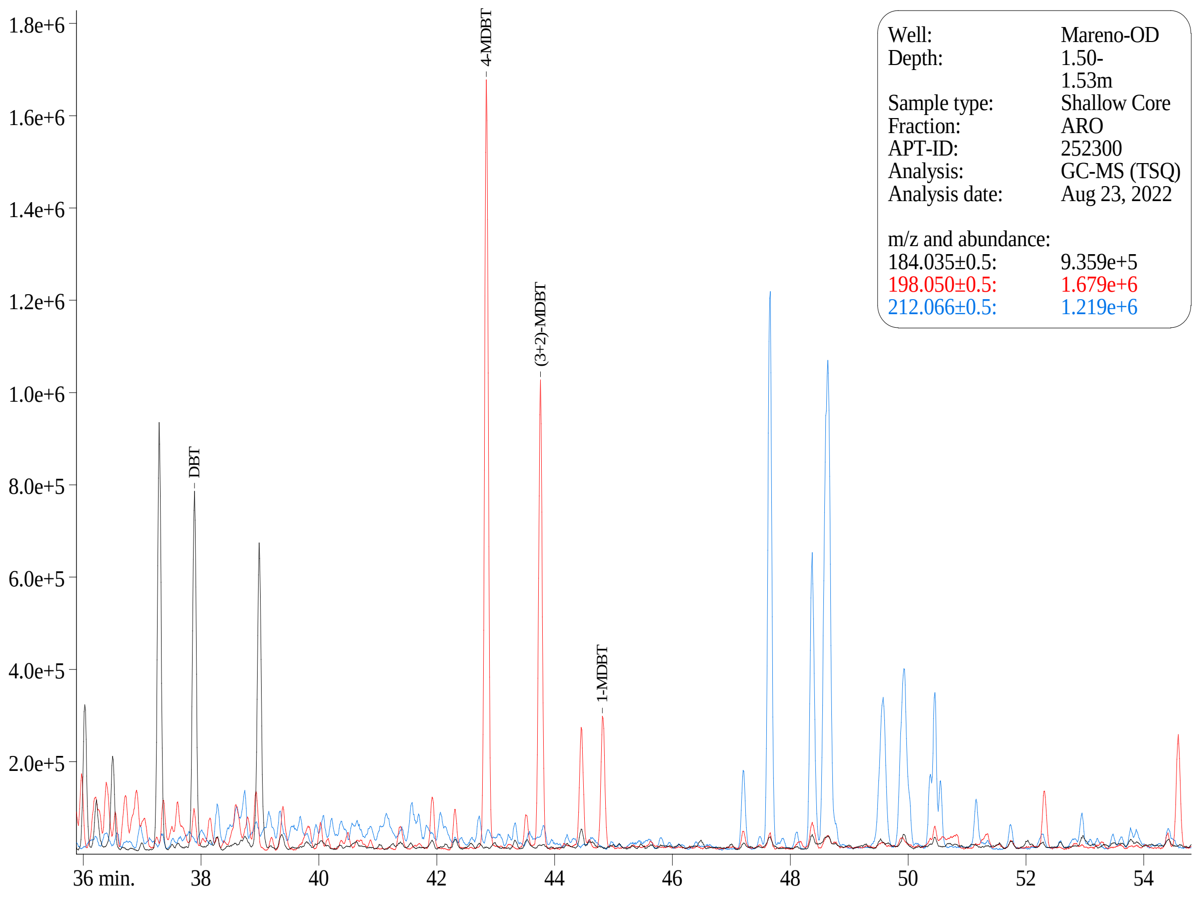

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 2.878e+6
156.094±0.5: 4.270e+6
170.110±0.5: 2.319e+6
2-MN
1-MN
1,3- + 1,7-DMN
1,6-DMN
2,6-DMN
2,7-DMN
2-EN
1-EN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,6,7 + 1,2,6-TMN
1,2,7-TMN
1,2,4-TMN
1,2,5-TMN
14 min.


Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 1.608e+6
149.097±0.5: 2.492e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5

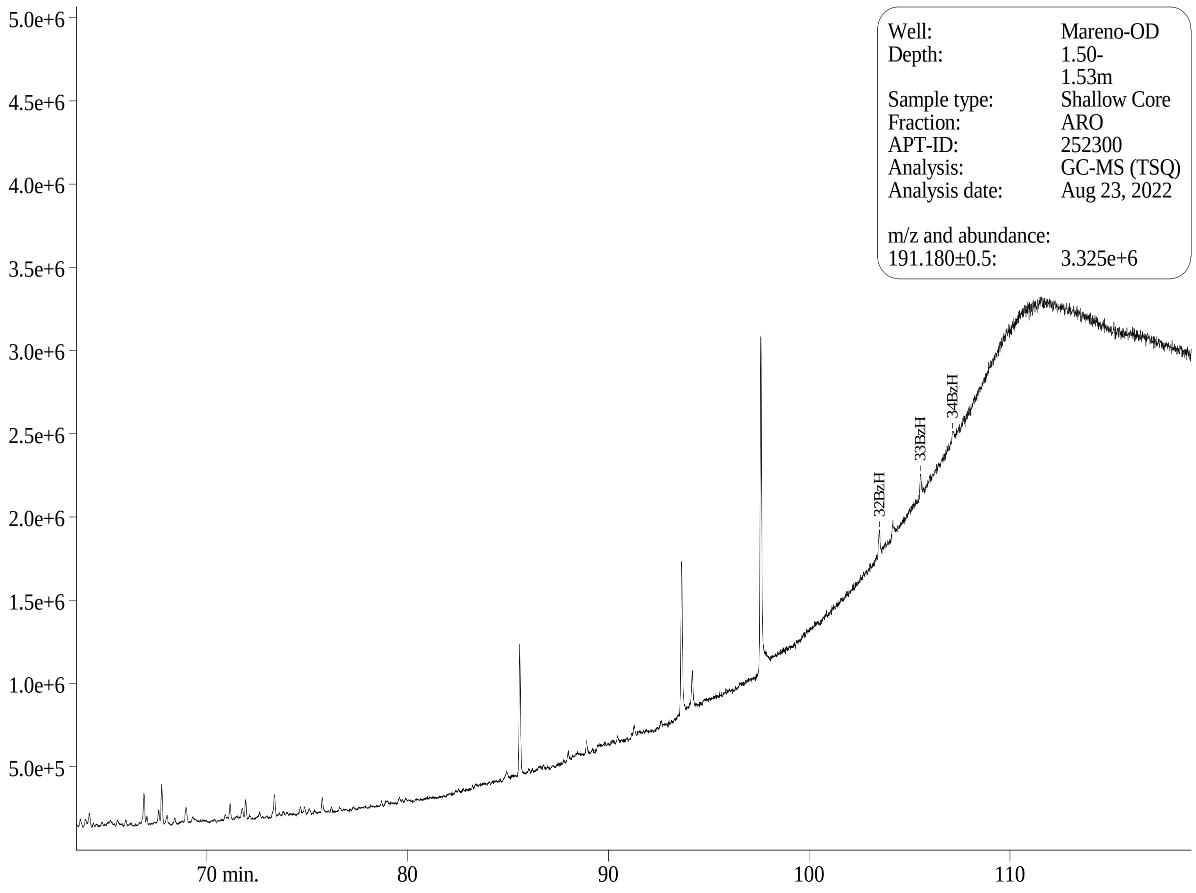

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 3.125e+6
182.110±0.5: 2.324e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
4-MBP
2,3'-DMBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5

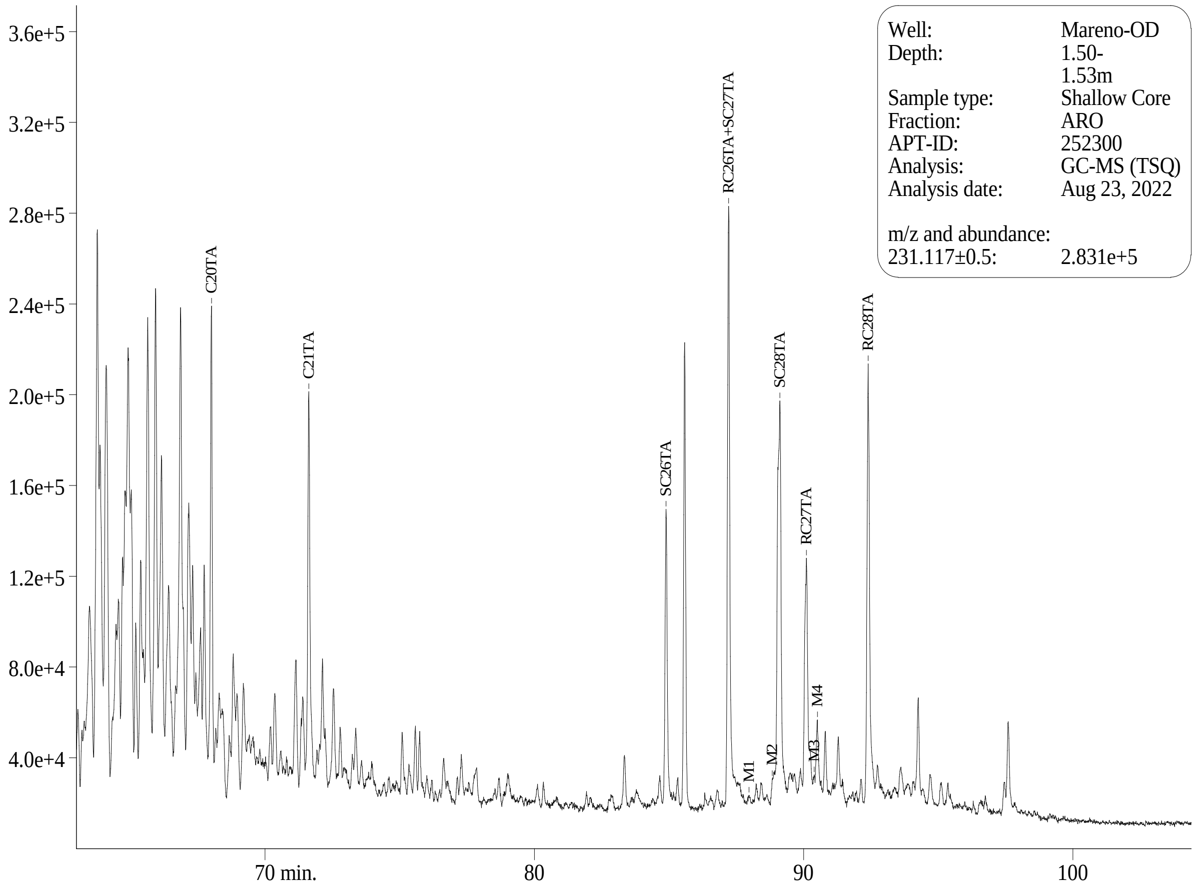


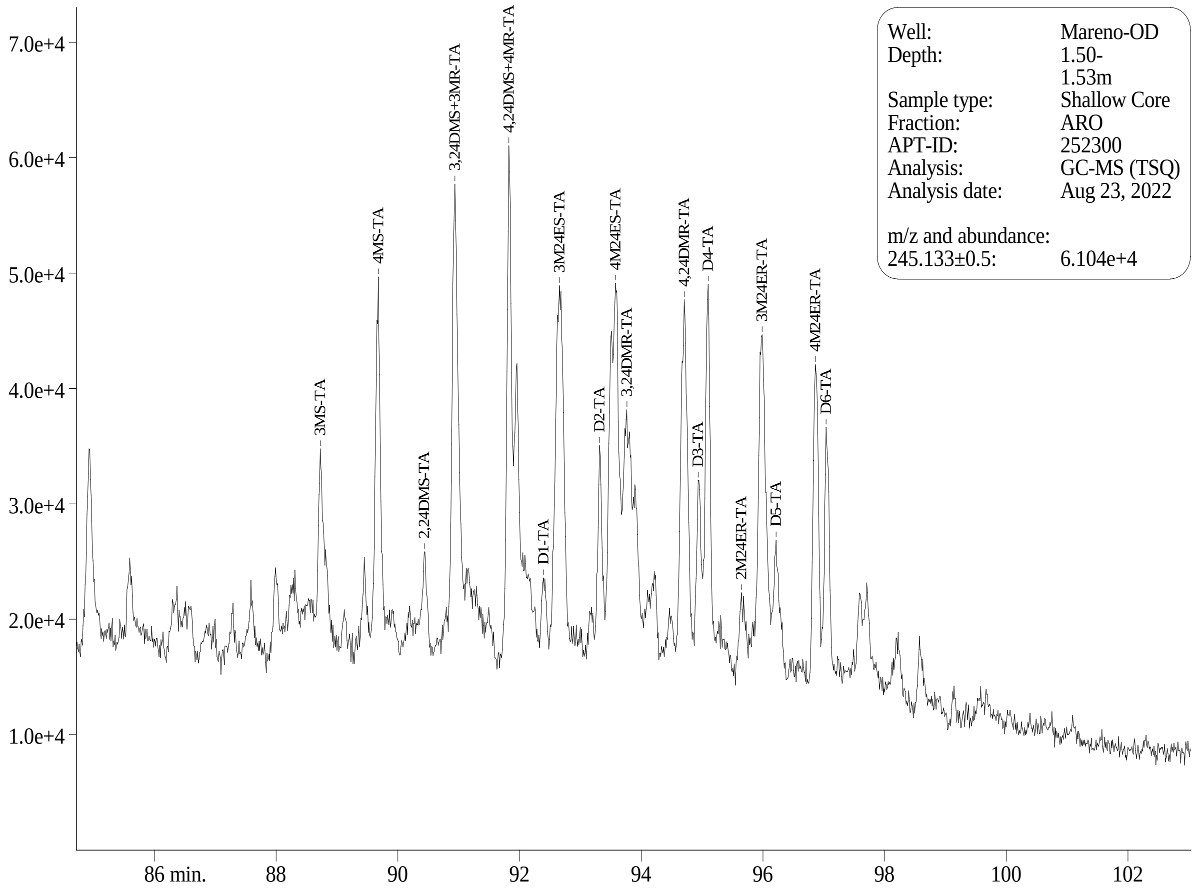
Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 1.619e+7
192.094±0.5: 2.037e+7
206.110±0.5: 1.096e+7
219.117±0.5: 2.078e+6
220.125±0.5: 3.352e+6
P
3-MP
2-MP
9-MP
1-MP
2-EP+9-EP+3,6-DMP
2,6- + 2,7-+1-EP
3,5-DMP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
38 min.
42
46
50
54
58
62

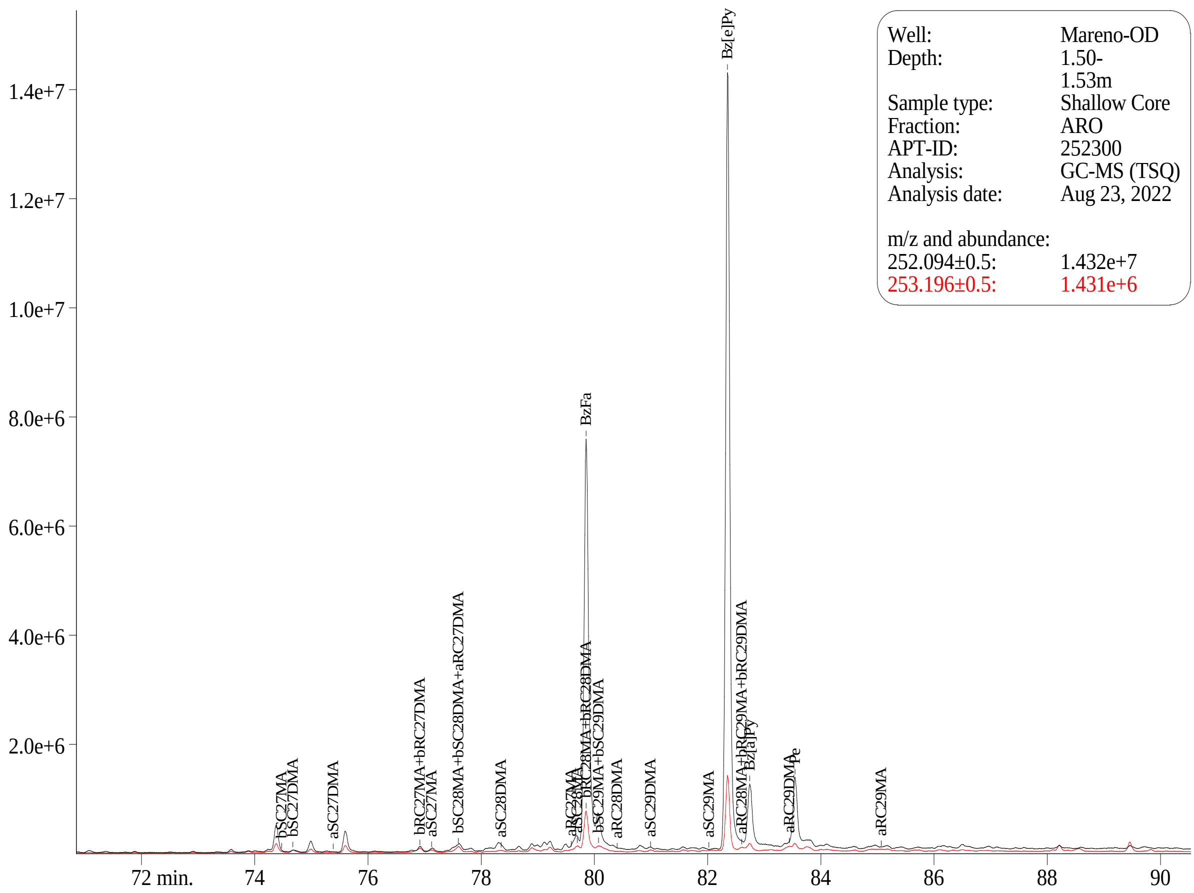


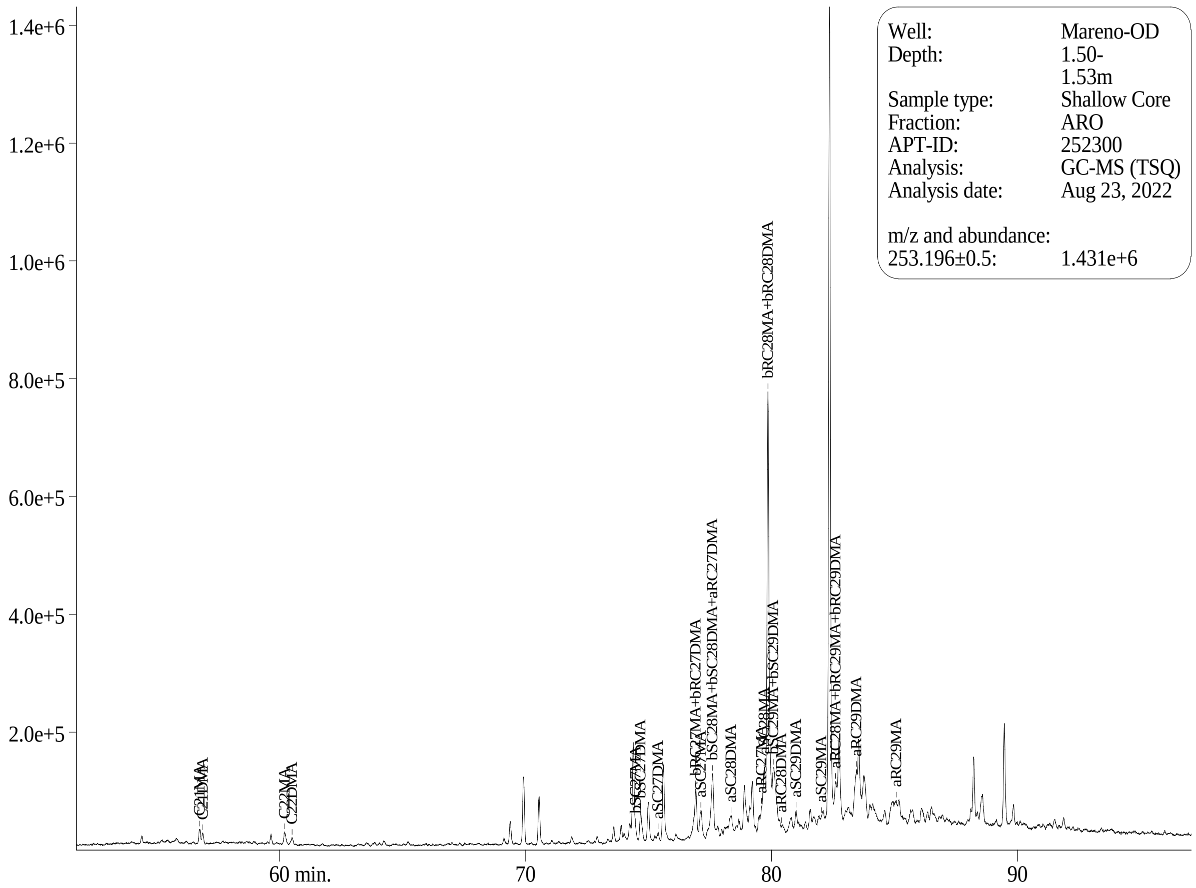
Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 9.359e+5
198.050±0.5: 1.679e+6
212.066±0.5: 1.219e+6
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
36 min.
38
40
42
44
46
48
50
52
54

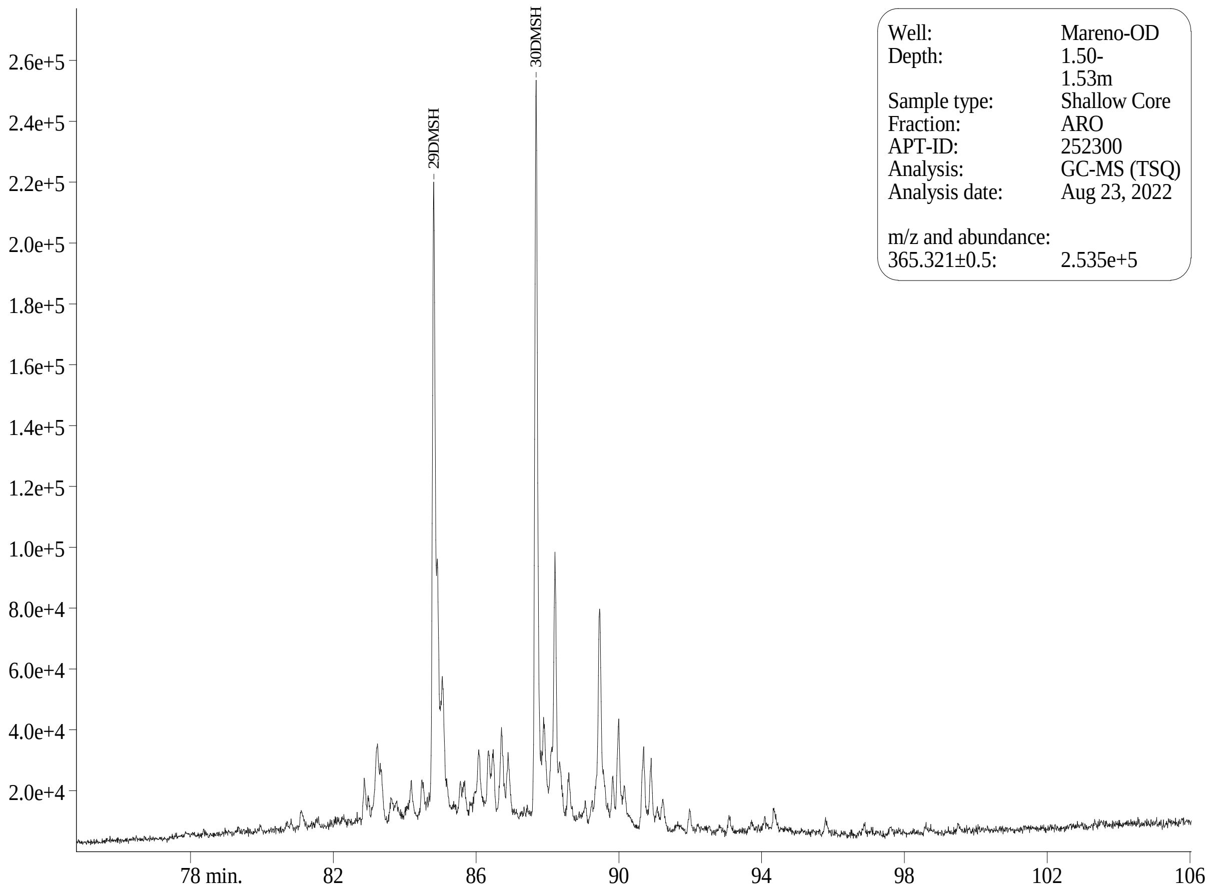

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 3.325e+6
32BzH
33BzH
34BzH
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

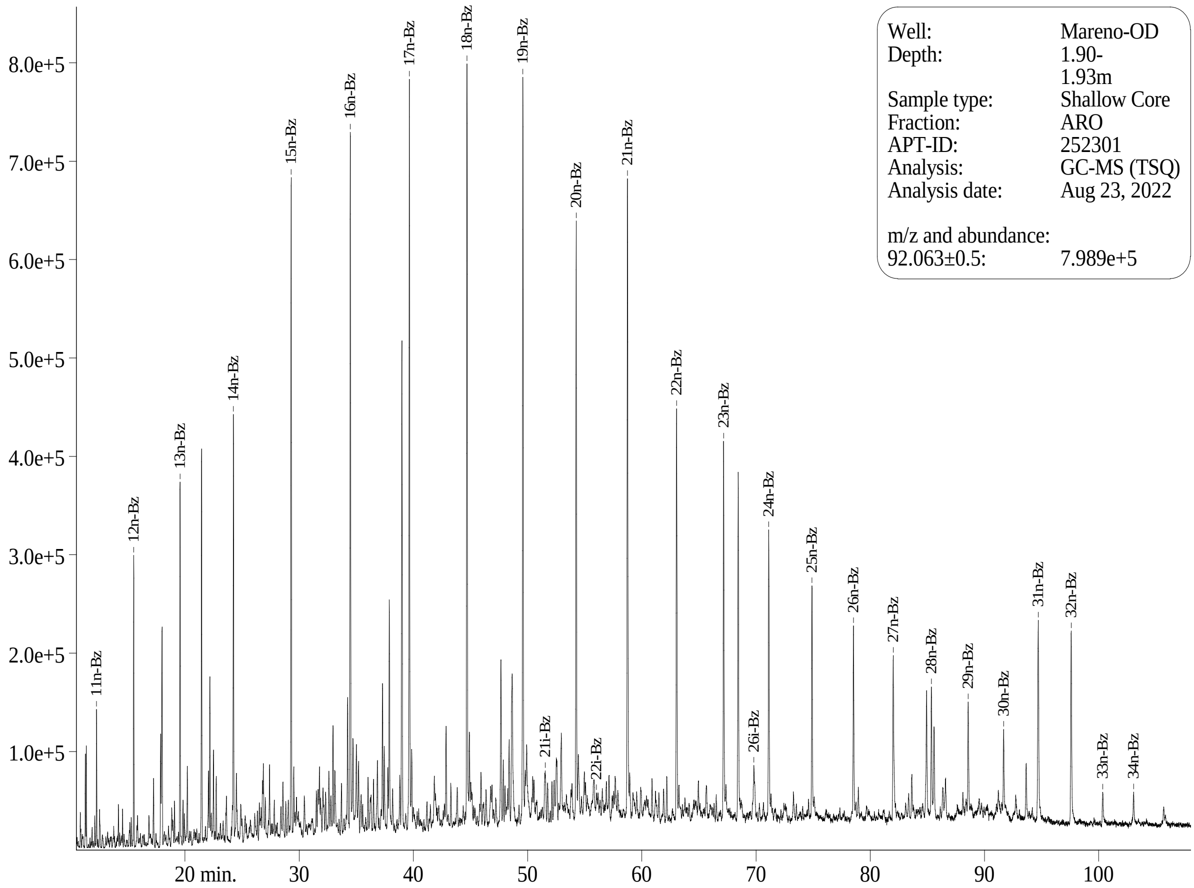

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 2.831e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
70 min.
80
90
100

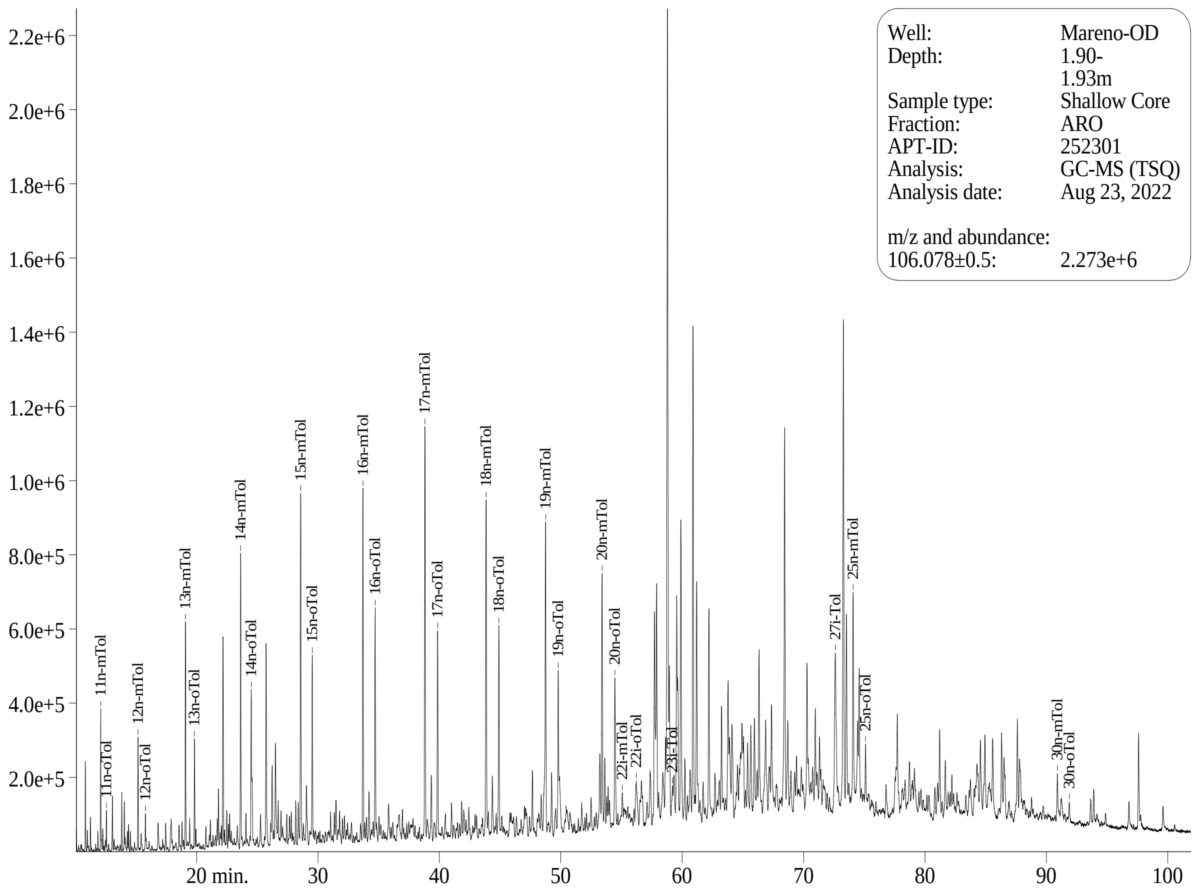

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 6.104e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
86 min.
88
90
92
94
96
98
100
102

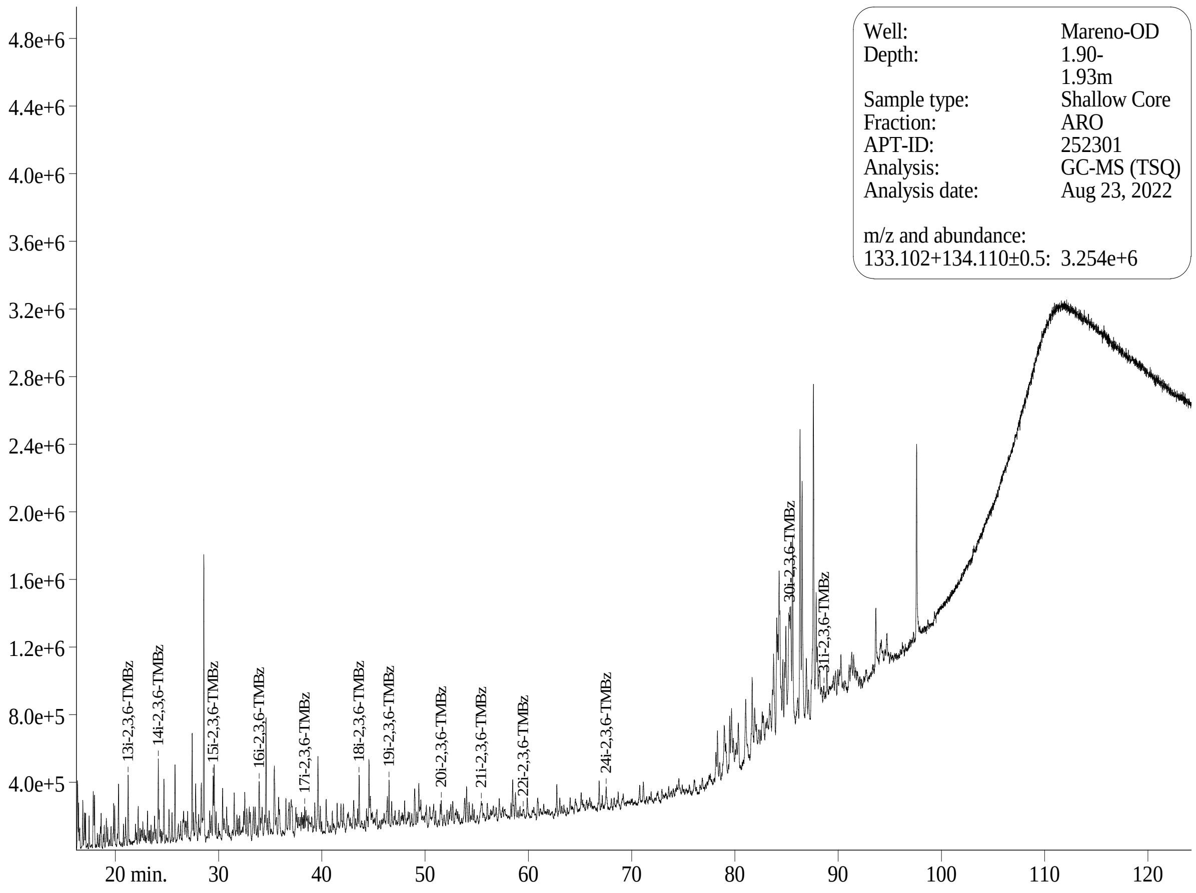

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 1.432e+7
253.196±0.5: 1.431e+6
Bz[e]Py
BzFa
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
aSC28MA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
72 min.
74
76
78
80
82
84
86
88
90

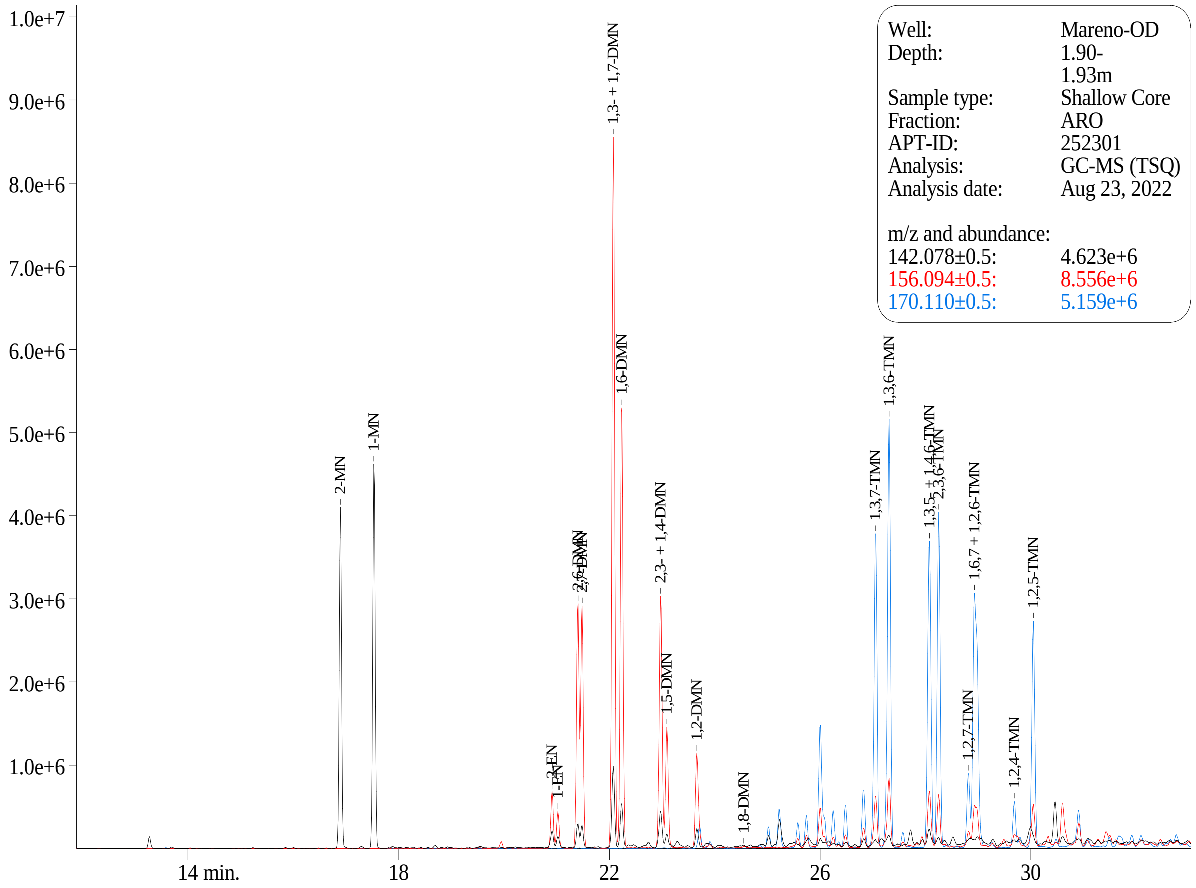

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 1.431e+6
bRC28MA+bRC28DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aSC29MA+bSC29DMA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA
aSC29DMA
aSC28DMA
aRC28DMA
aSC27DMA
aSC29MA
C21MA
C21DMA
C22MA
C22DMA
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5
60 min.
70
80
90

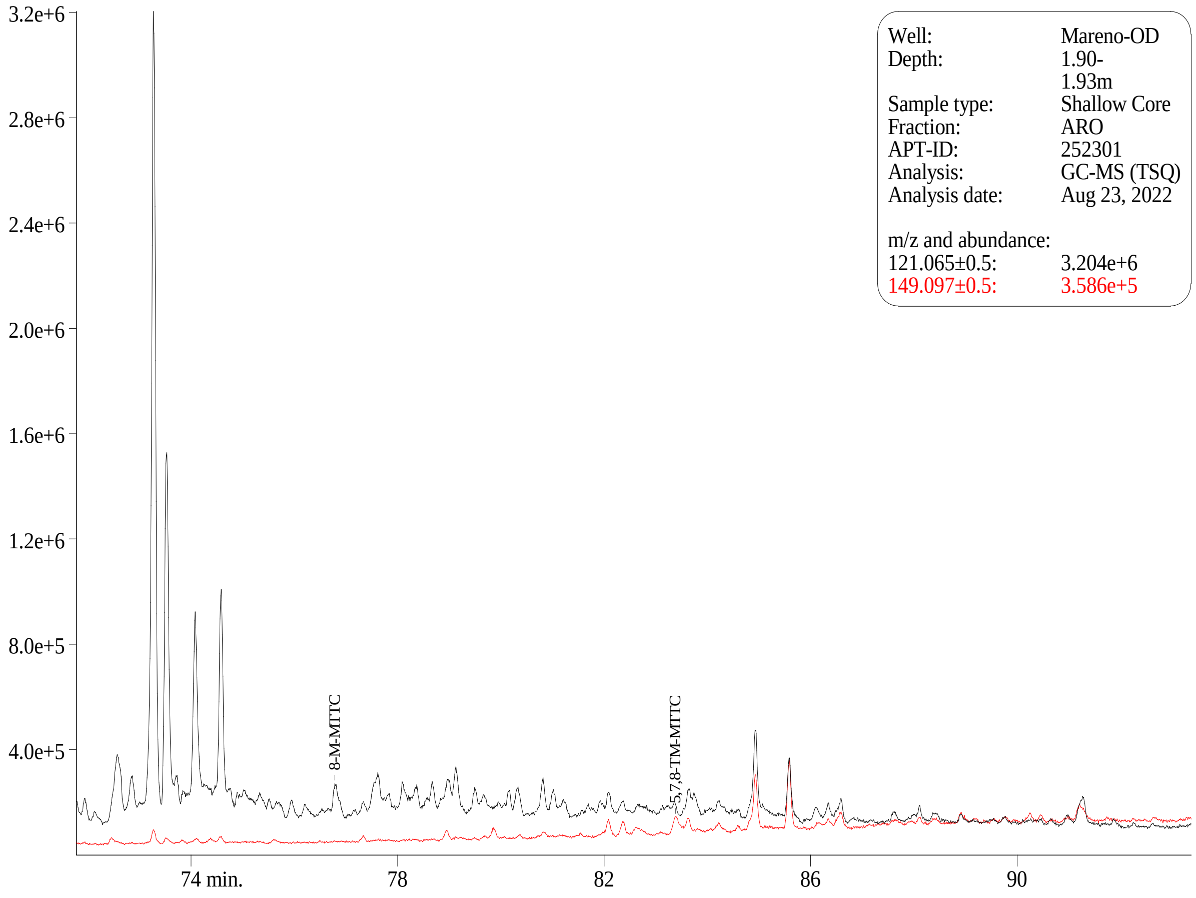

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252300
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 2.535e+5
29DMSH
30DMSH
2.6e+5
2.4e+5
2.2e+5
2.0e+5
1.8e+5
1.6e+5
1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
78 min.
82
86
90
94
98
102
106


Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 7.989e+5
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21n-Bz
21i-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
26i-Bz
25n-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz
20 min.

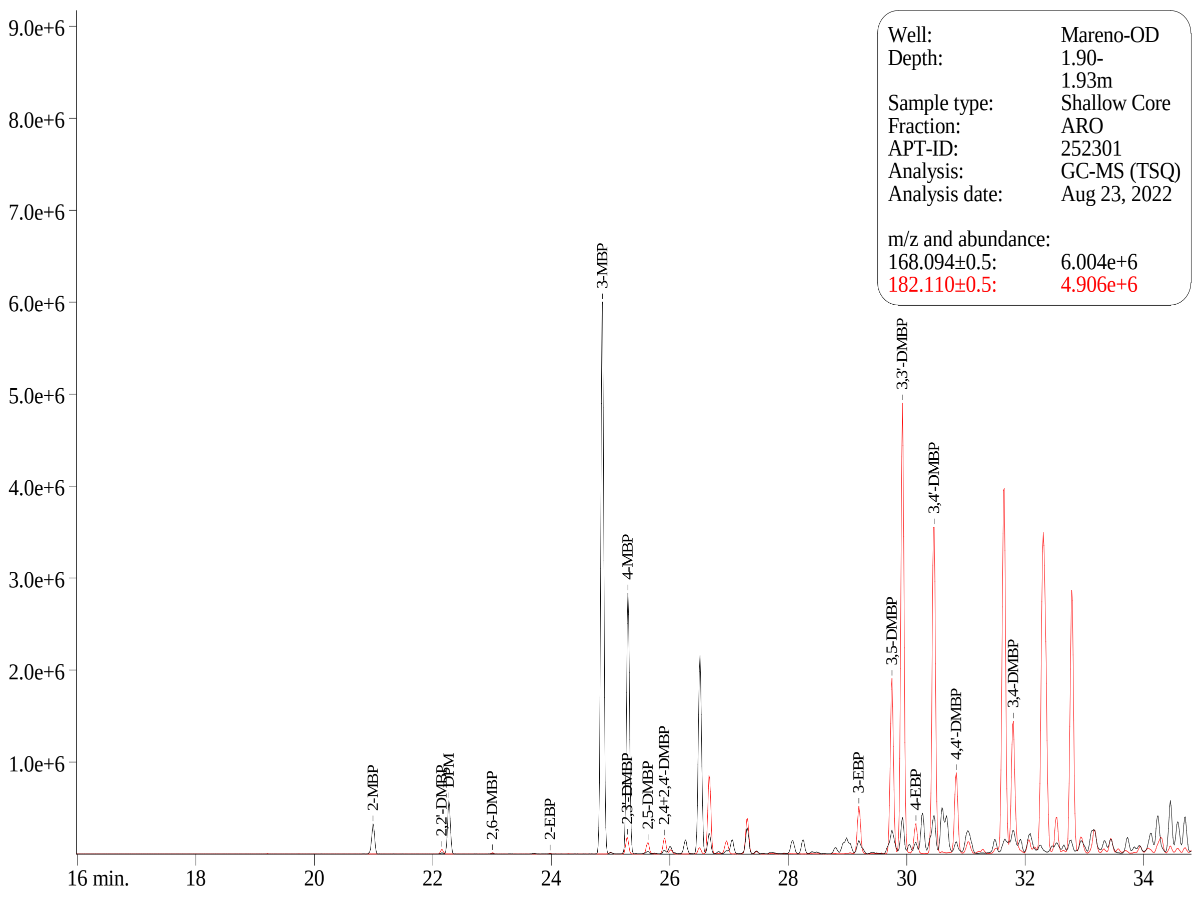

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 2.273e+6
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol
20 min.


Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 3.254e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.

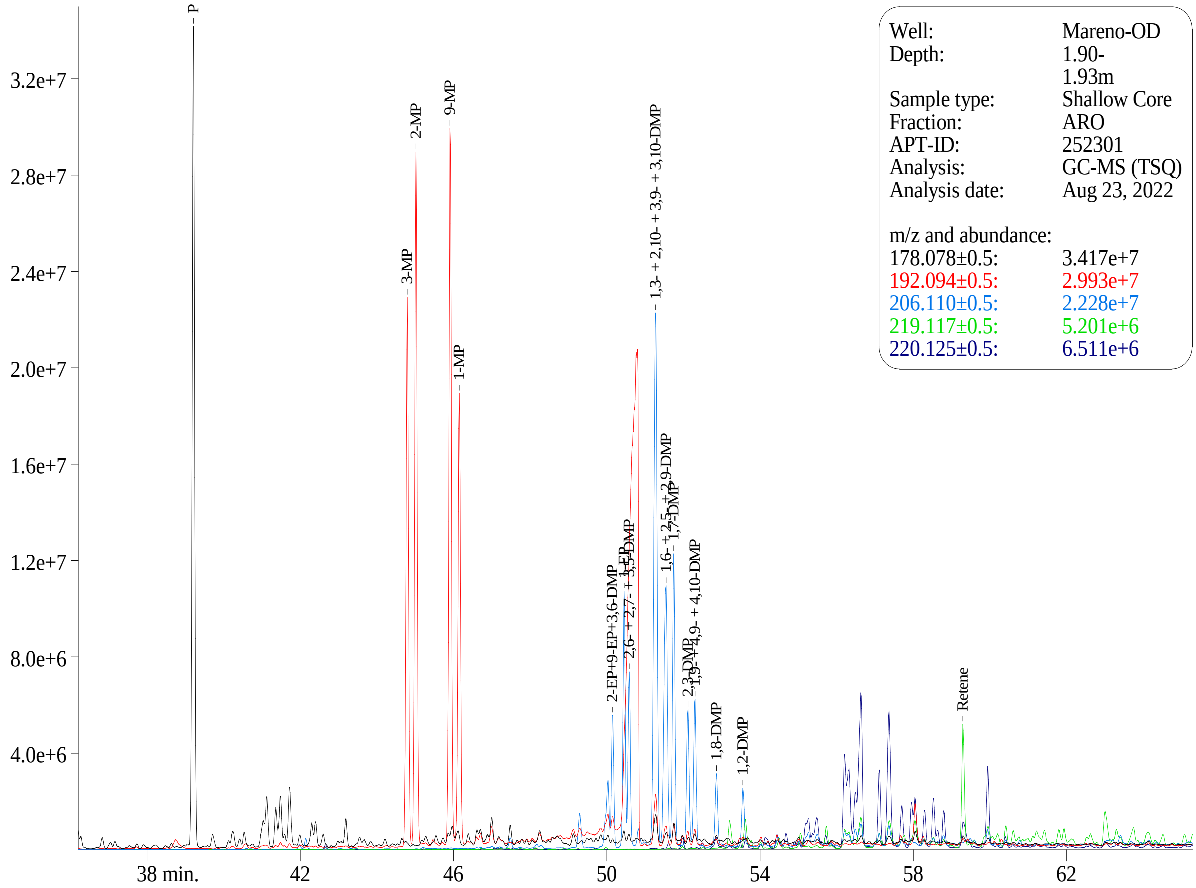

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 4.623e+6
156.094±0.5: 8.556e+6
170.110±0.5: 5.159e+6
2-MN
1-MN
2-EN
1-EN
2,6-DMN
2,7-DMN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5 + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.

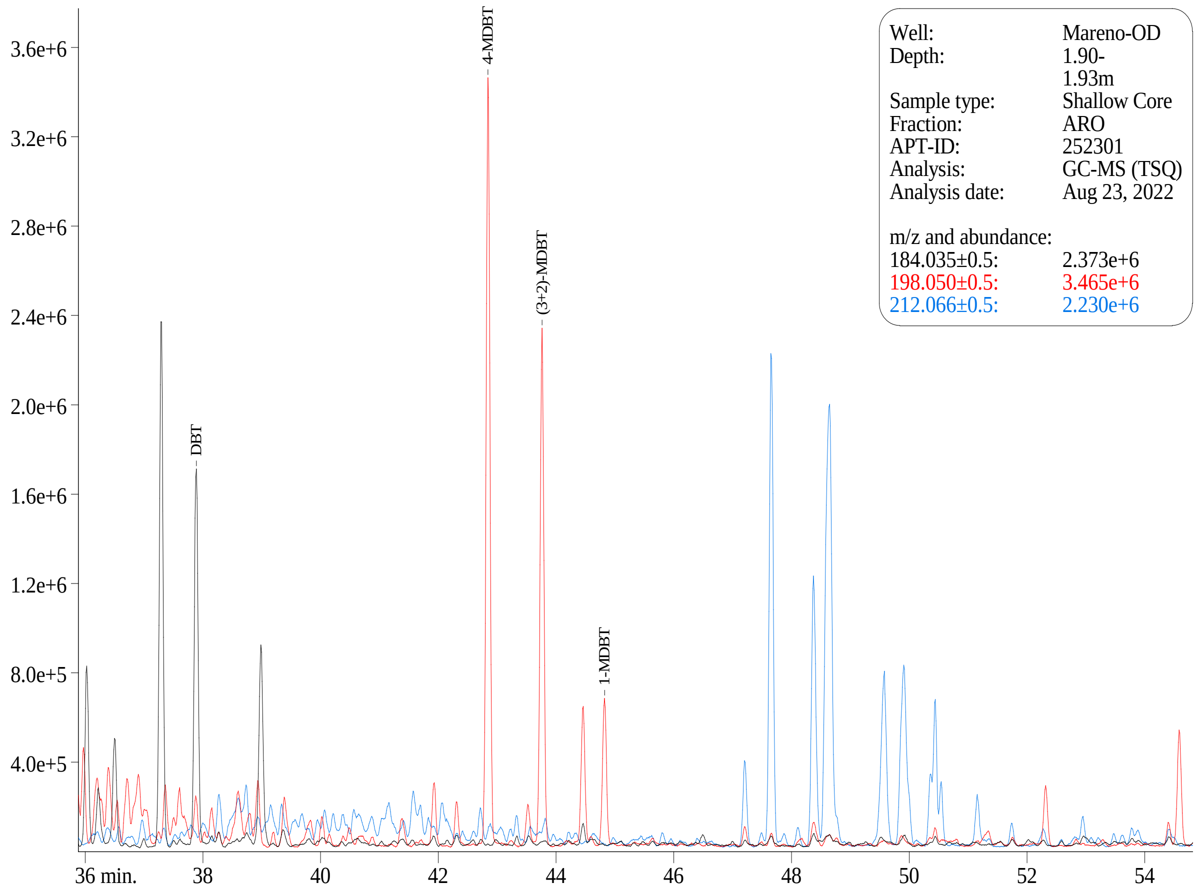


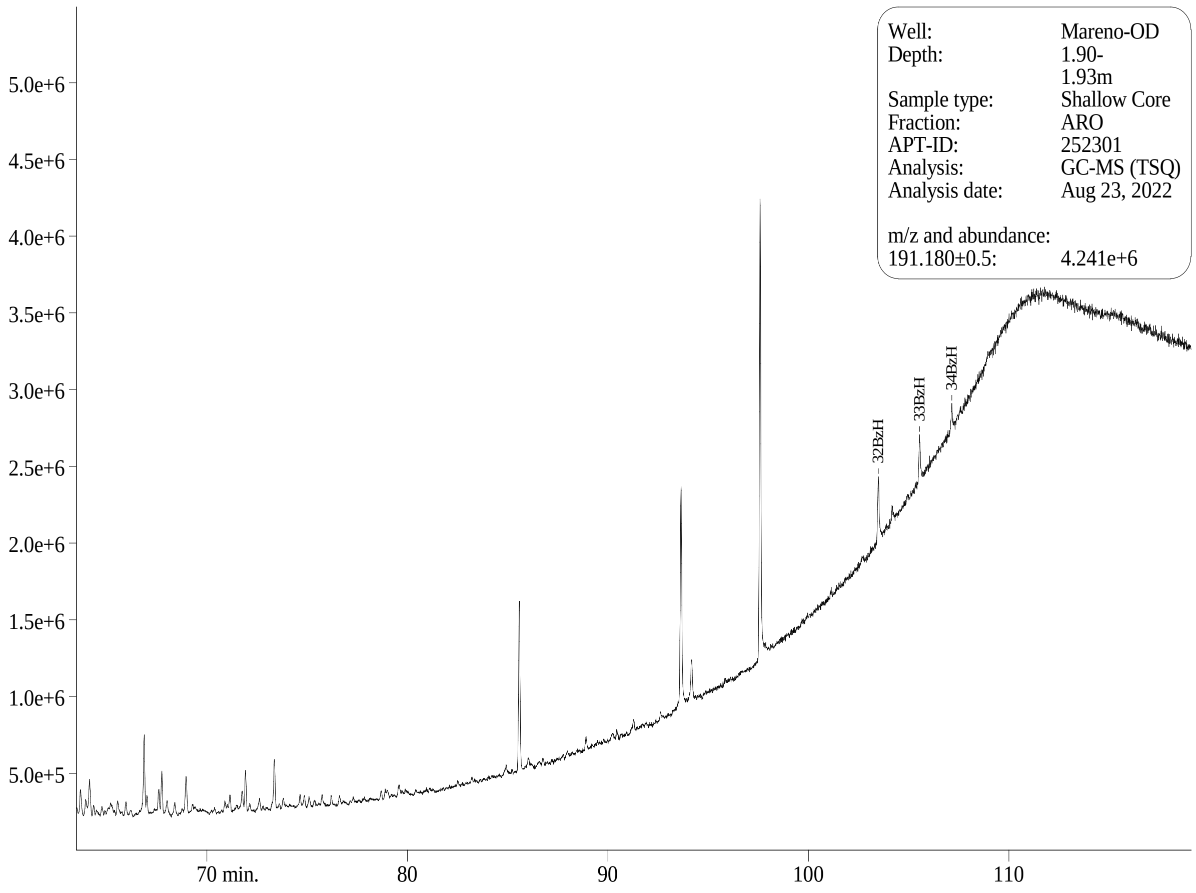
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 3.204e+6
149.097±0.5: 3.586e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90

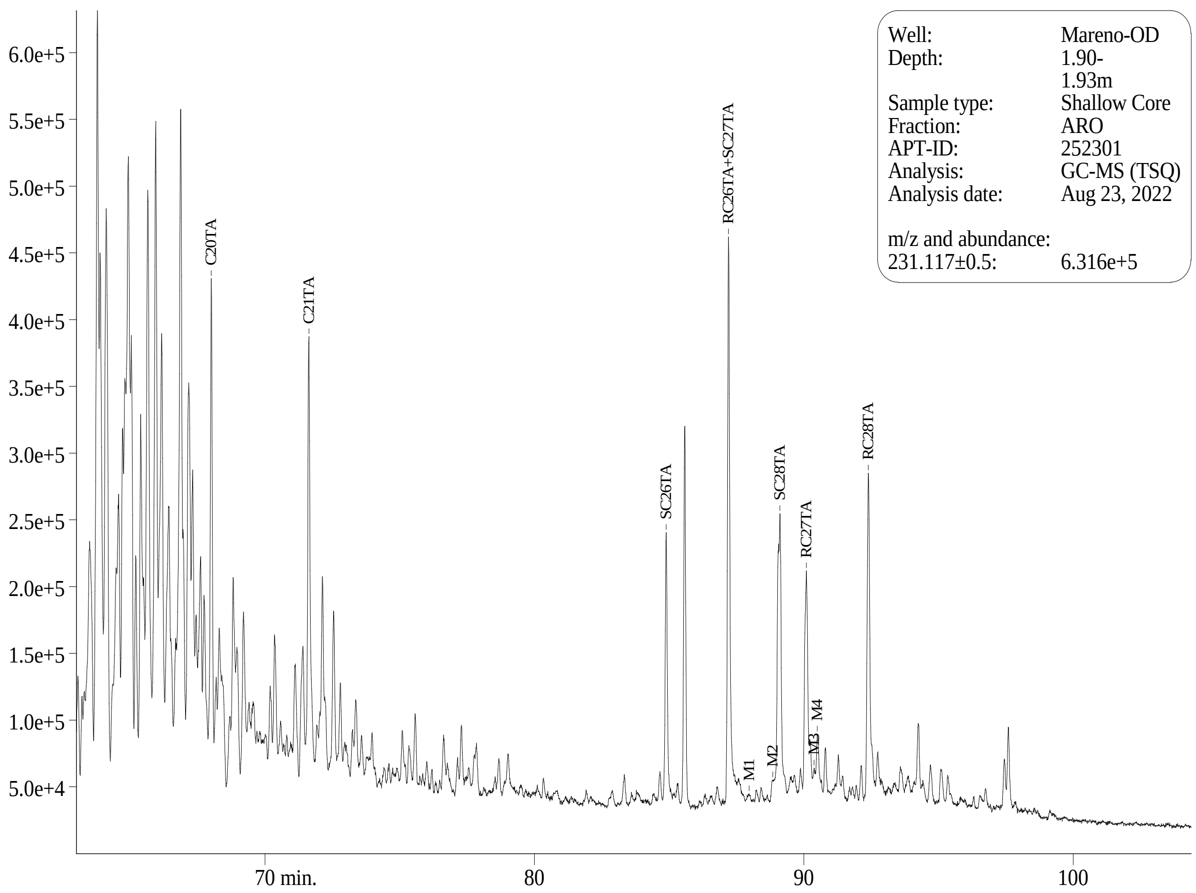


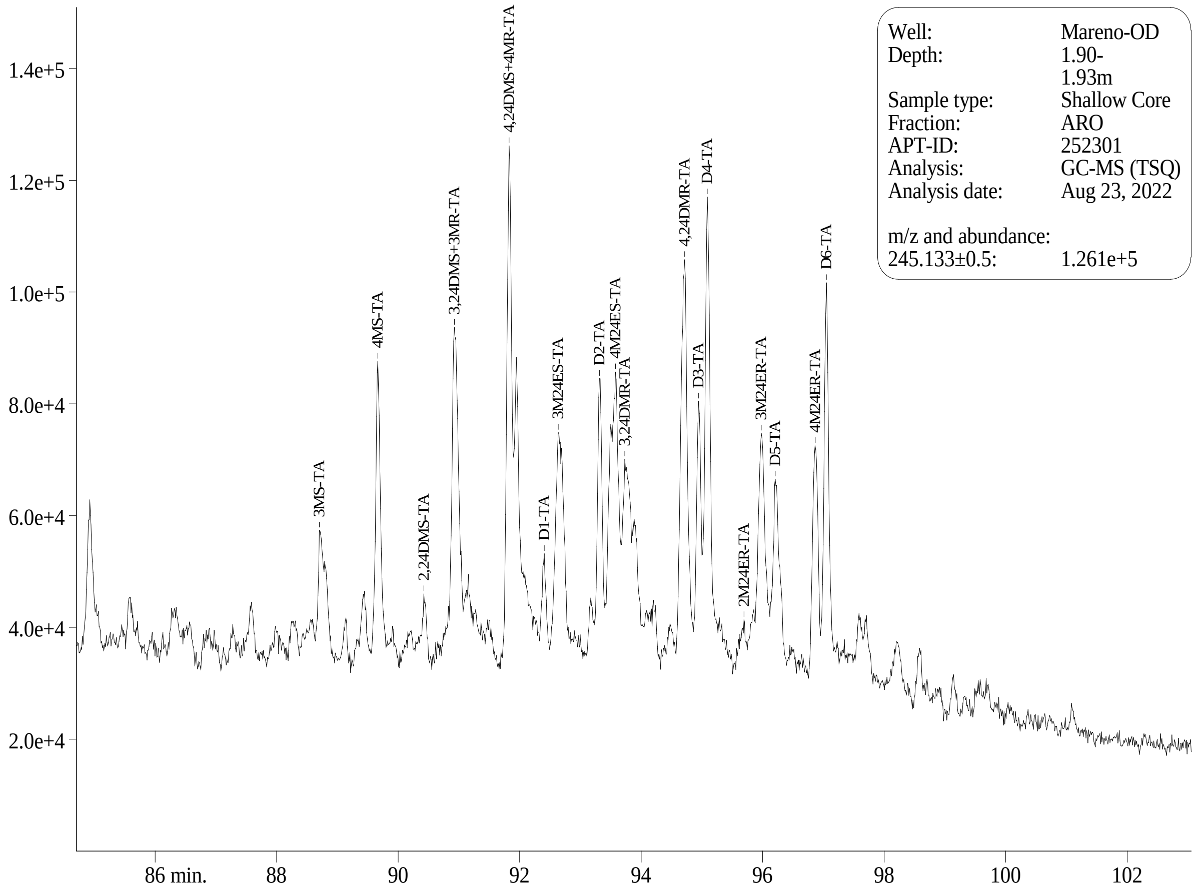
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 6.004e+6
182.110±0.5: 4.906e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
4-MBP
2,3'-DMBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34

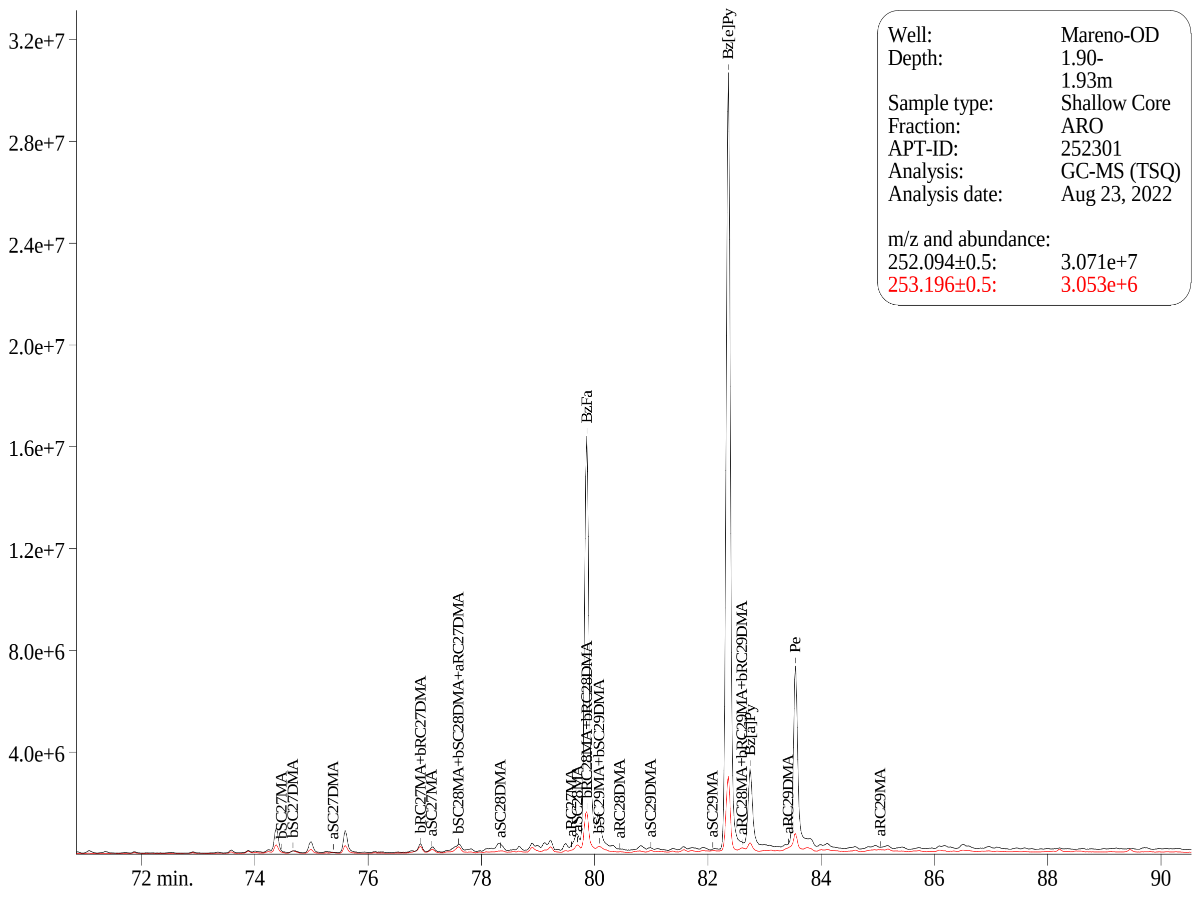

P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
2-EP+9-EP+3,6-DMP
2,6- + 2,7- + 3,5-DMP
1-EP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
1,8-DMP
1,2-DMP
Retene
3.2e+7
2.8e+7
2.4e+7
2.0e+7
1.6e+7
1.2e+7
8.0e+6
4.0e+6
38 min.
42
46
50
54
58
62
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 3.417e+7
192.094±0.5: 2.993e+7
206.110±0.5: 2.228e+7
219.117±0.5: 5.201e+6
220.125±0.5: 6.511e+6

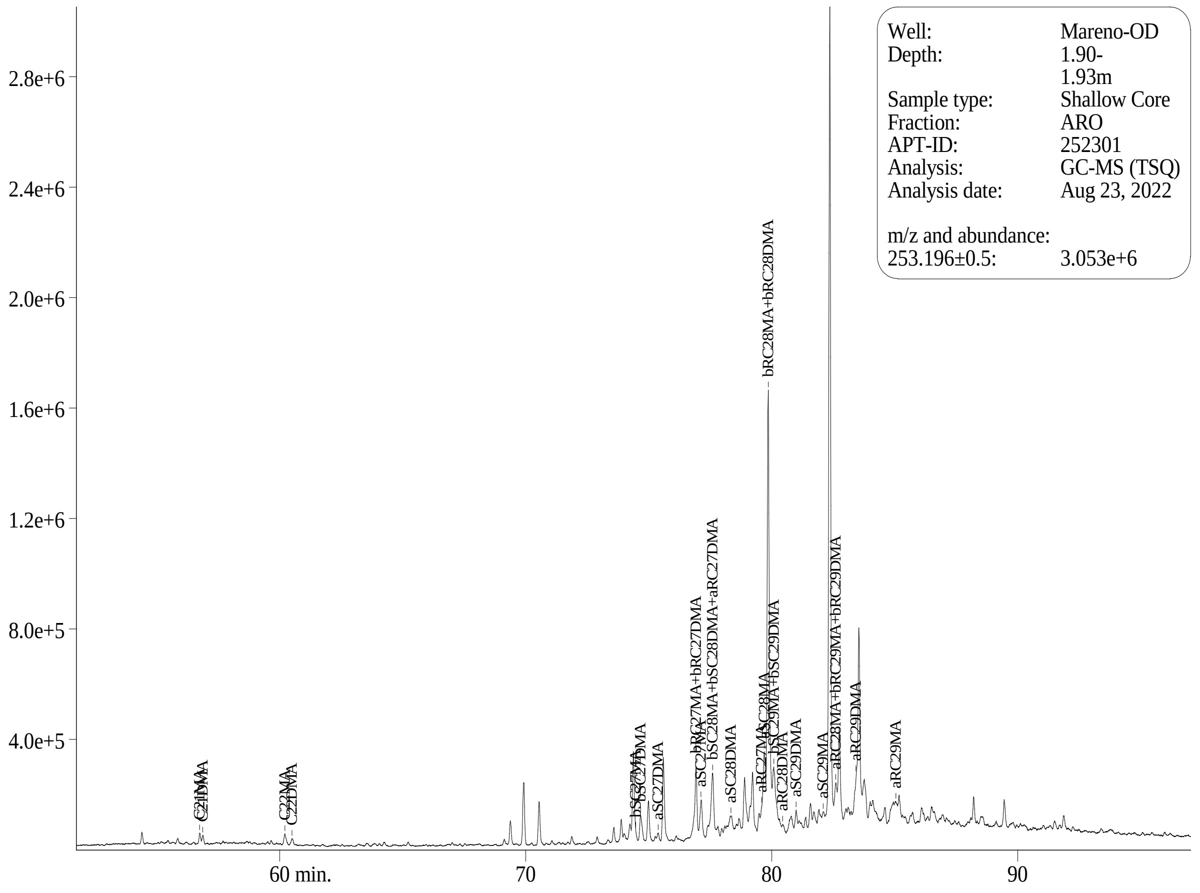

4-MDBT
(3+2)-MDBT
DBT
1-MDBT
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
36 min.
38
40
42
44
46
48
50
52
54
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 2.373e+6
198.050±0.5: 3.465e+6
212.066±0.5: 2.230e+6

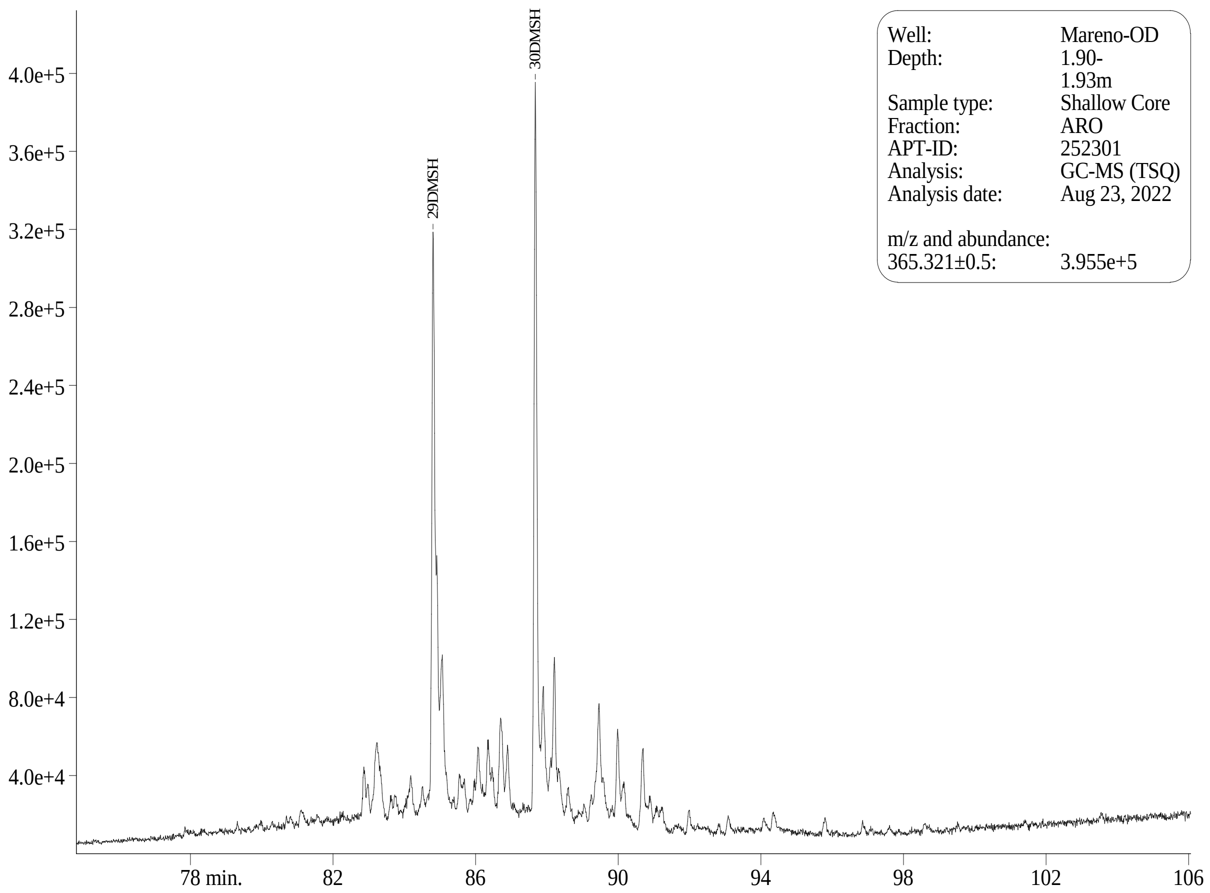

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 4.241e+6
32BzH
33BzH
34BzH
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

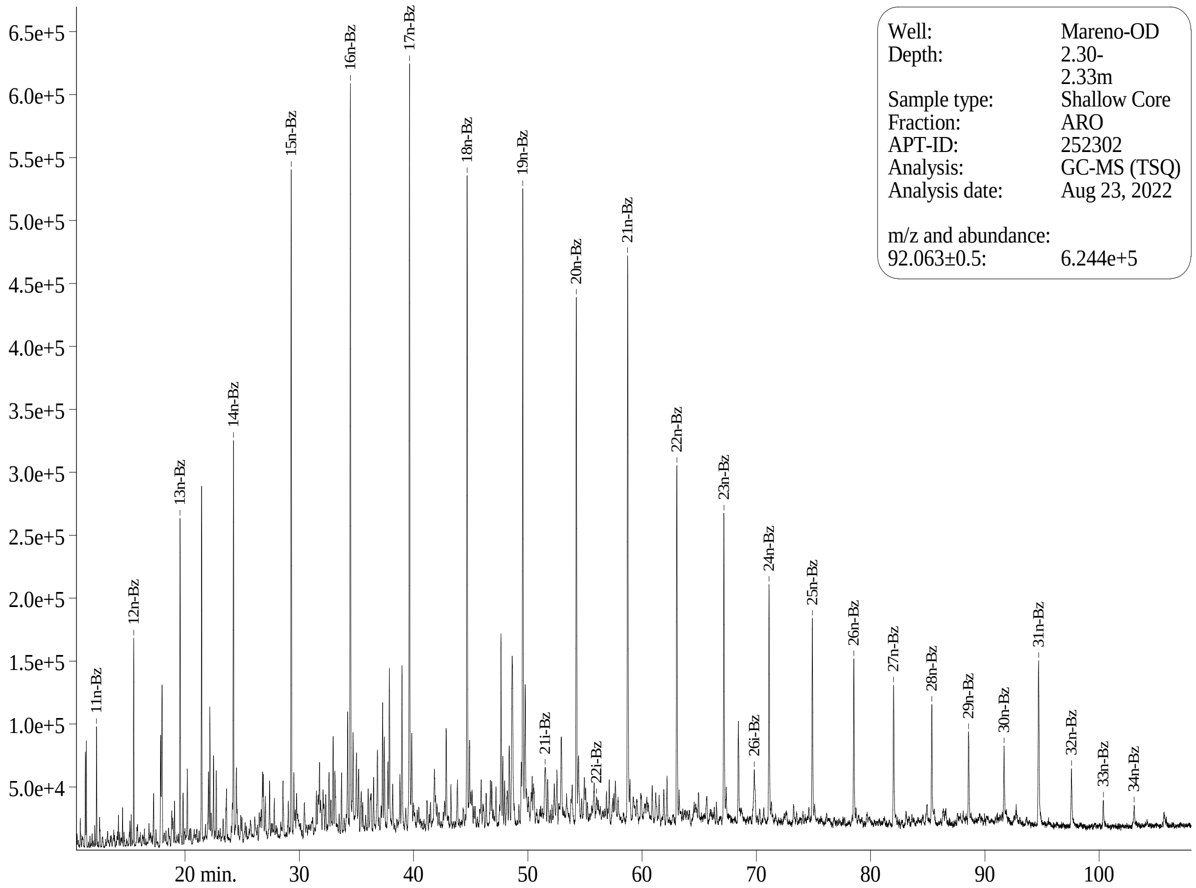

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 6.316e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
6.0e+5
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
70 min.
80
90
100

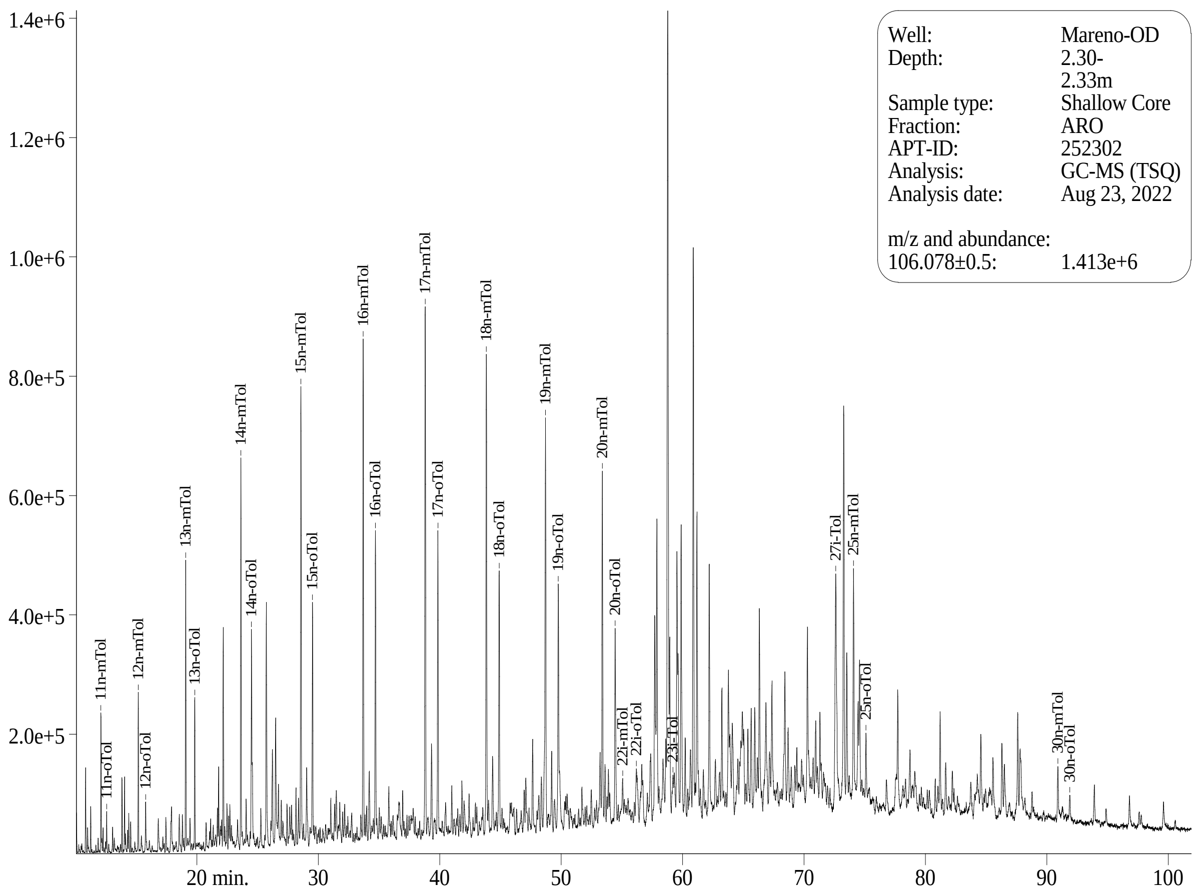

1.4e+5
1.2e+5
1.0e+5
8.0e+4
6.0e+4
4.0e+4
2.0e+4
86 min.
88
90
92
94
96
98
100
102
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 1.261e+5

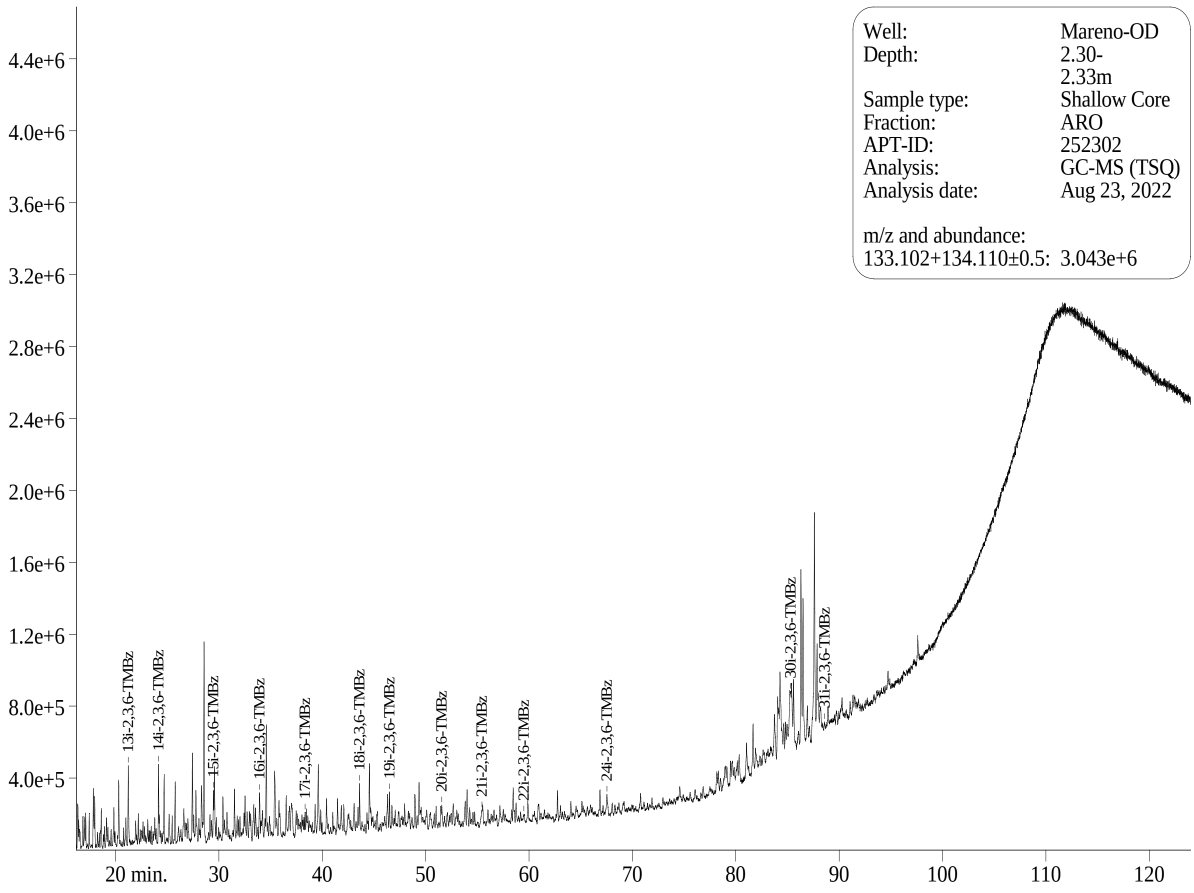

3.2e+7
2.8e+7
2.4e+7
2.0e+7
1.6e+7
1.2e+7
8.0e+6
4.0e+6
72 min.
74
76
78
80
82
84
86
88
90
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
BzFa
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
aRC28DMA
aSC29DMA
aSC29MA
Bz[e]Py
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 3.071e+7
253.196±0.5: 3.053e+6

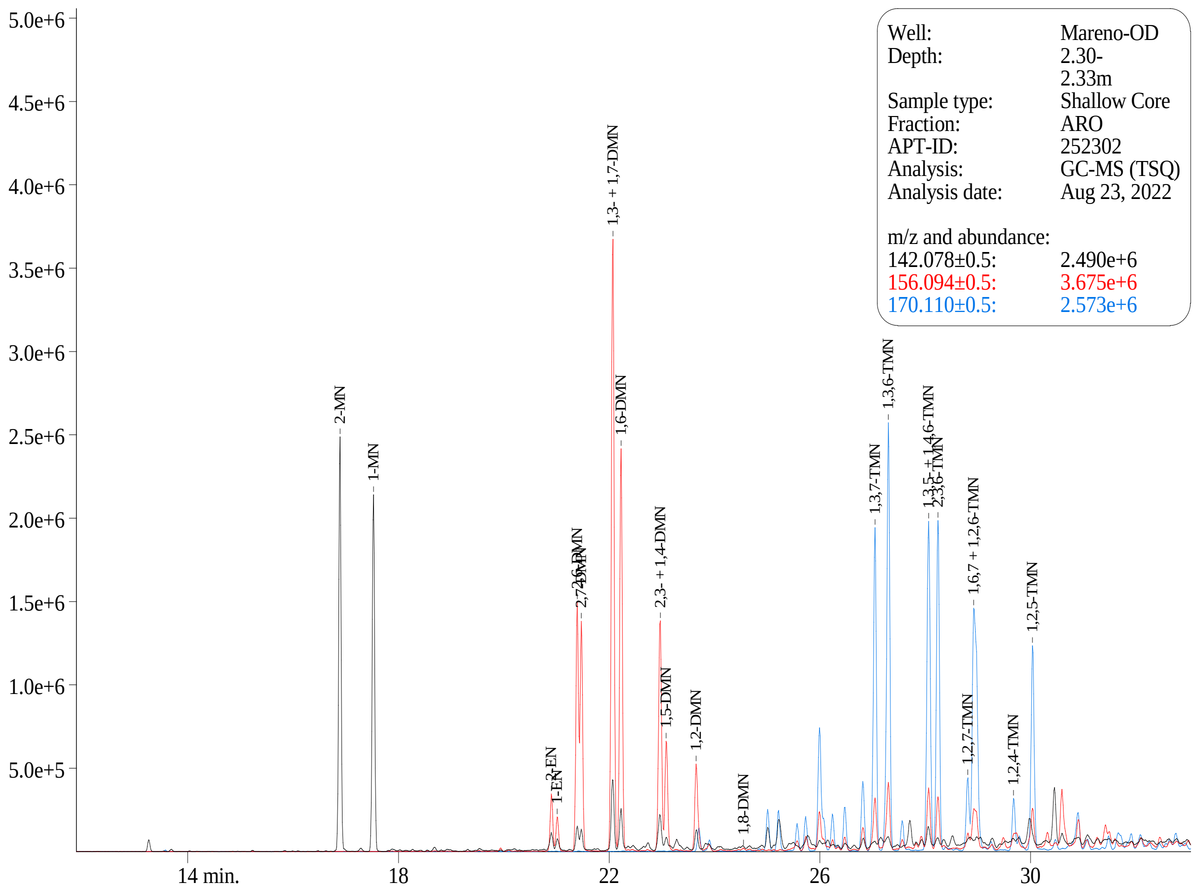

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 3.053e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
60 min.
70
80
90
bRC28MA+bRC28DMA
bRC27MA+bRC27DMA
bSC28MA+bSC28DMA+aRC27DMA
aRC28MA+bRC29MA+bRC29DMA
bSC29MA+bSC29DMA
aRC29DMA
aRC29MA
aSC29MA
aSC29DMA
aRC28DMA
aSC28DMA
aSC27DMA
bSC27DMA
C22MA
C22DMA
C21MA
C21DMA

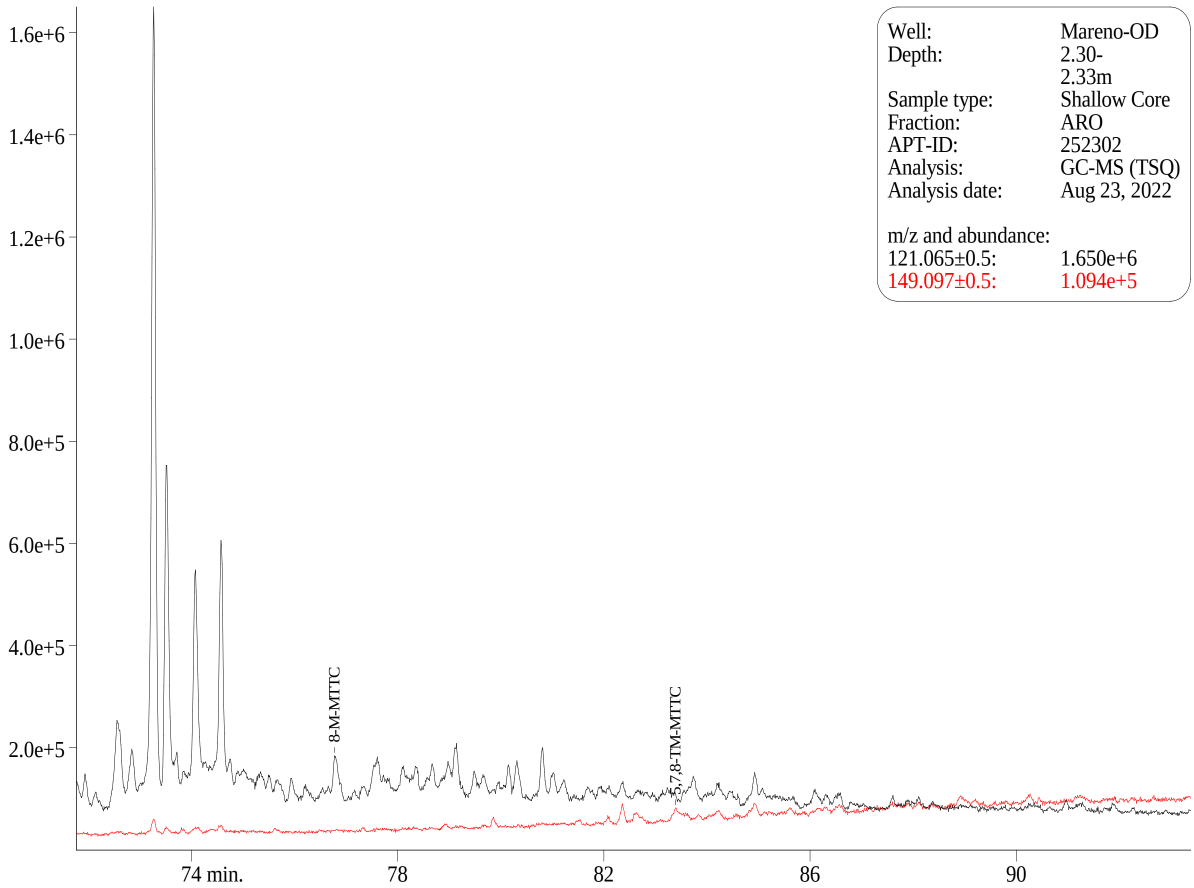

Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252301
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 3.955e+5
4.0e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
78 min.
82
86
90
94
98
102
106
29DMSH
30DMSH

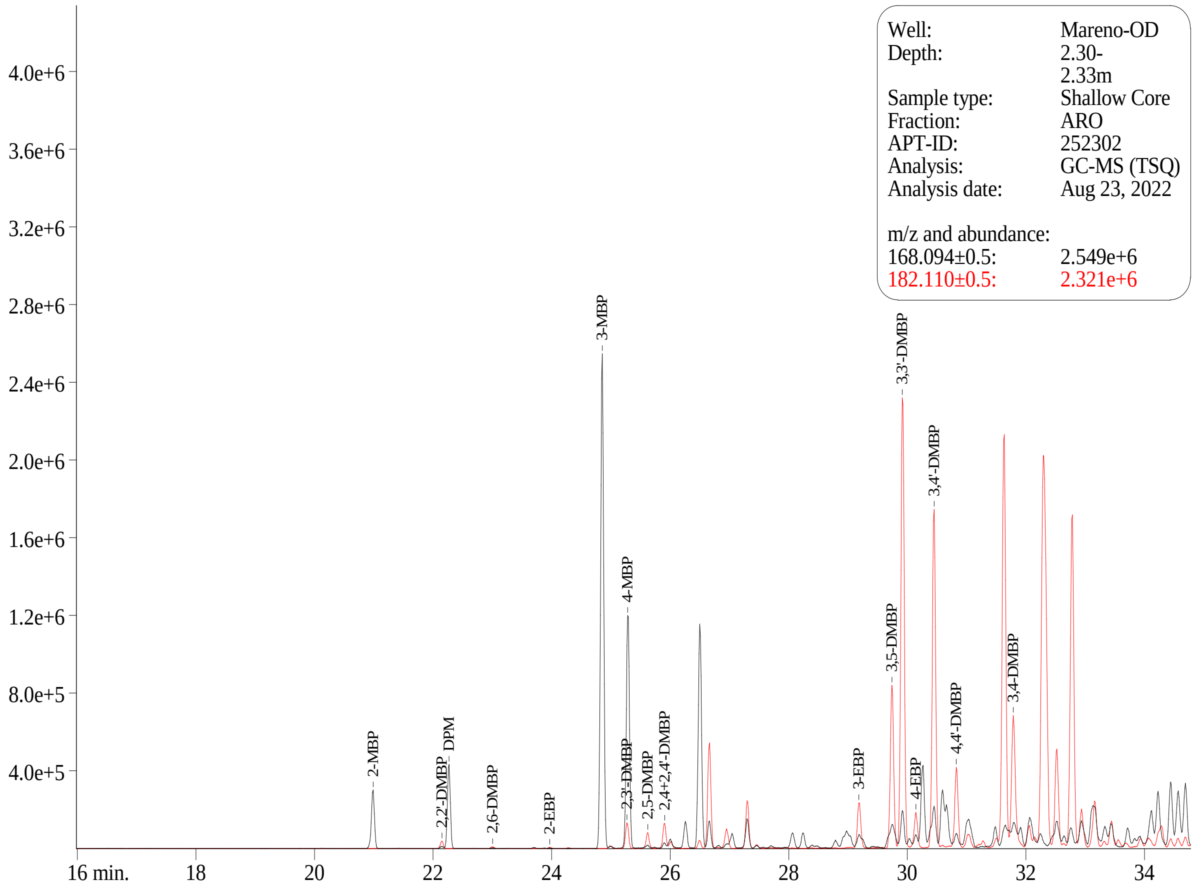

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 6.244e+5
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
21n-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
26i-Bz
25n-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz
20 min.

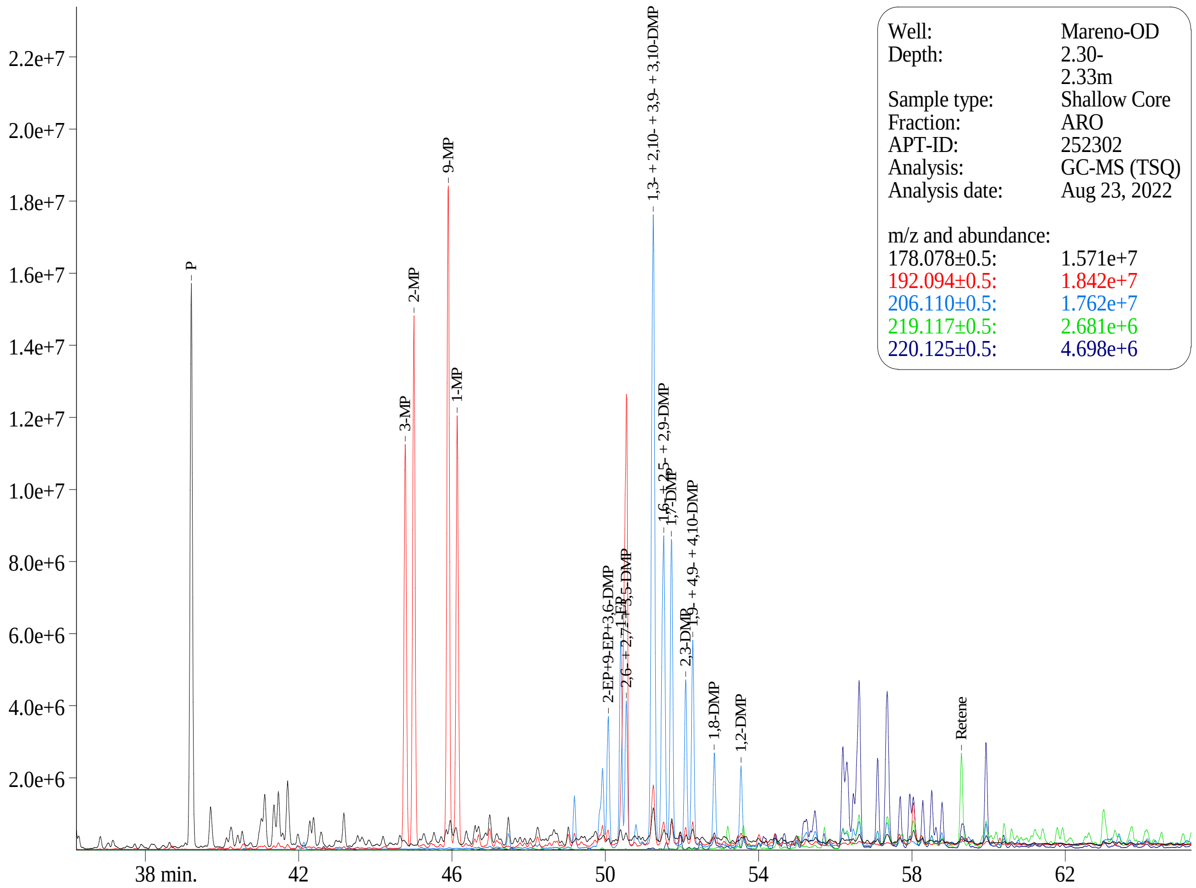

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 1.413e+6
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol
20 min.

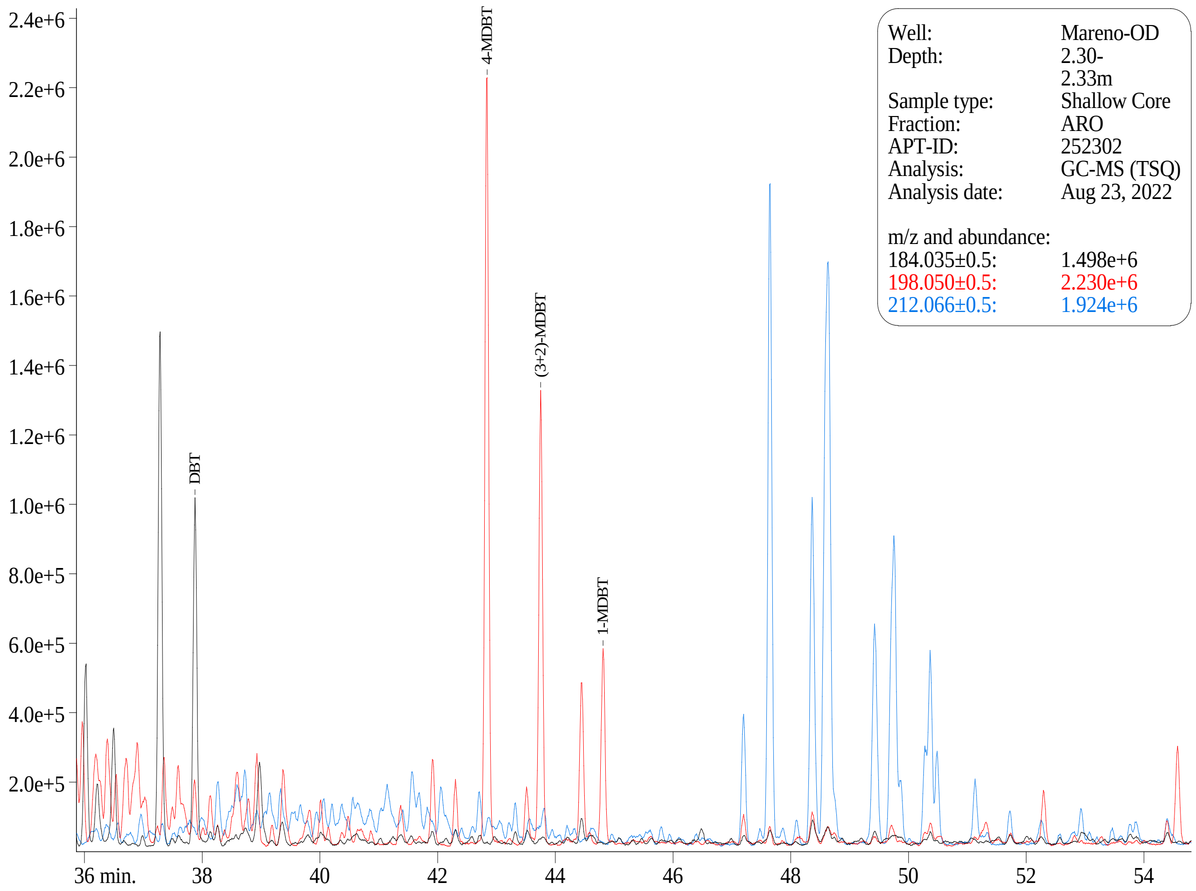

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 3.043e+6
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.
30
40
50
60
70
80
90
100
110
120

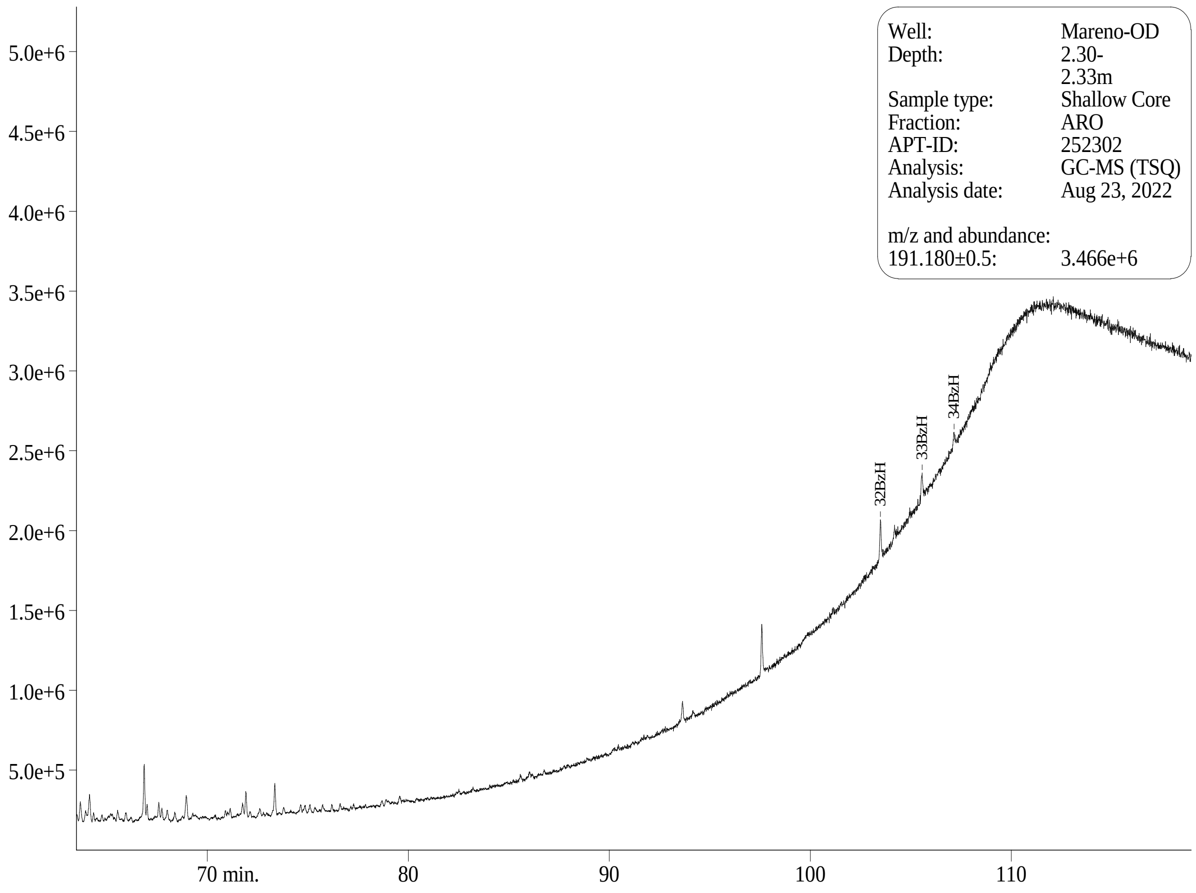

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 2.490e+6
156.094±0.5: 3.675e+6
170.110±0.5: 2.573e+6
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
2-MN
1-MN
2-EN
1-EN
2,7-DMN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.
18
22
26
30

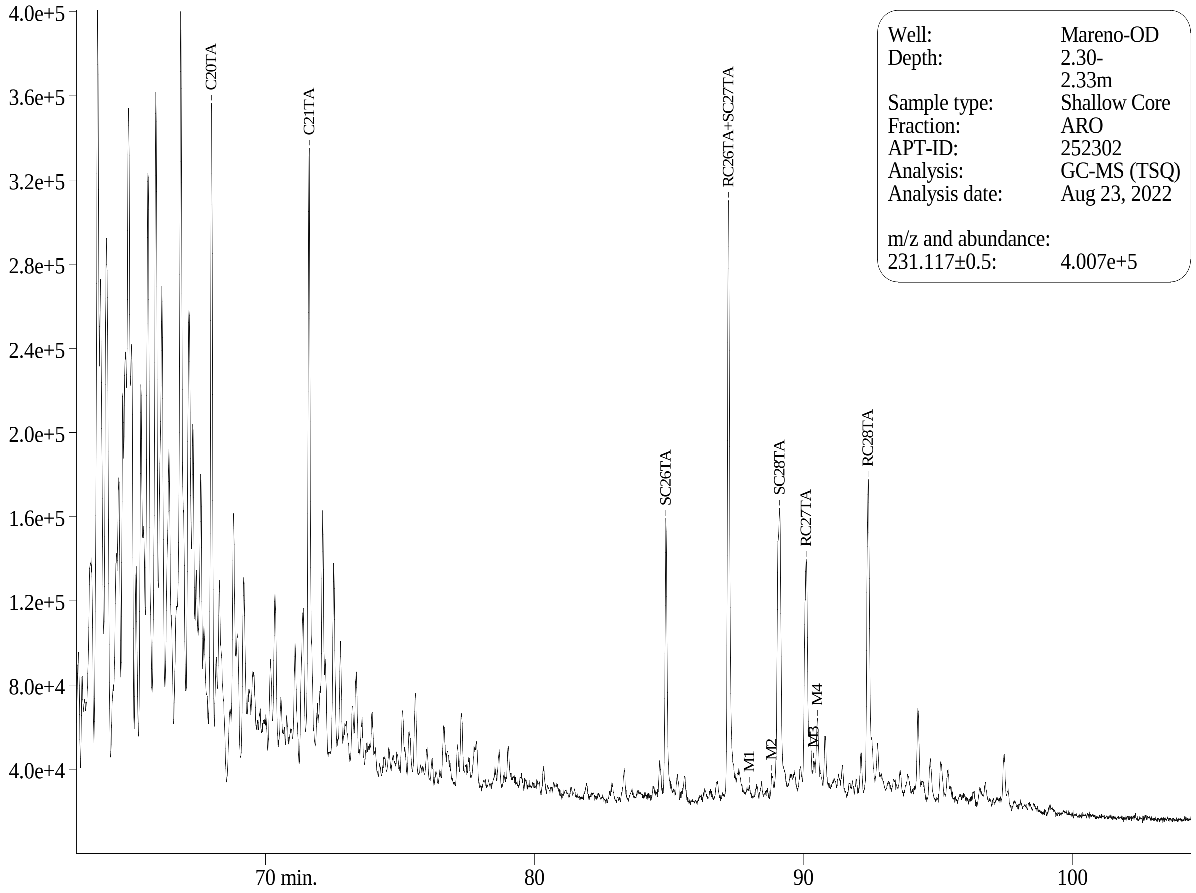

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 1.650e+6
149.097±0.5: 1.094e+5
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5

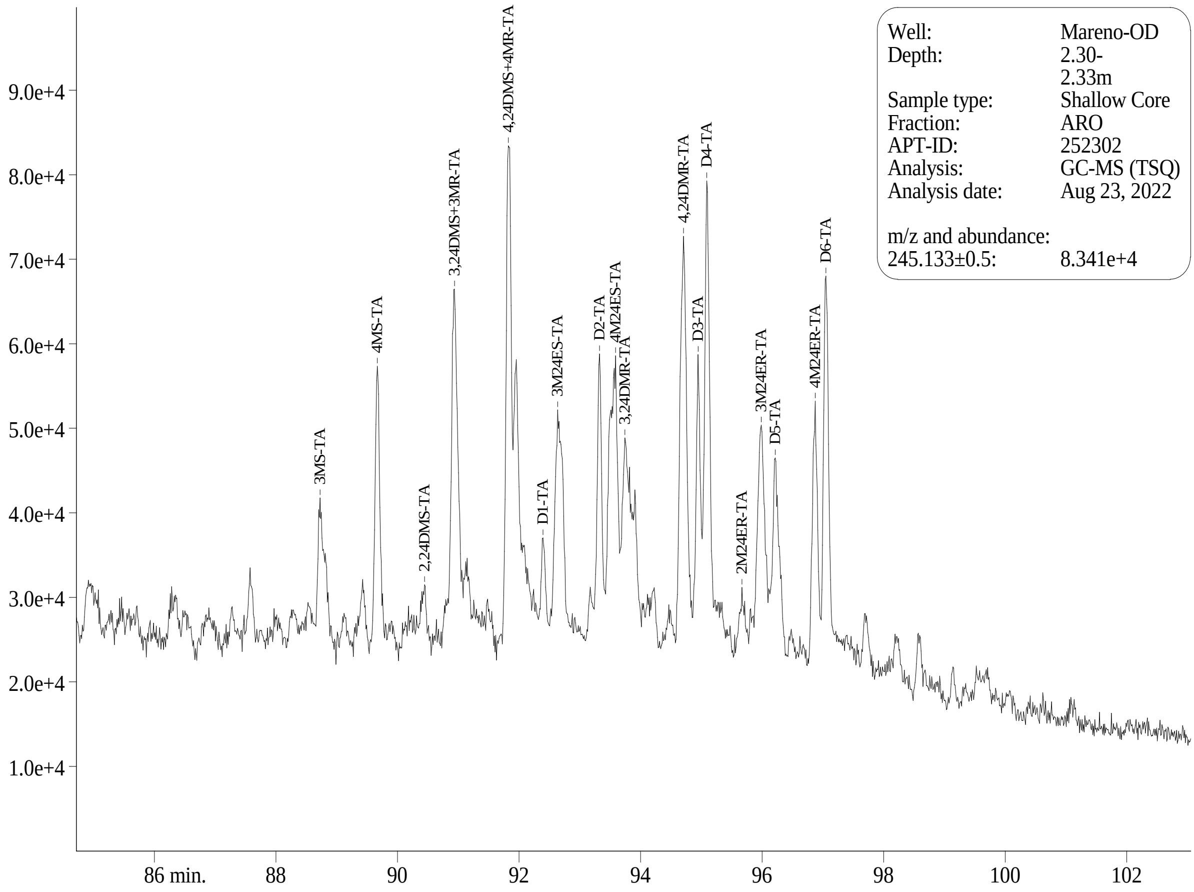

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 2.549e+6
182.110±0.5: 2.321e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
4-MBP
2,3'-DMBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5

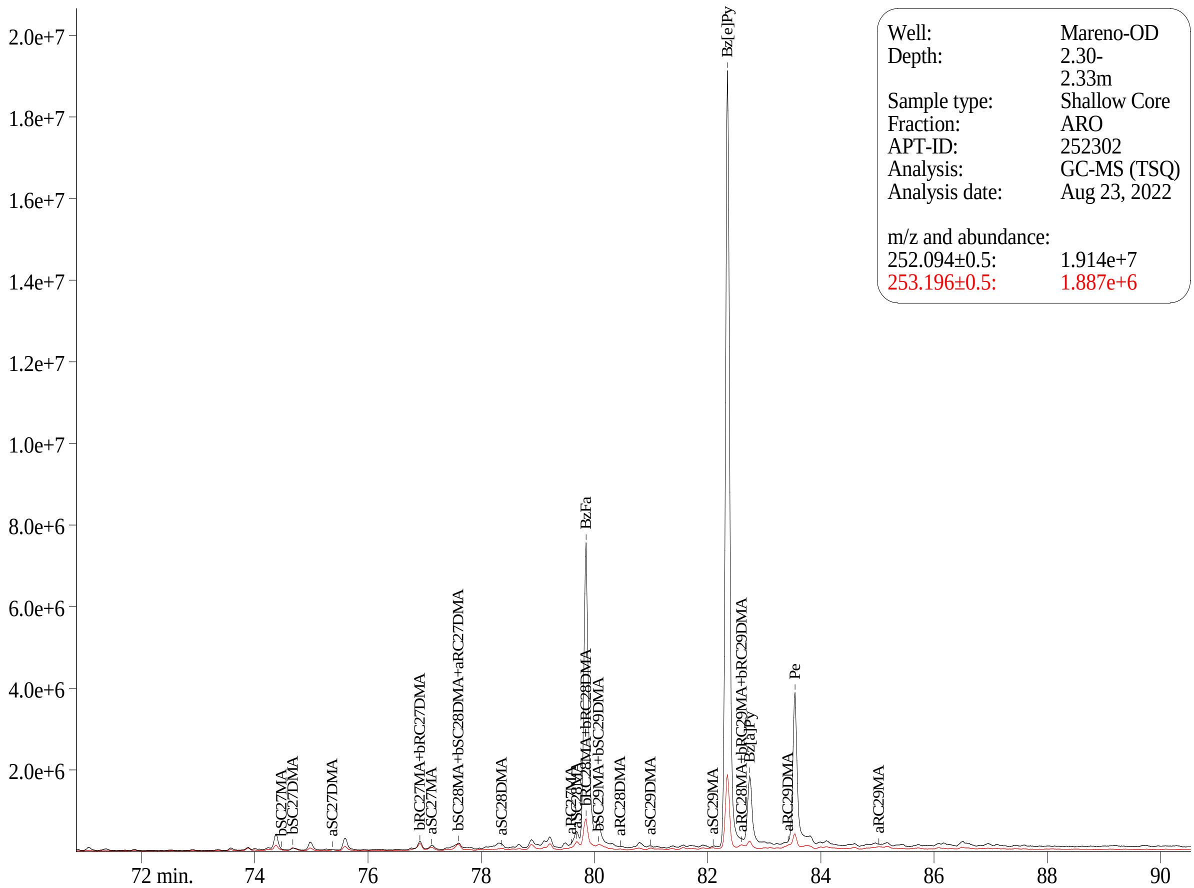

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 1.571e+7
192.094±0.5: 1.842e+7
206.110±0.5: 1.762e+7
219.117±0.5: 2.681e+6
220.125±0.5: 4.698e+6
P
3-MP
2-MP
9-MP
1-MP
2-EP+9-EP+3,6-DMP
2,6- + 2,7-DMP
1-EP+3,5-DMP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
2,3-DMP
1,9- + 4,9- + 4,10-DMP
1,8-DMP
1,2-DMP
Retene
38 min.
42
46
50
54
58
62
2.2e+7
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6

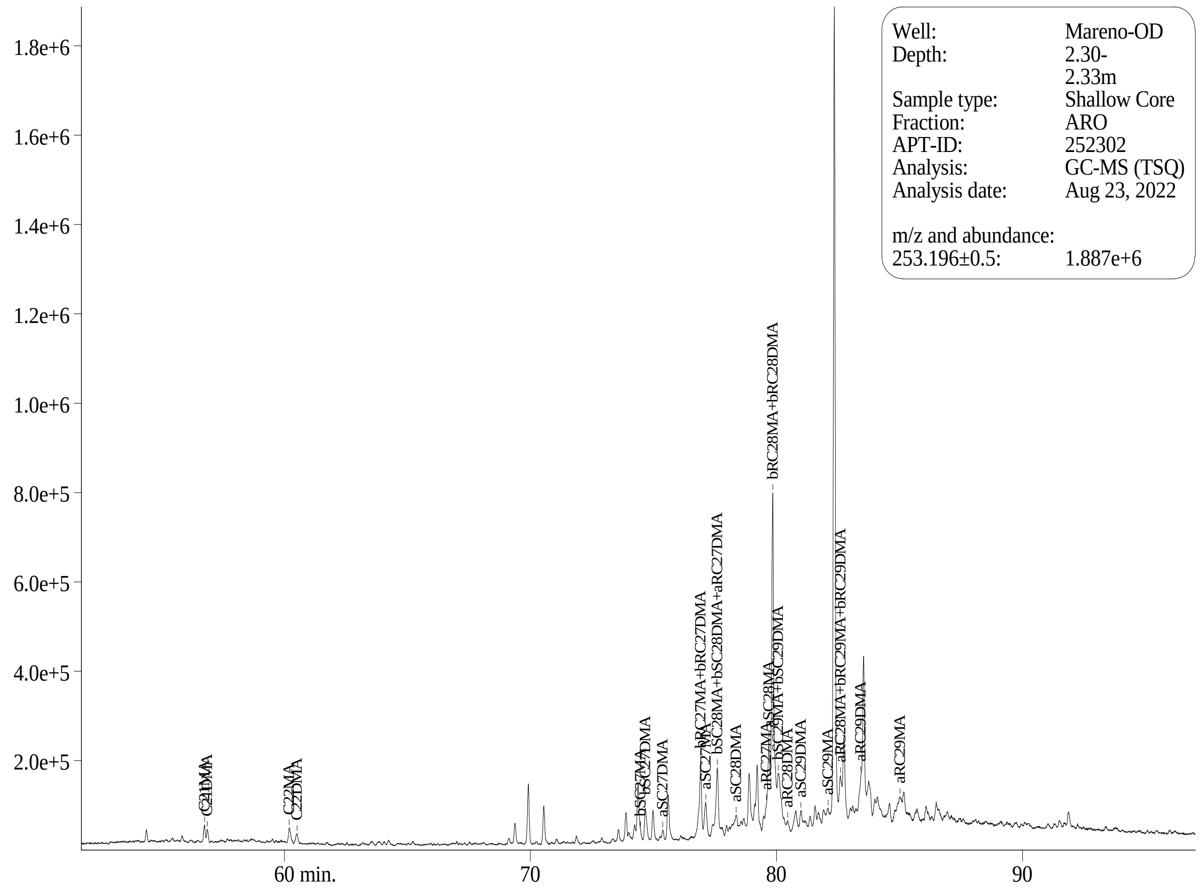

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 1.498e+6
198.050±0.5: 2.230e+6
212.066±0.5: 1.924e+6
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
36 min.
38
40
42
44
46
48
50
52
54
2.4e+6
2.2e+6
2.0e+6
1.8e+6
1.6e+6
1.4e+6
1.2e+6
1.0e+6
8.0e+5
6.0e+5
4.0e+5
2.0e+5

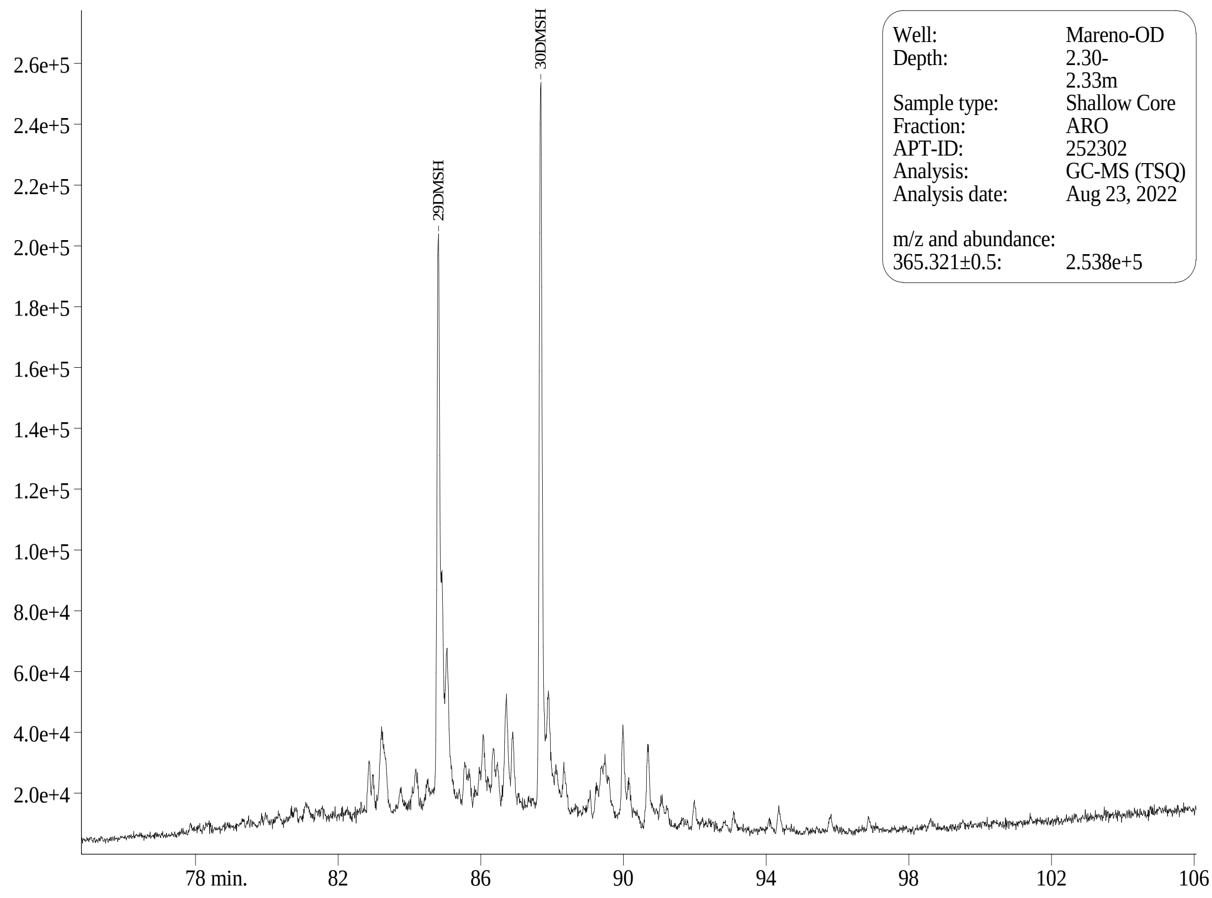

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 3.466e+6
32BzH
33BzH
34BzH
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

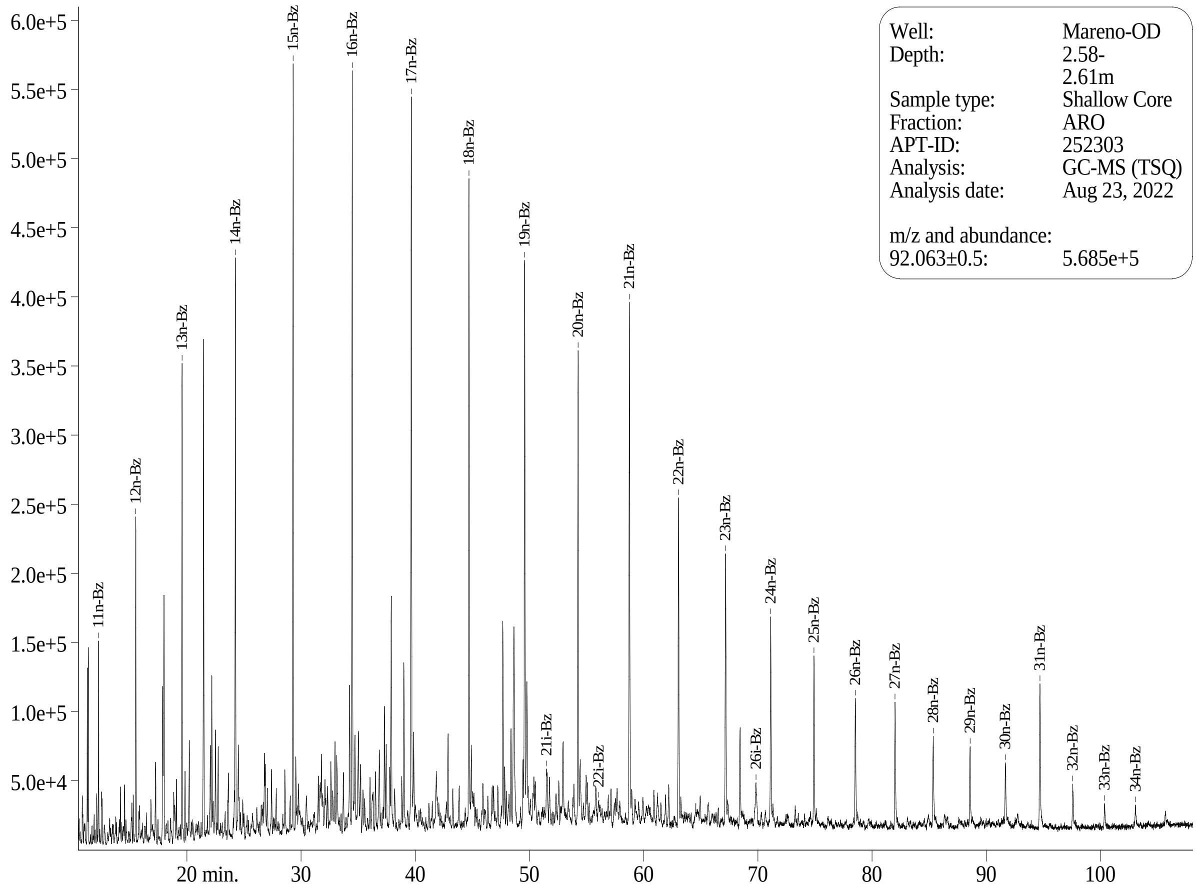

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 4.007e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
4.0e+5
3.6e+5
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
70 min.
80
90
100

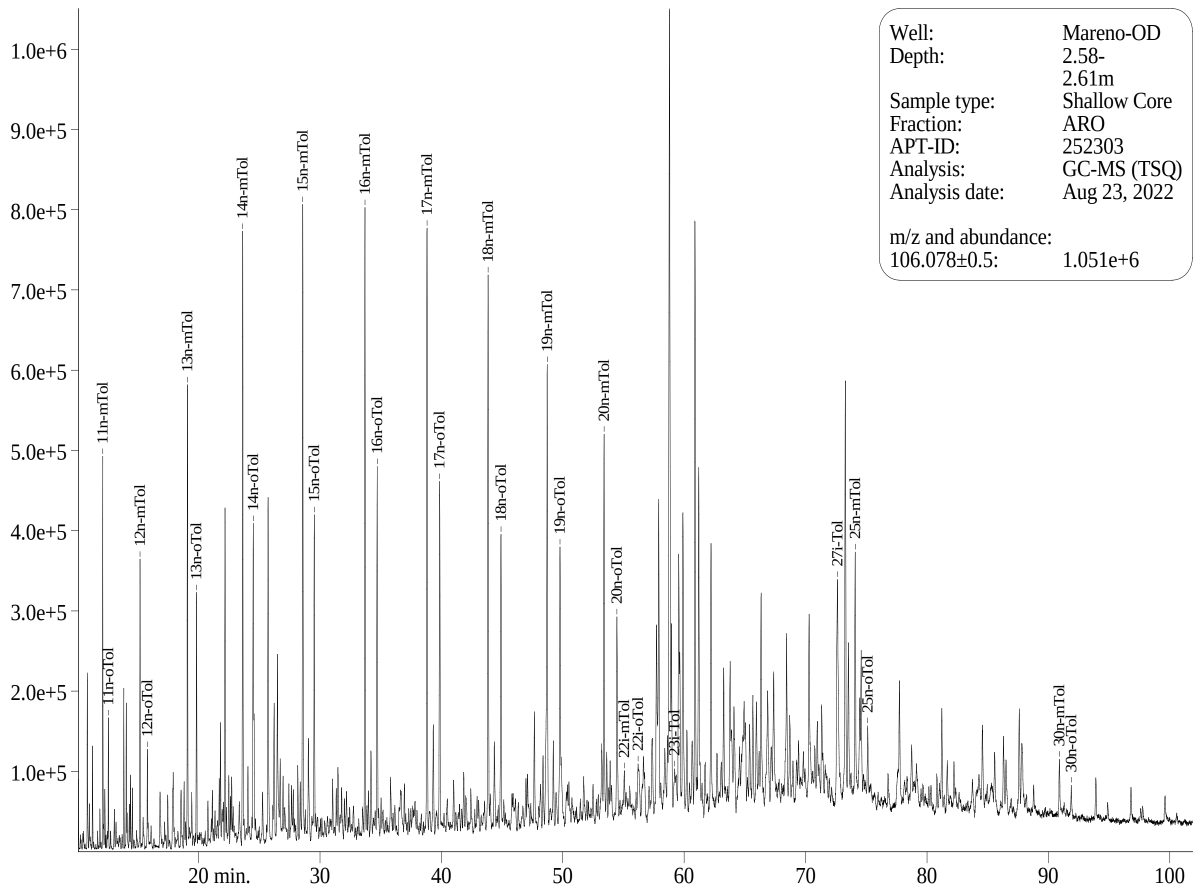

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 8.341e+4
9.0e+4
8.0e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4
86 min.
88
90
92
94
96
98
100
102
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA

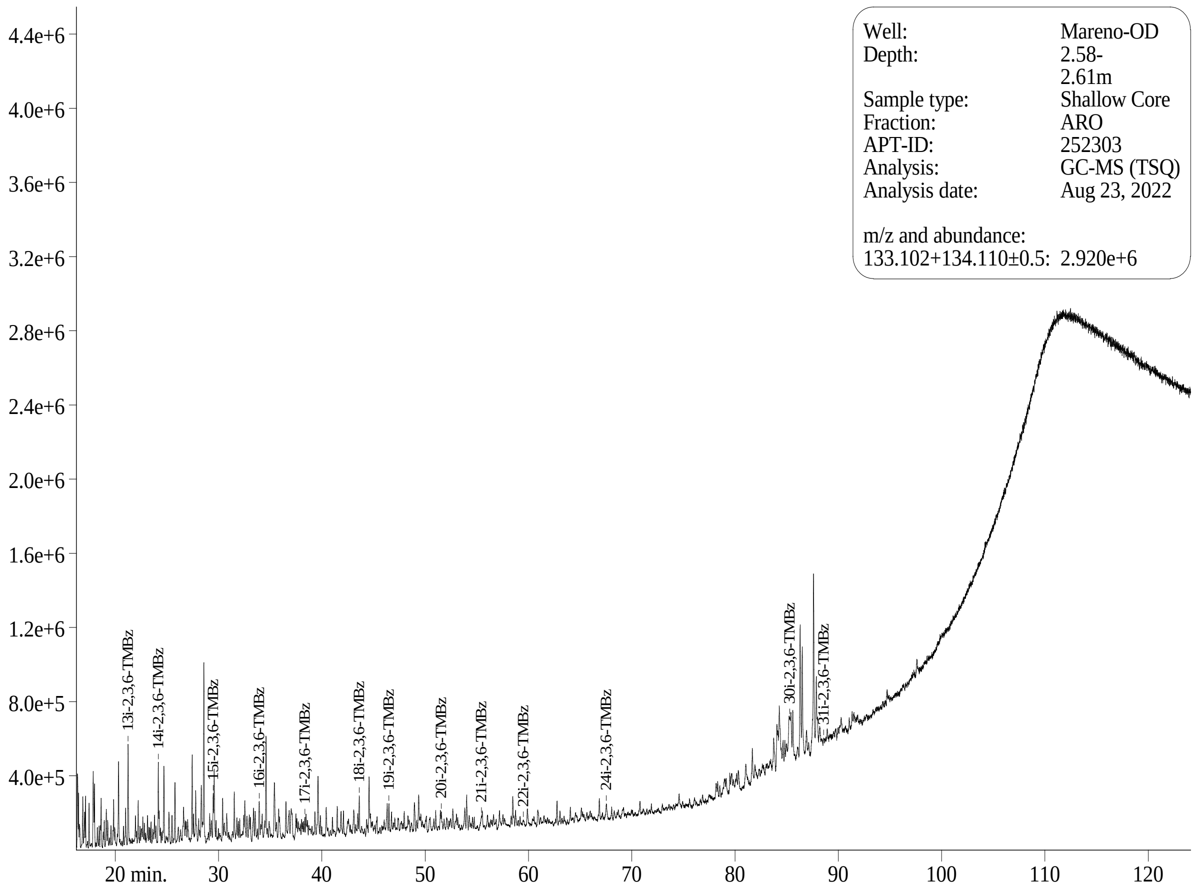

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 1.914e+7
253.196±0.5: 1.887e+6
2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
72 min.
74
76
78
80
82
84
86
88
90
bSC27MA
bSC27DMA
aSC27DMA
bRC27MA+bRC27DMA
aSC27MA
bSC28MA+bSC28DMA+aRC27DMA
aSC28DMA
aRC27MA
aSC28MA
bRC28MA+bRC28DMA
bSC29MA+bSC29DMA
BzFa
aRC28DMA
aSC29DMA
aSC29MA
Bz[e]Py
aRC28MA+bRC29MA+bRC29DMA
Bz[a]Py
aRC29DMA
Pe
aRC29MA

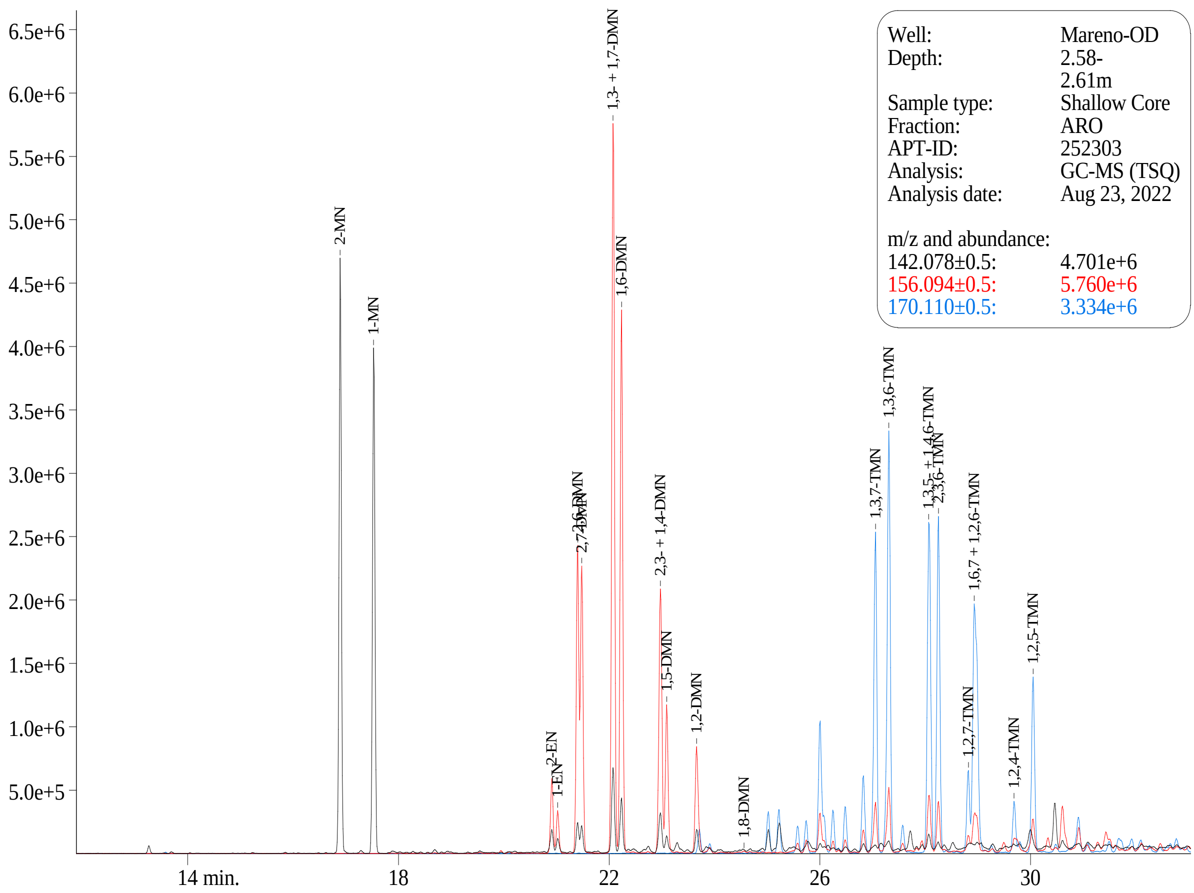

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 1.887e+6
bRC28MA+bRC28DMA
bSC28MA+bSC28DMA+aRC27DMA
bRC27MA+bRC27DMA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA
60 min.
70
80
90

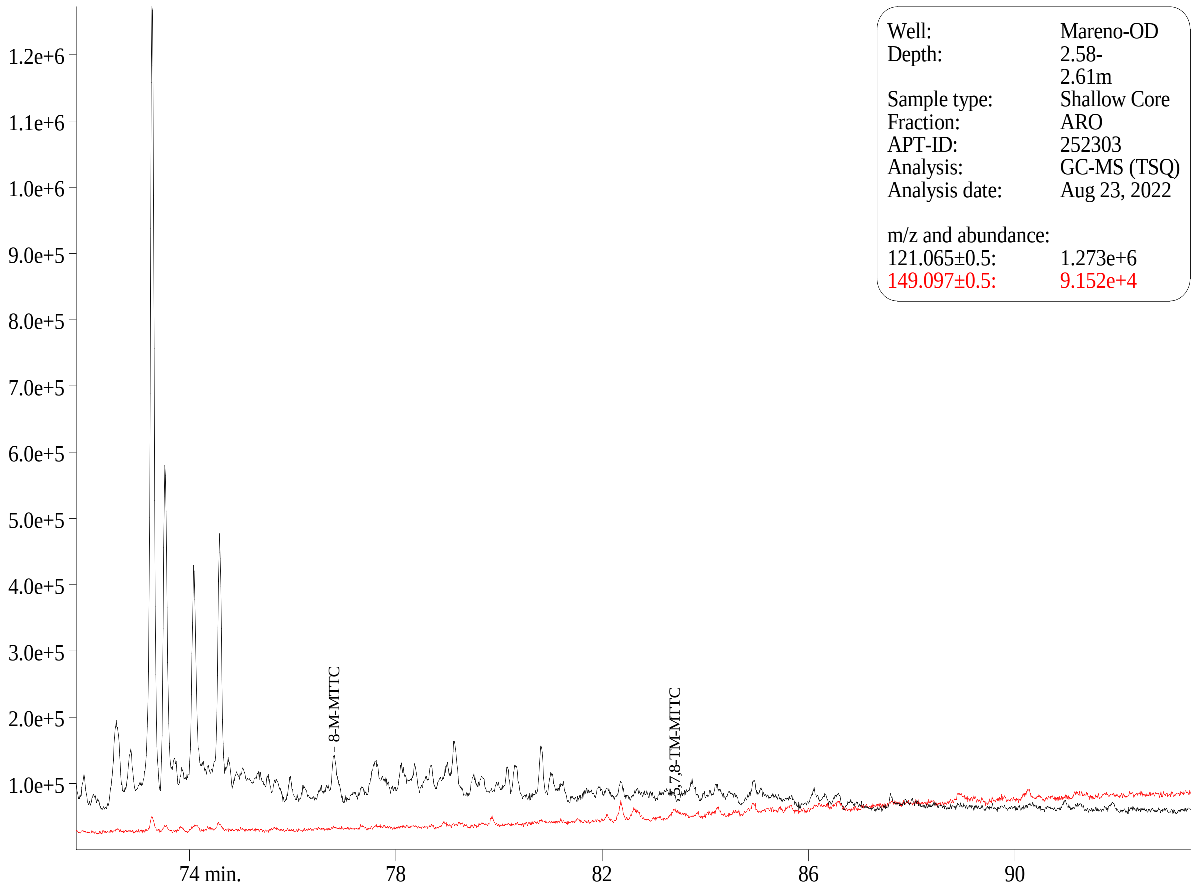

Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252302
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 2.538e+5
29DMSH
30DMSH
78 min.
82
86
90
94
98
102
106

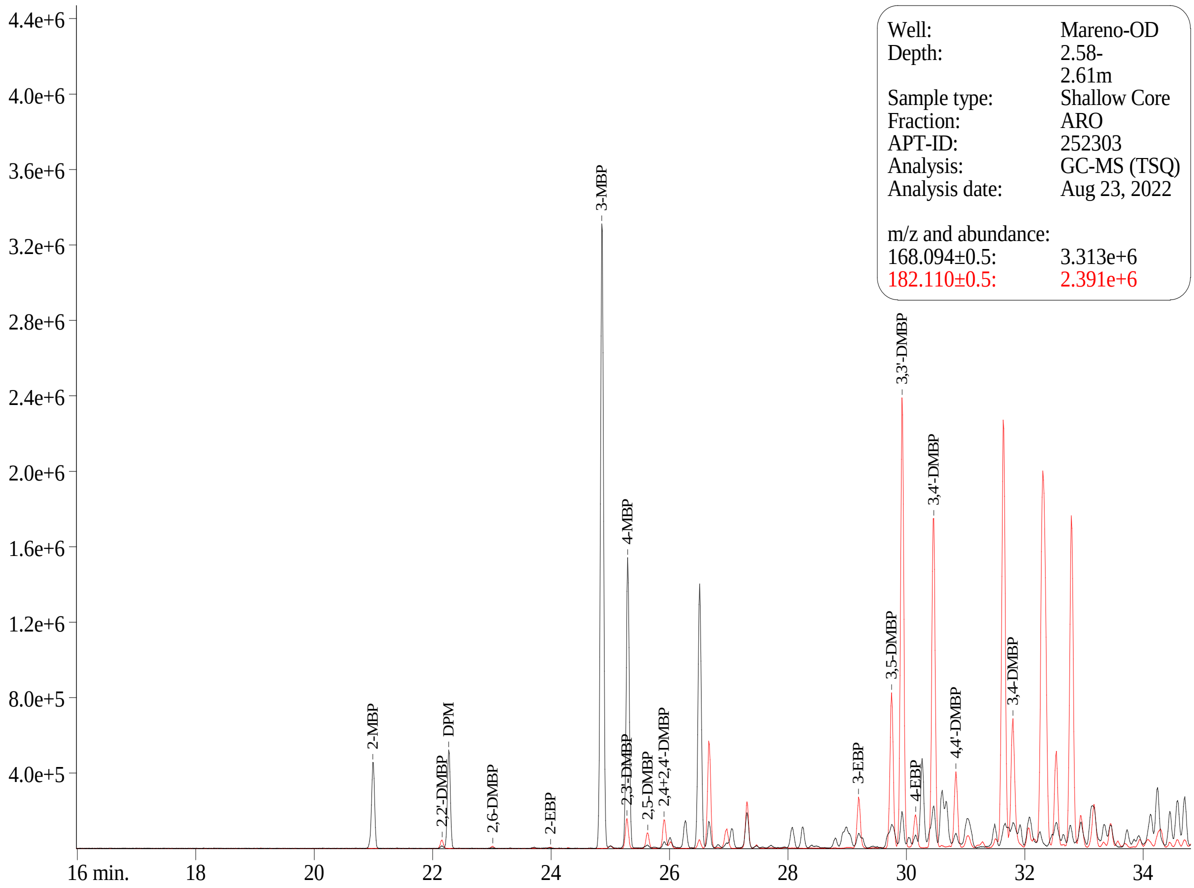

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
92.063±0.5: 5.685e+5
6.0e+5
5.5e+5
5.0e+5
4.5e+5
4.0e+5
3.5e+5
3.0e+5
2.5e+5
2.0e+5
1.5e+5
1.0e+5
5.0e+4
20 min.
30
40
50
60
70
80
90
100
11n-Bz
12n-Bz
13n-Bz
14n-Bz
15n-Bz
16n-Bz
17n-Bz
18n-Bz
19n-Bz
20n-Bz
21i-Bz
21n-Bz
22i-Bz
22n-Bz
23n-Bz
24n-Bz
26i-Bz
25n-Bz
26n-Bz
27n-Bz
28n-Bz
29n-Bz
30n-Bz
31n-Bz
32n-Bz
33n-Bz
34n-Bz

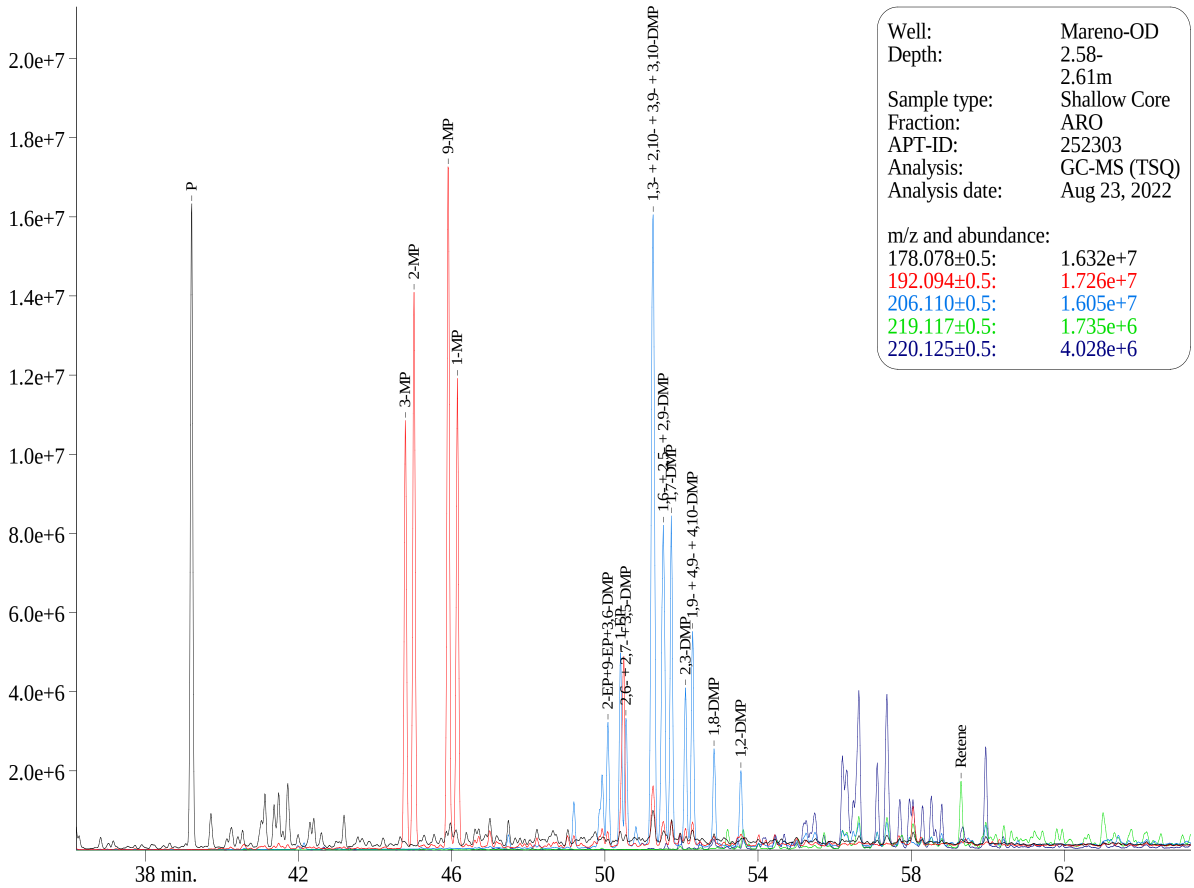

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
106.078±0.5: 1.051e+6
1.0e+6
9.0e+5
8.0e+5
7.0e+5
6.0e+5
5.0e+5
4.0e+5
3.0e+5
2.0e+5
1.0e+5
20 min.
30
40
50
60
70
80
90
100
11n-mTol
11n-oTol
12n-mTol
12n-oTol
13n-mTol
13n-oTol
14n-mTol
14n-oTol
15n-mTol
15n-oTol
16n-mTol
16n-oTol
17n-mTol
17n-oTol
18n-mTol
18n-oTol
19n-mTol
19n-oTol
20n-mTol
20n-oTol
22i-mTol
22i-oTol
23i-Tol
27i-Tol
25n-mTol
25n-oTol
30n-mTol
30n-oTol

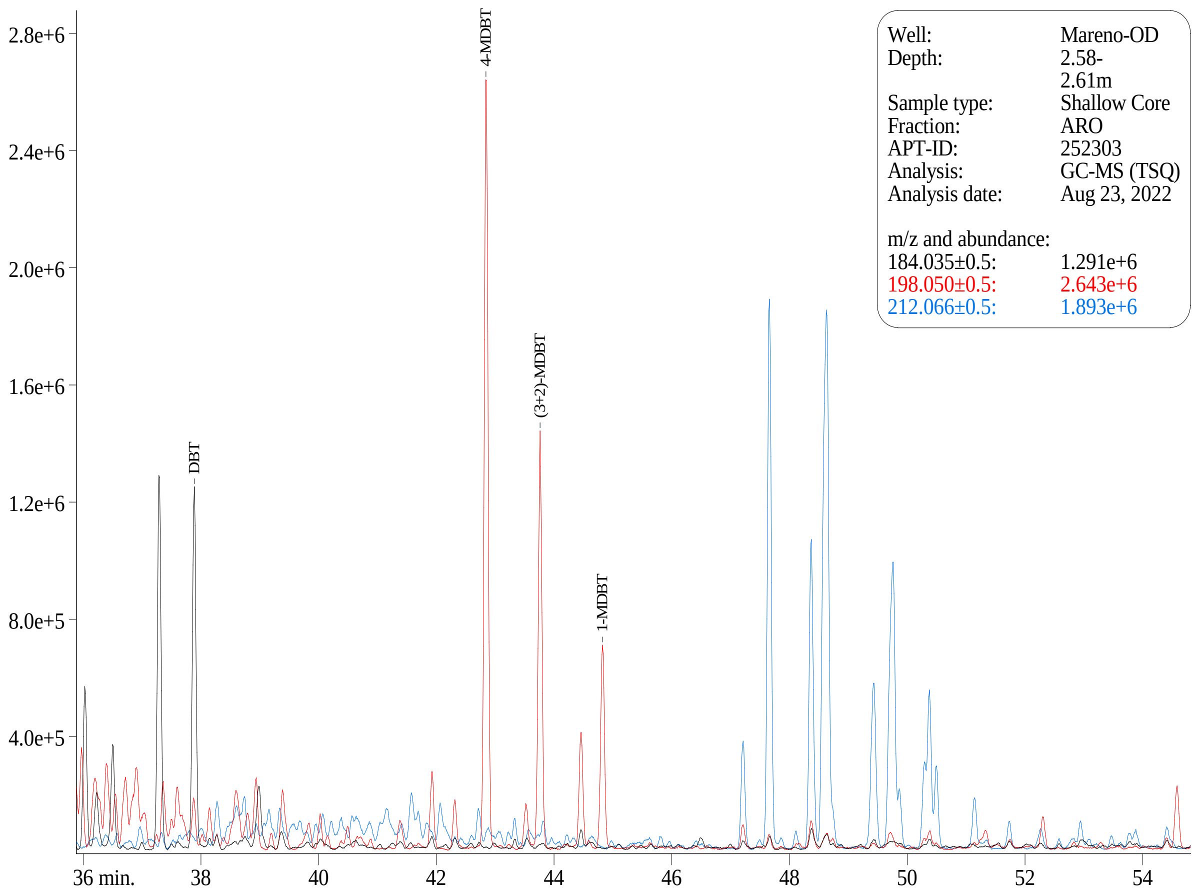

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
133.102+134.110±0.5: 2.920e+6
13i-2,3,6-TMBz
14i-2,3,6-TMBz
15i-2,3,6-TMBz
16i-2,3,6-TMBz
17i-2,3,6-TMBz
18i-2,3,6-TMBz
19i-2,3,6-TMBz
20i-2,3,6-TMBz
21i-2,3,6-TMBz
22i-2,3,6-TMBz
24i-2,3,6-TMBz
30i-2,3,6-TMBz
31i-2,3,6-TMBz
20 min.
30
40
50
60
70
80
90
100
110
120
4.4e+6
4.0e+6
3.6e+6
3.2e+6
2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5

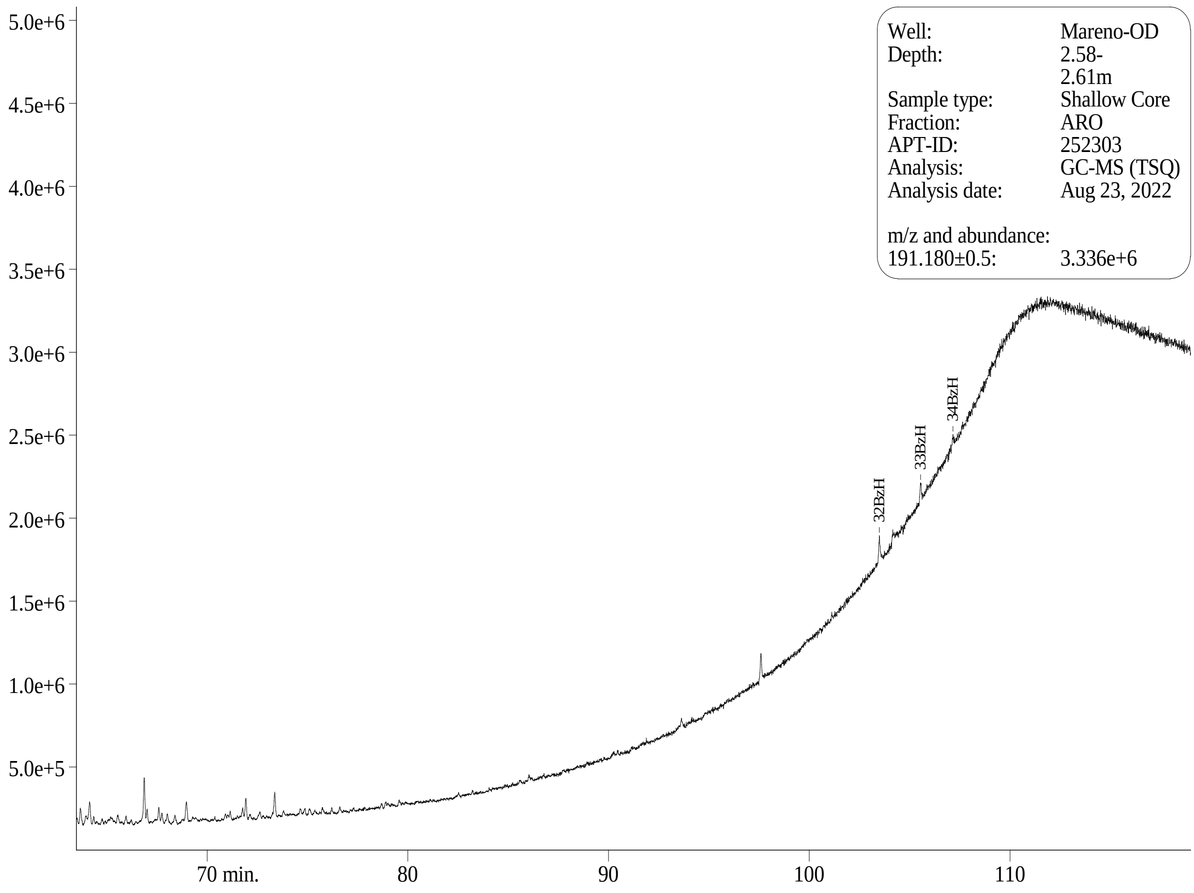

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
142.078±0.5: 4.701e+6
156.094±0.5: 5.760e+6
170.110±0.5: 3.334e+6
2-MN
1-MN
2-EN
1-EN
2,6-DMN
2,7-DMN
1,3- + 1,7-DMN
1,6-DMN
2,3- + 1,4-DMN
1,5-DMN
1,2-DMN
1,8-DMN
1,3,7-TMN
1,3,6-TMN
1,3,5- + 1,4,6-TMN
2,3,6-TMN
1,2,7-TMN
1,6,7 + 1,2,6-TMN
1,2,4-TMN
1,2,5-TMN
14 min.
18
22
26
30
6.5e+6
6.0e+6
5.5e+6
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5

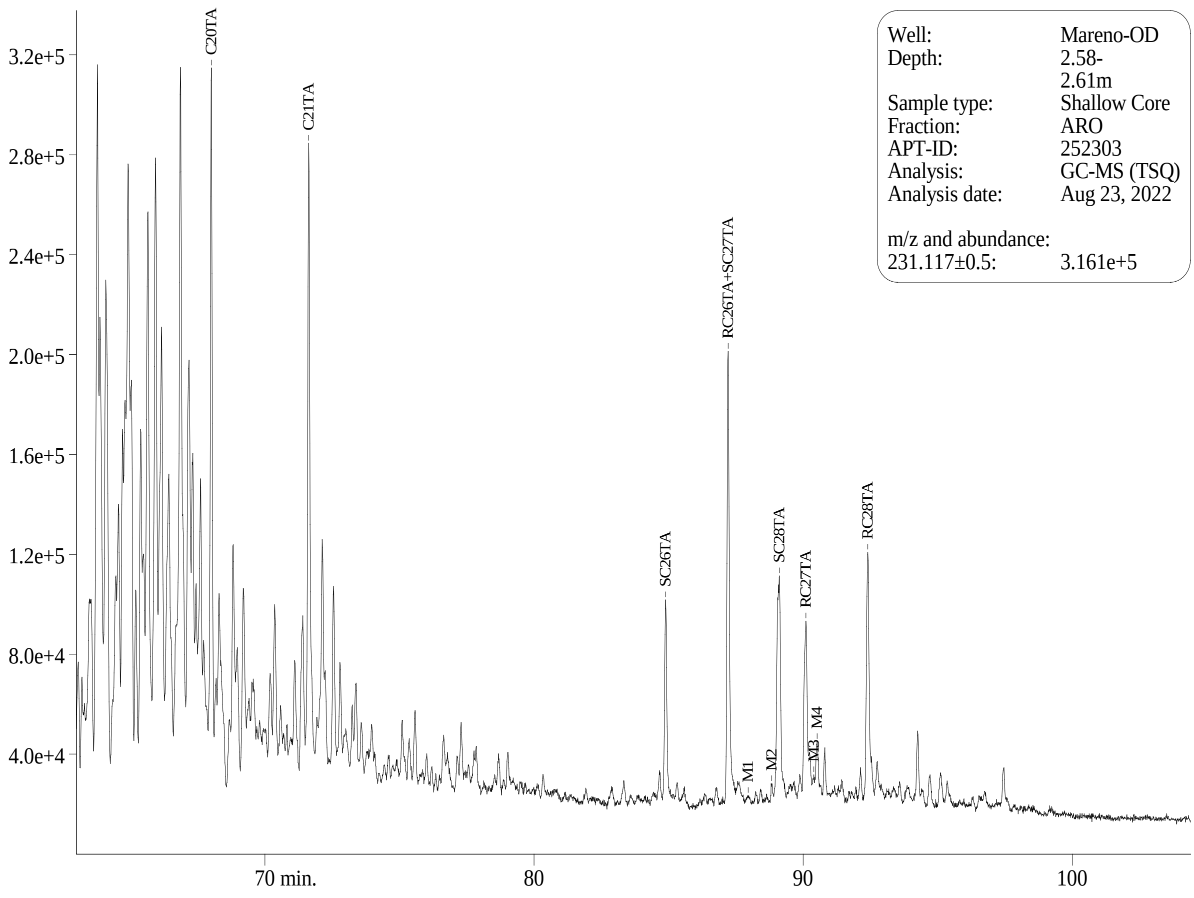

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
121.065±0.5: 1.273e+6
149.097±0.5: 9.152e+4
8-M-MTTC
5,7,8-TM-MTTC
74 min.
78
82
86
90

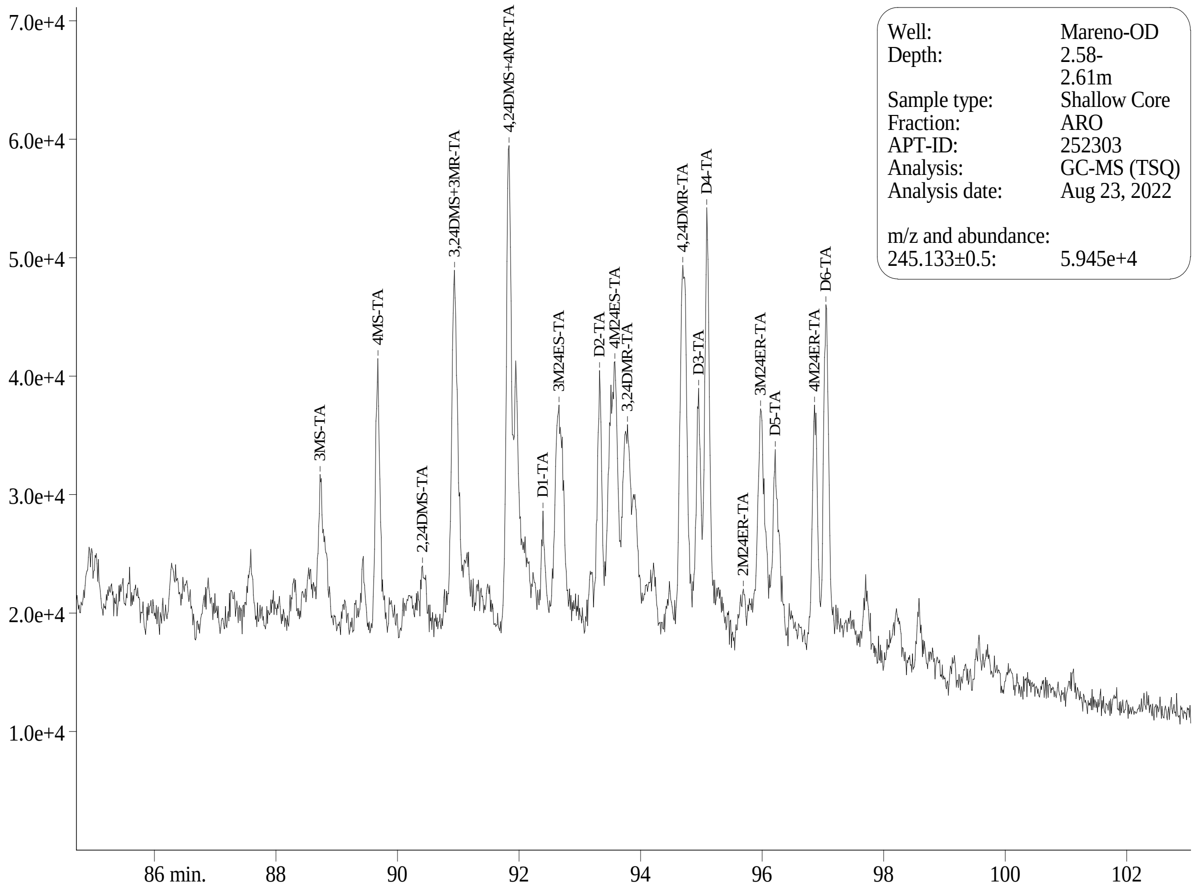

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
168.094±0.5: 3.313e+6
182.110±0.5: 2.391e+6
2-MBP
2,2'-DMBP
DPM
2,6-DMBP
2-EBP
3-MBP
2,3-DMBP
4-MBP
2,5-DMBP
2,4+2,4'-DMBP
3-EBP
3,5-DMBP
3,3'-DMBP
4-EBP
3,4'-DMBP
4,4'-DMBP
3,4-DMBP
16 min.
18
20
22
24
26
28
30
32
34


2.0e+7
1.8e+7
1.6e+7
1.4e+7
1.2e+7
1.0e+7
8.0e+6
6.0e+6
4.0e+6
2.0e+6
38 min.
42
46
50
54
58
62
P
3-MP
2-MP
9-MP
1-MP
1,3- + 2,10- + 3,9- + 3,10-DMP
1,6- + 2,5- + 2,9-DMP
1,7-DMP
1,9- + 4,9- + 4,10-DMP
2,3-DMP
2-EP+9-EP+3,6-DMP
2,6- + 2,7- + 3,5-DMP
1-EP
1,8-DMP
1,2-DMP
Retene
Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
178.078±0.5: 1.632e+7
192.094±0.5: 1.726e+7
206.110±0.5: 1.605e+7
219.117±0.5: 1.735e+6
220.125±0.5: 4.028e+6

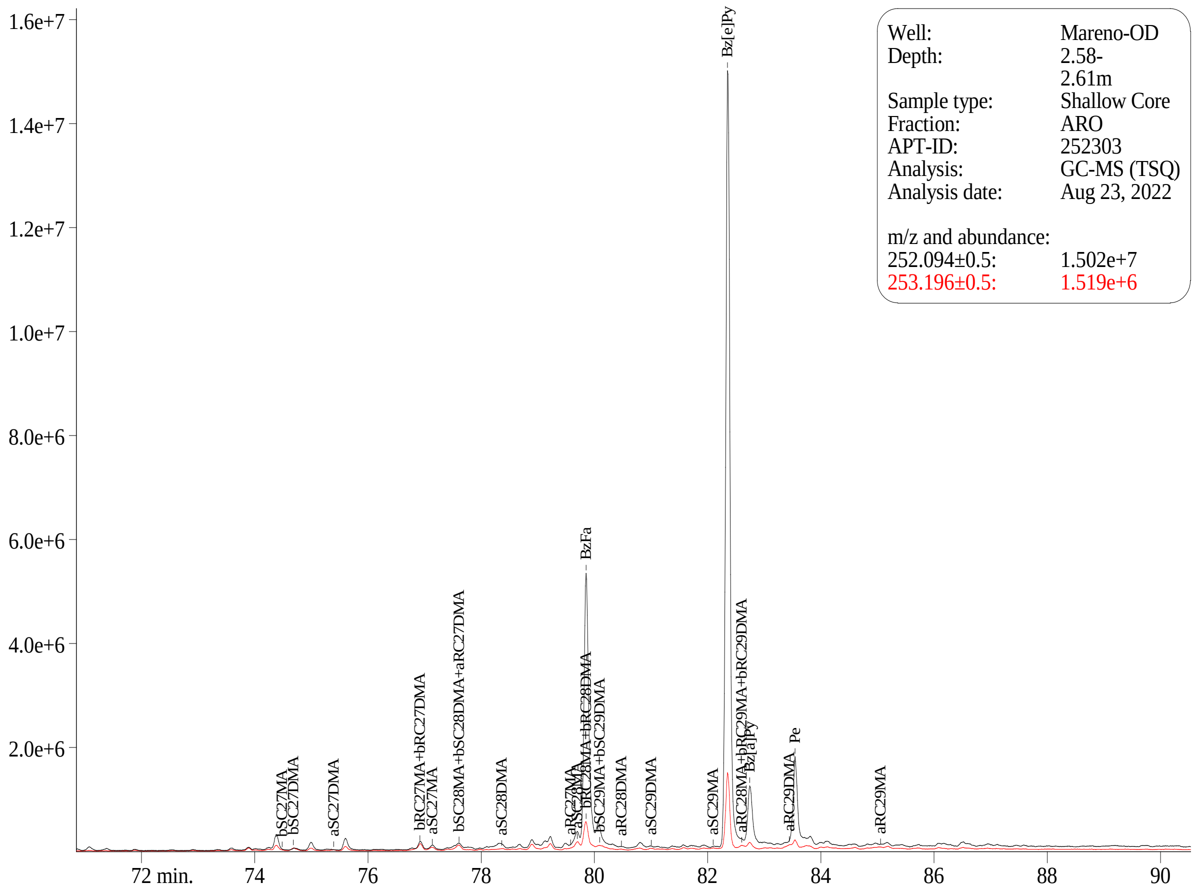

2.8e+6
2.4e+6
2.0e+6
1.6e+6
1.2e+6
8.0e+5
4.0e+5
36 min.
38
40
42
44
46
48
50
52
54
DBT
4-MDBT
(3+2)-MDBT
1-MDBT
Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
184.035±0.5: 1.291e+6
198.050±0.5: 2.643e+6
212.066±0.5: 1.893e+6


Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
191.180±0.5: 3.336e+6
32BzH
33BzH
34BzH
5.0e+6
4.5e+6
4.0e+6
3.5e+6
3.0e+6
2.5e+6
2.0e+6
1.5e+6
1.0e+6
5.0e+5
70 min.
80
90
100
110

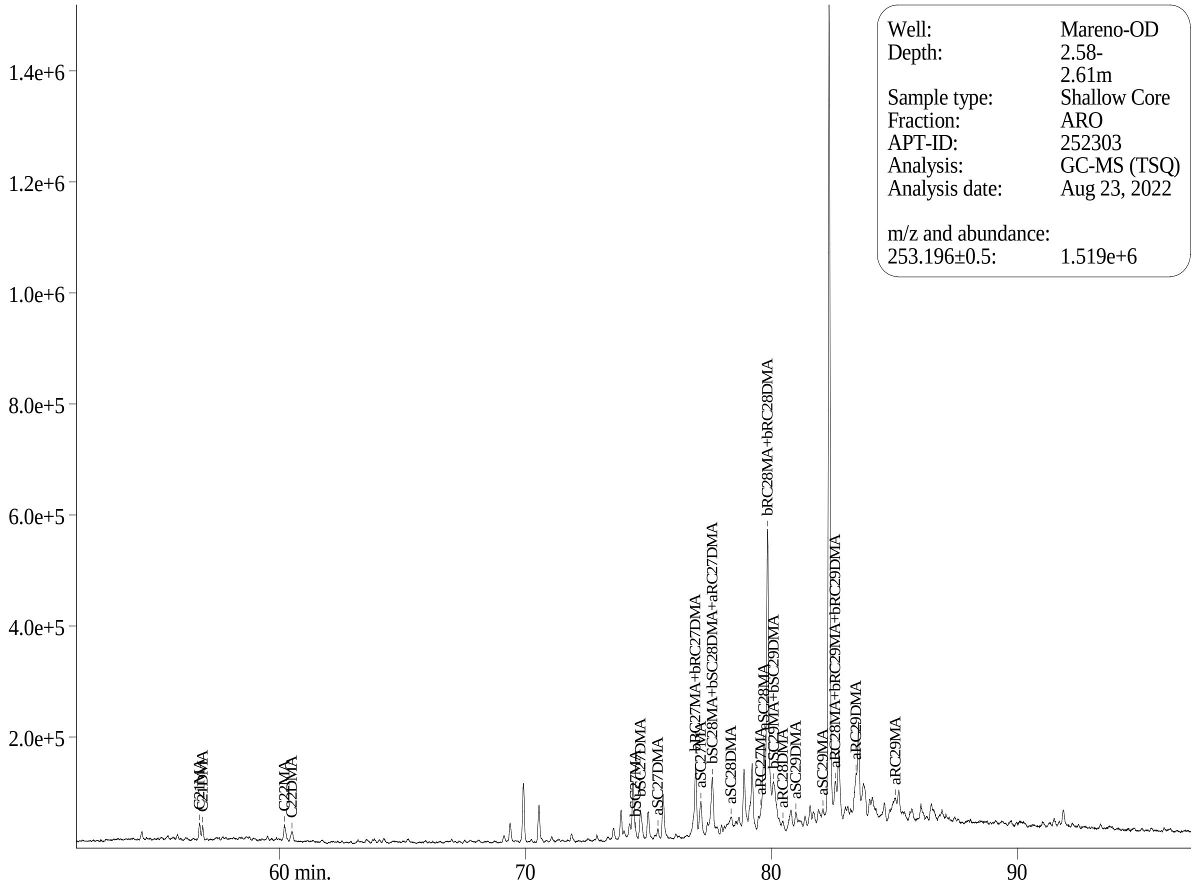

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
231.117±0.5: 3.161e+5
C20TA
C21TA
SC26TA
RC26TA+SC27TA
M1
M2
SC28TA
RC27TA
M3
M4
RC28TA
3.2e+5
2.8e+5
2.4e+5
2.0e+5
1.6e+5
1.2e+5
8.0e+4
4.0e+4
70 min.
80
90
100

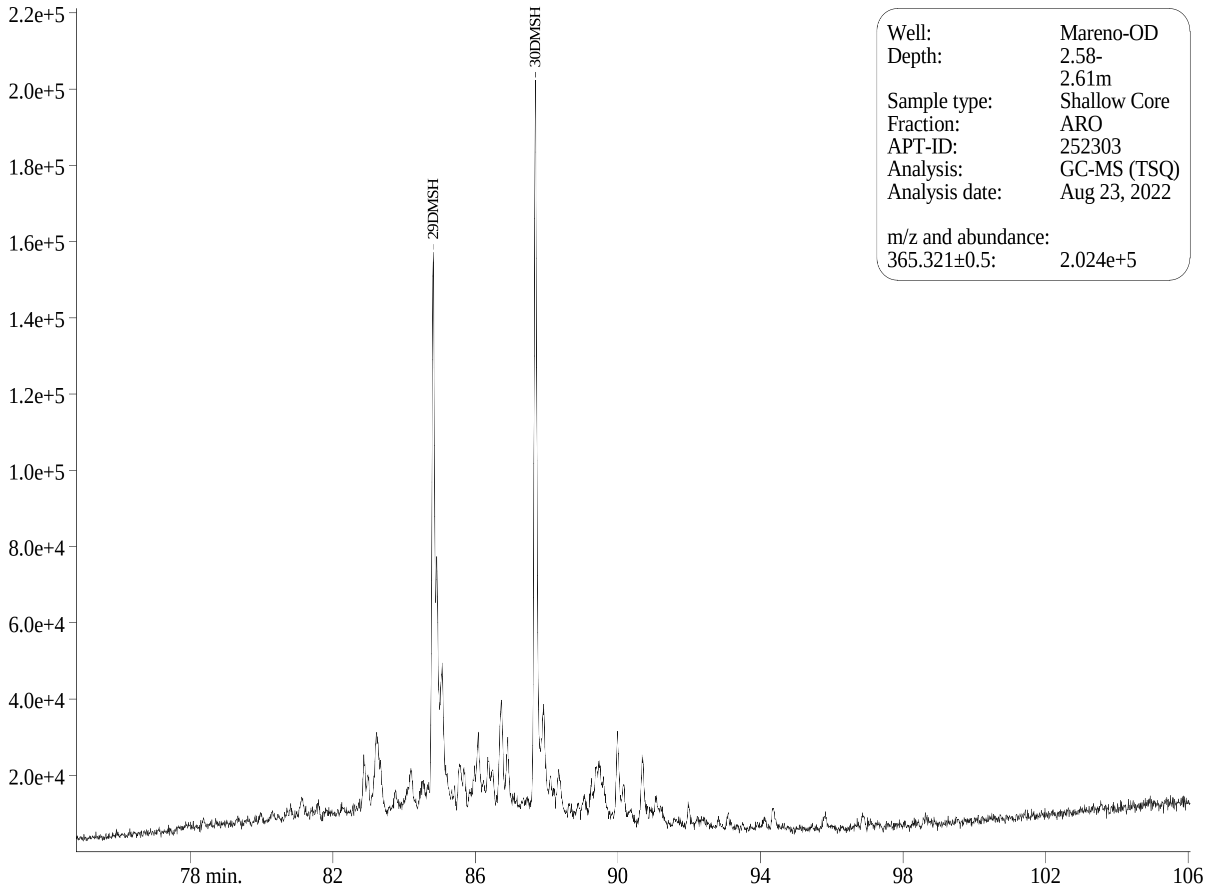


Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
245.133±0.5: 5.945e+4
3MS-TA
4MS-TA
2,24DMS-TA
3,24DMS+3MR-TA
4,24DMS+4MR-TA
D1-TA
3M24ES-TA
D2-TA
4M24ES-TA
3,24DMR-TA
4,24DMR-TA
D3-TA
D4-TA
2M24ER-TA
3M24ER-TA
D5-TA
4M24ER-TA
D6-TA

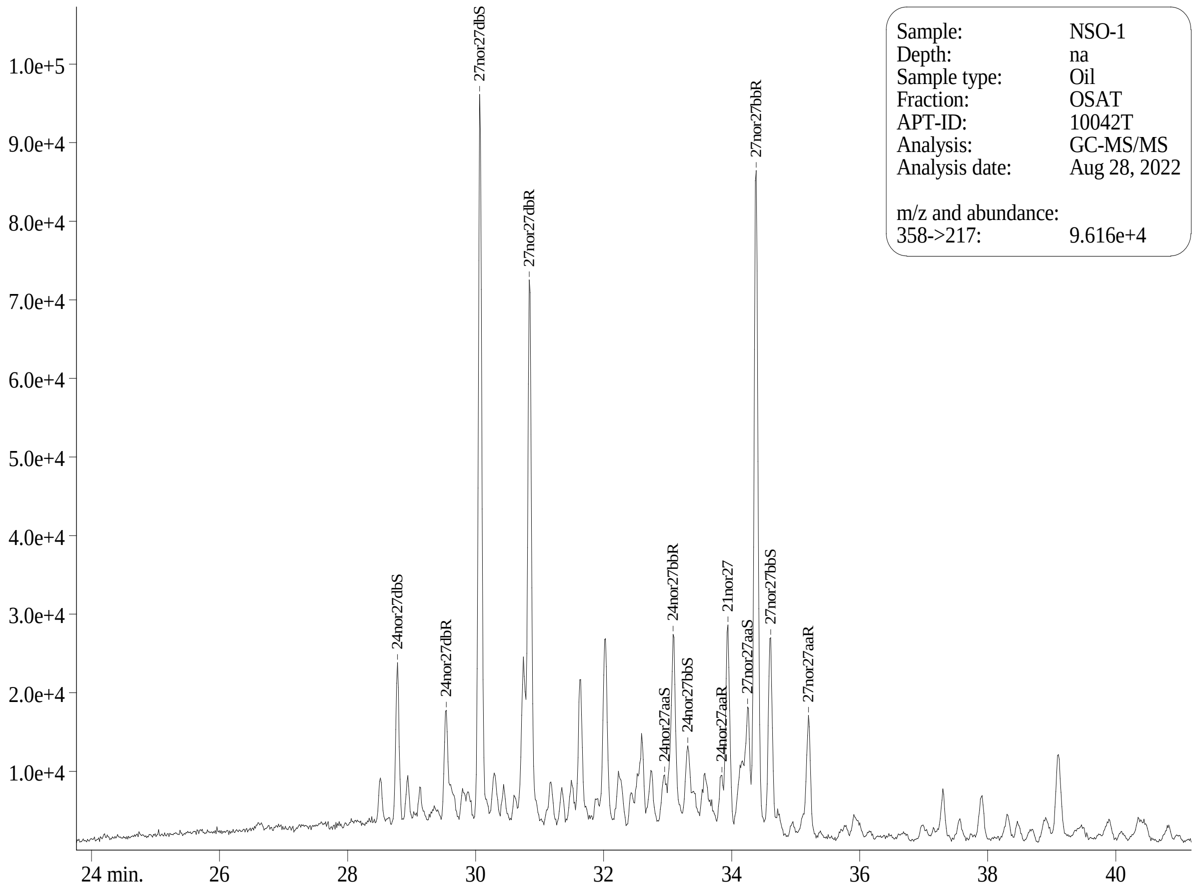


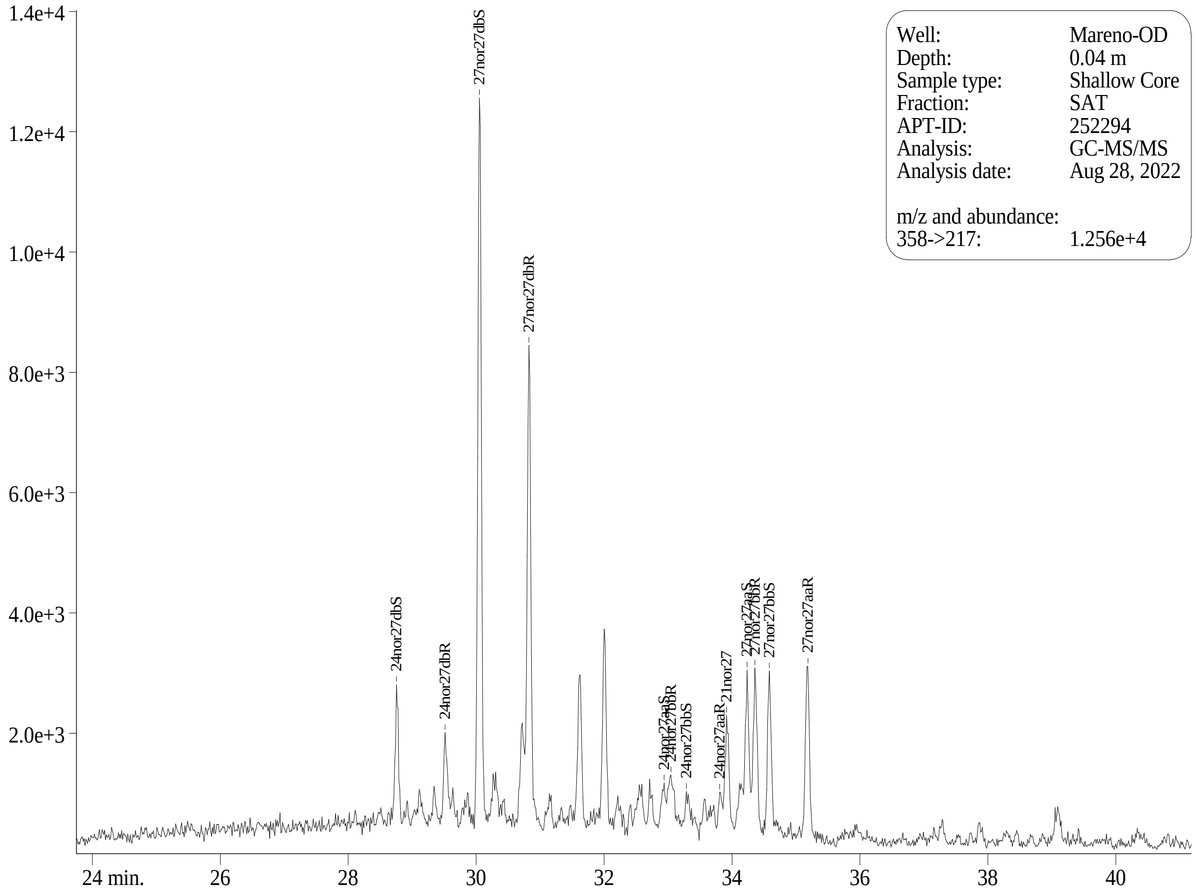
Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
252.094±0.5: 1.502e+7
253.196±0.5: 1.519e+6
Bz[e]Py
BzFa
Bz[a]Py
Pe

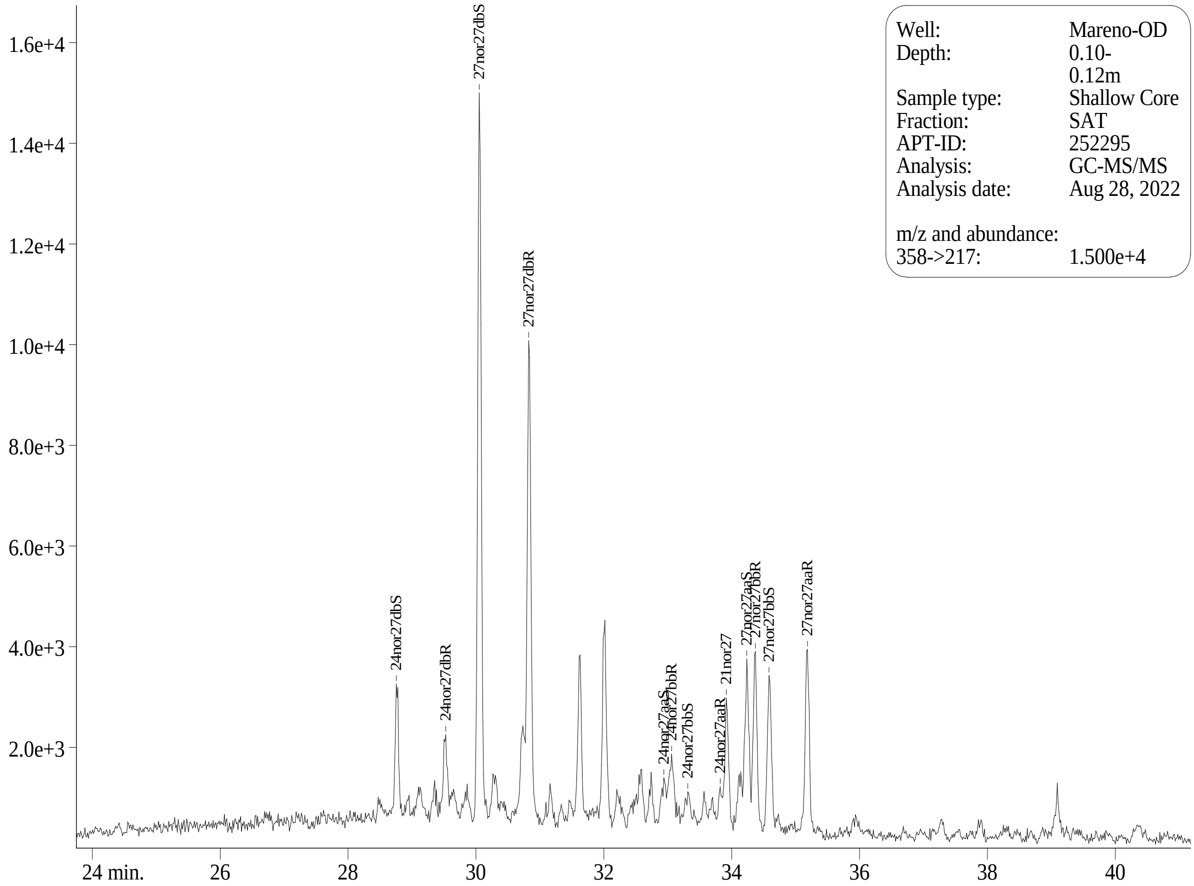

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
253.196±0.5: 1.519e+6
bRC28MA+bRC28DMA
aSC28MA+bSC28DMA+aRC27DMA
bRC27MA+bRC27DMA
aRC28MA+bRC29MA+bRC29DMA
aRC29DMA
aRC29MA
60 min.
70
80
90

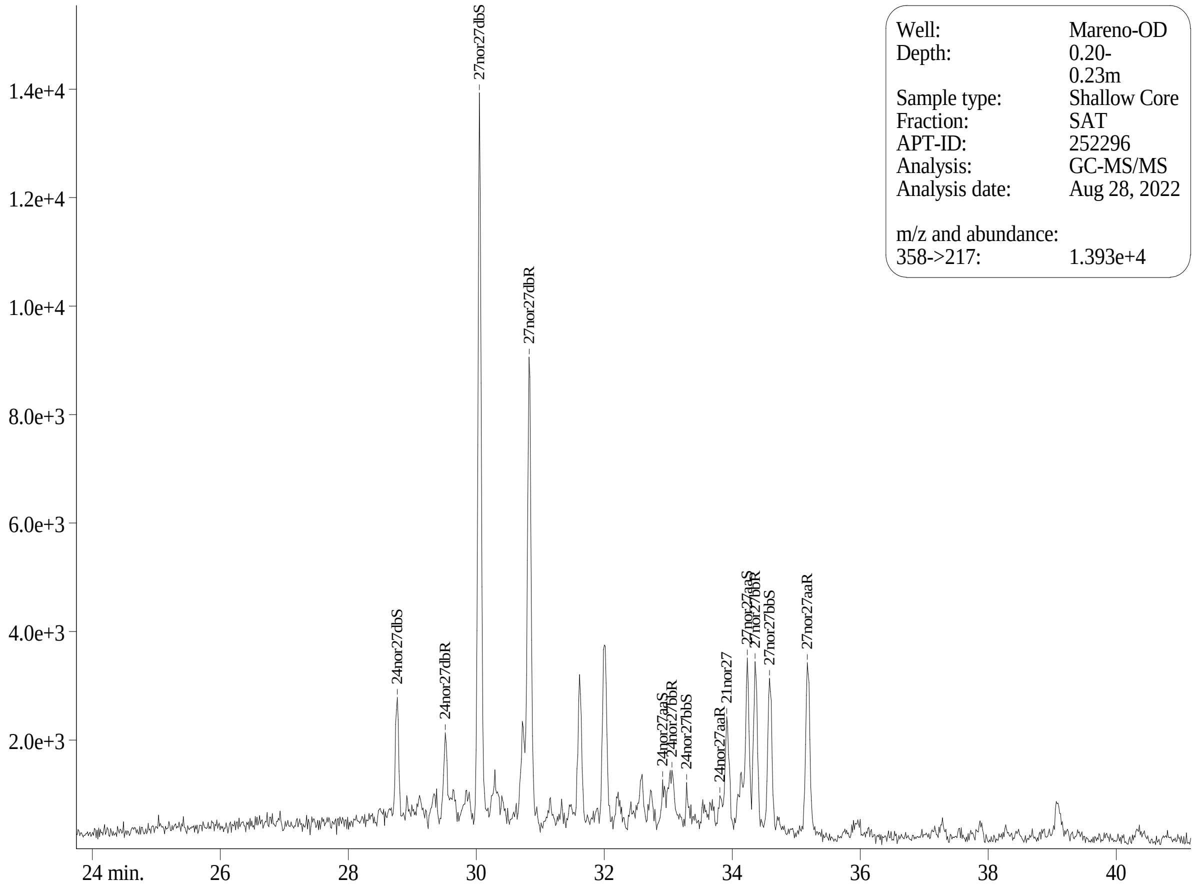

Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: ARO
APT-ID: 252303
Analysis: GC-MS (TSQ)
Analysis date: Aug 23, 2022
m/z and abundance:
365.321±0.5: 2.024e+5
29DMSH
30DMSH
78 min.
82
86
90
94
98
102
106

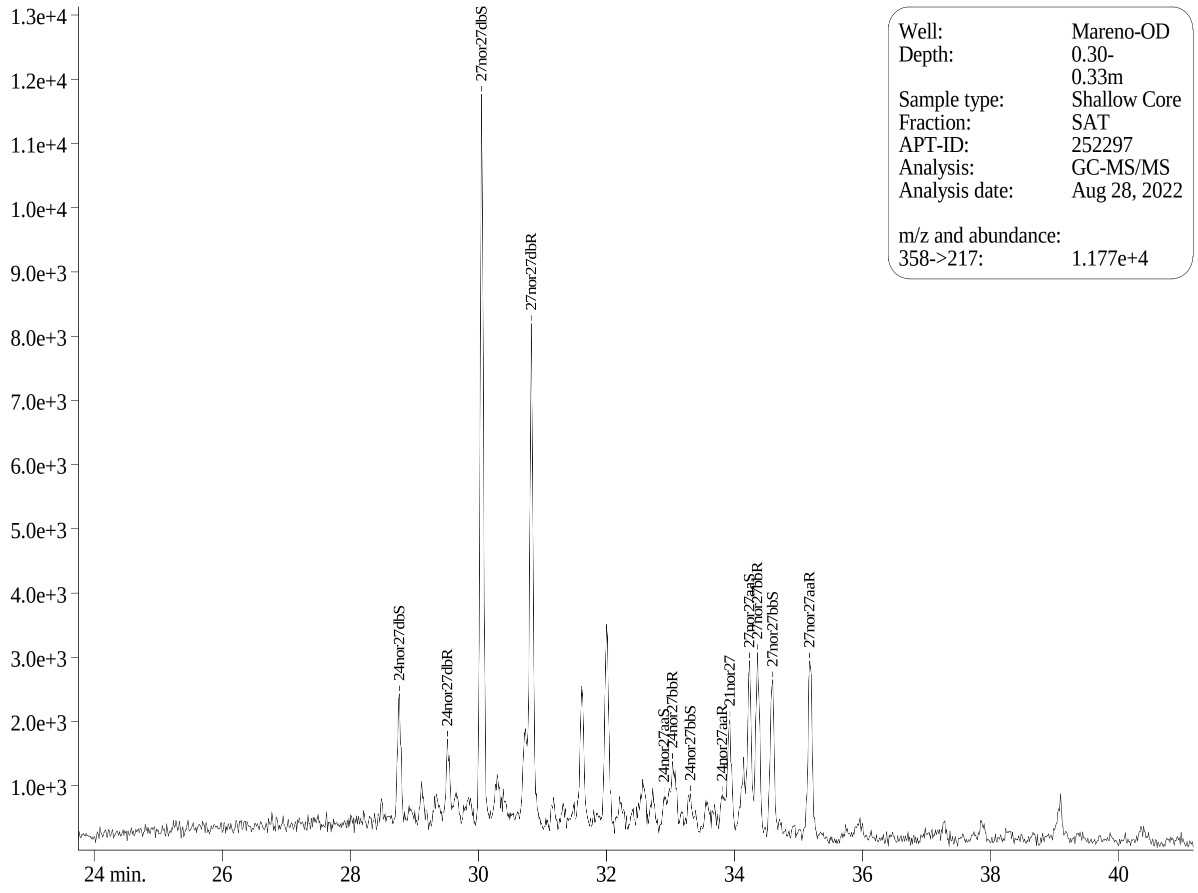
GC-MS/MS Chromatograms of Saturated Hydrocarbons

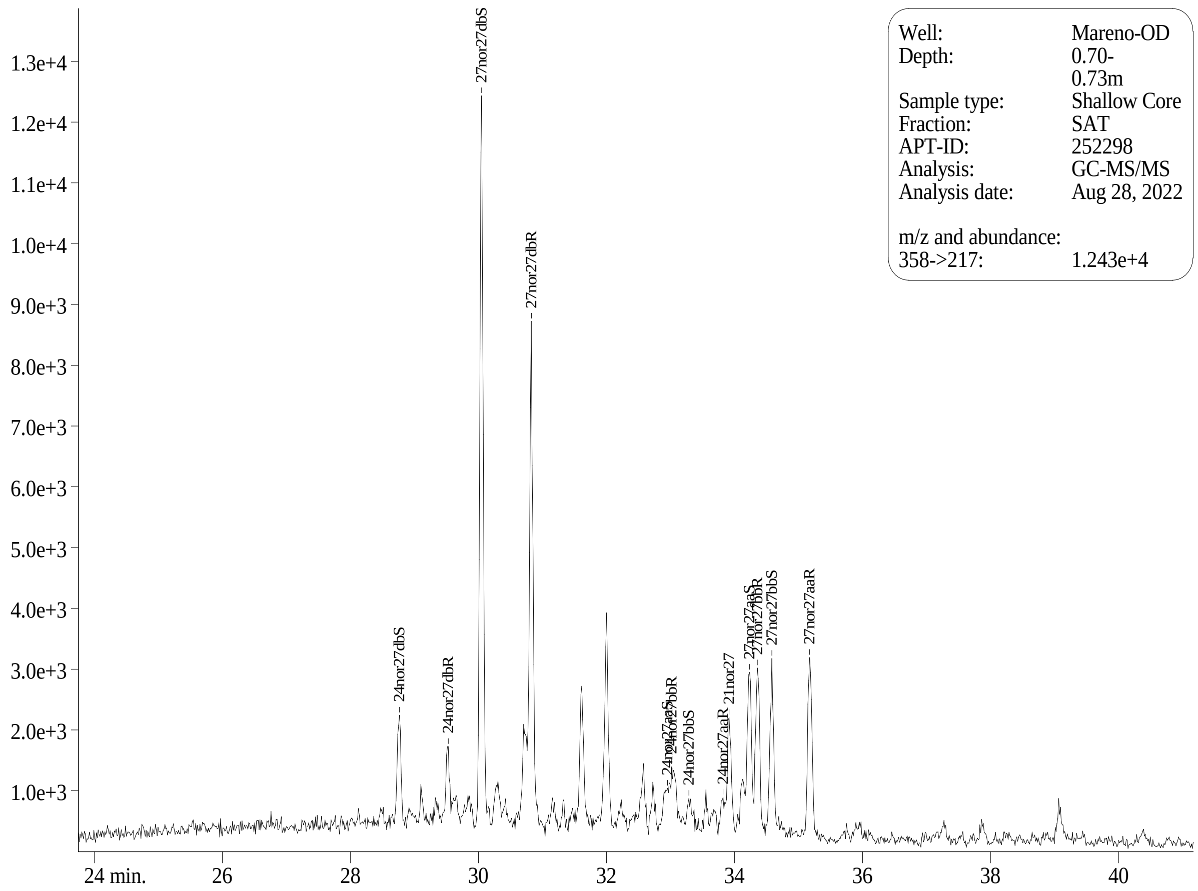

Sample: NSO-1
Depth: na
Sample type: Oil
Fraction: OSAT
APT-ID: 10042T
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 9.616e+4
27nor27dbS
27nor27dbR
27nor27bbR
24nor27dbS
24nor27dbR
24nor27bbR
24nor27aaS
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbS
27nor27aaR
24 min.
26
28
30
32
34
36
38
40
1.0e+5
9.0e+4
8.0e+4
7.0e+4
6.0e+4
5.0e+4
4.0e+4
3.0e+4
2.0e+4
1.0e+4

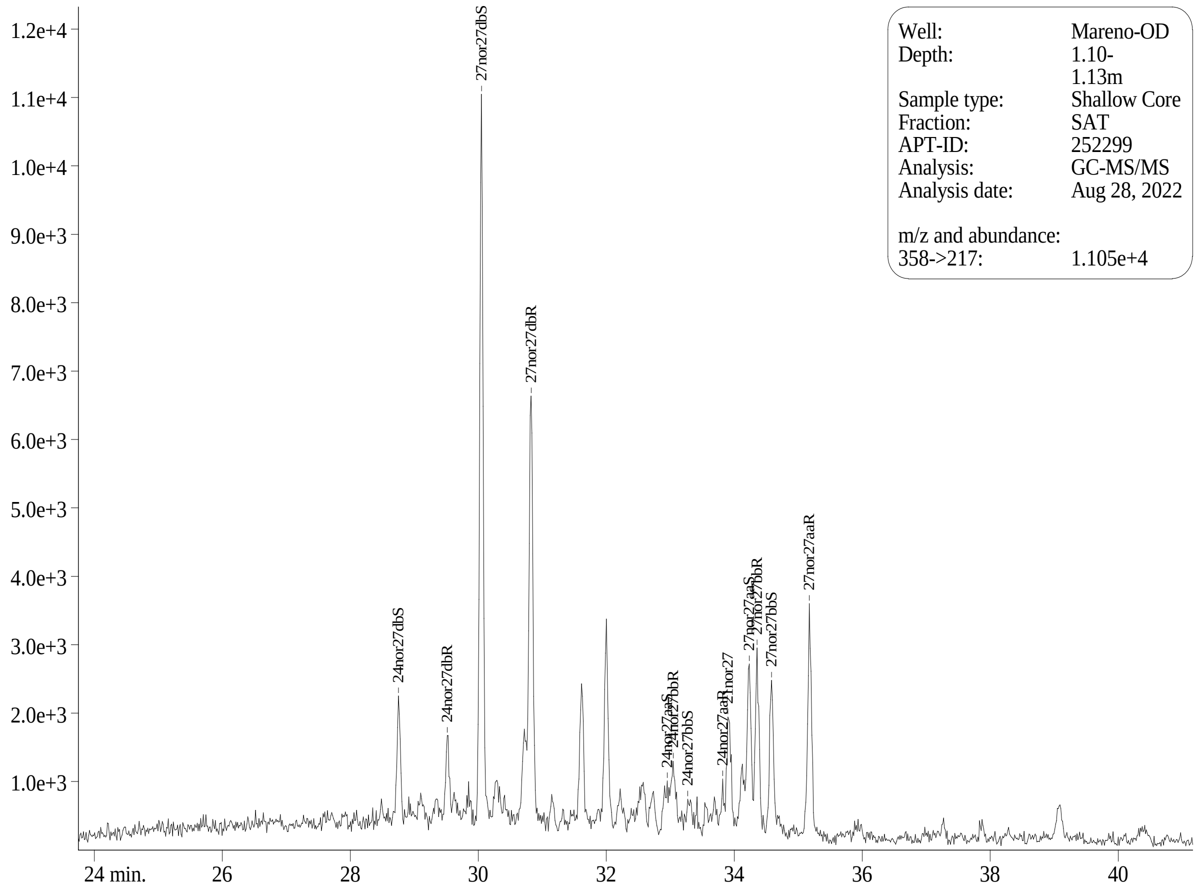

Well: Mareno-OD
Depth: 0.04 m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252294
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.256e+4
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27bbS
24nor27aaR
21nor27
27nor27bbS
27nor27aaR
24 min.
26
28
30
32
34
36
38
40
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3

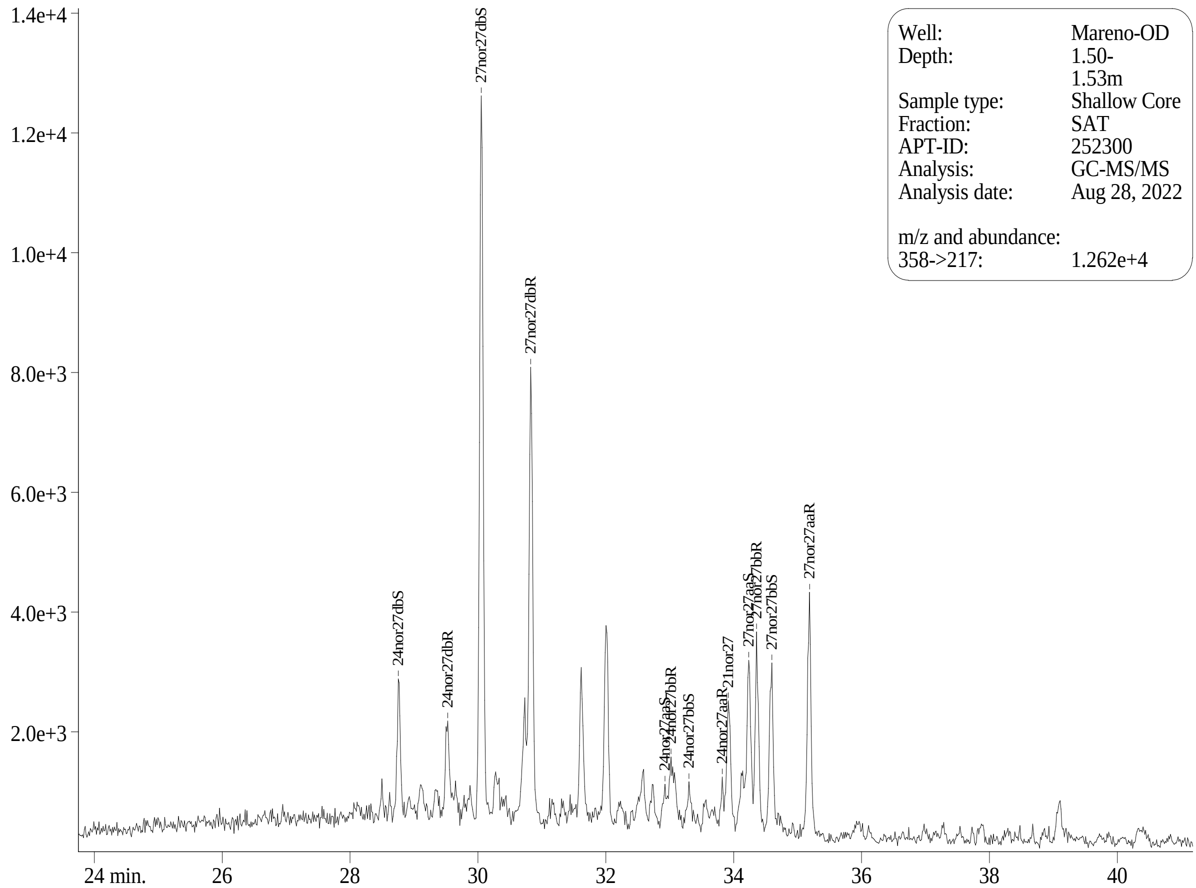

Well: Mareno-OD
Depth: 0.10-0.12m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252295
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.500e+4
24nor27dbS
24nor27dbR
27nor27dbS
27nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
24 min.
26
28
30
32
34
36
38
40

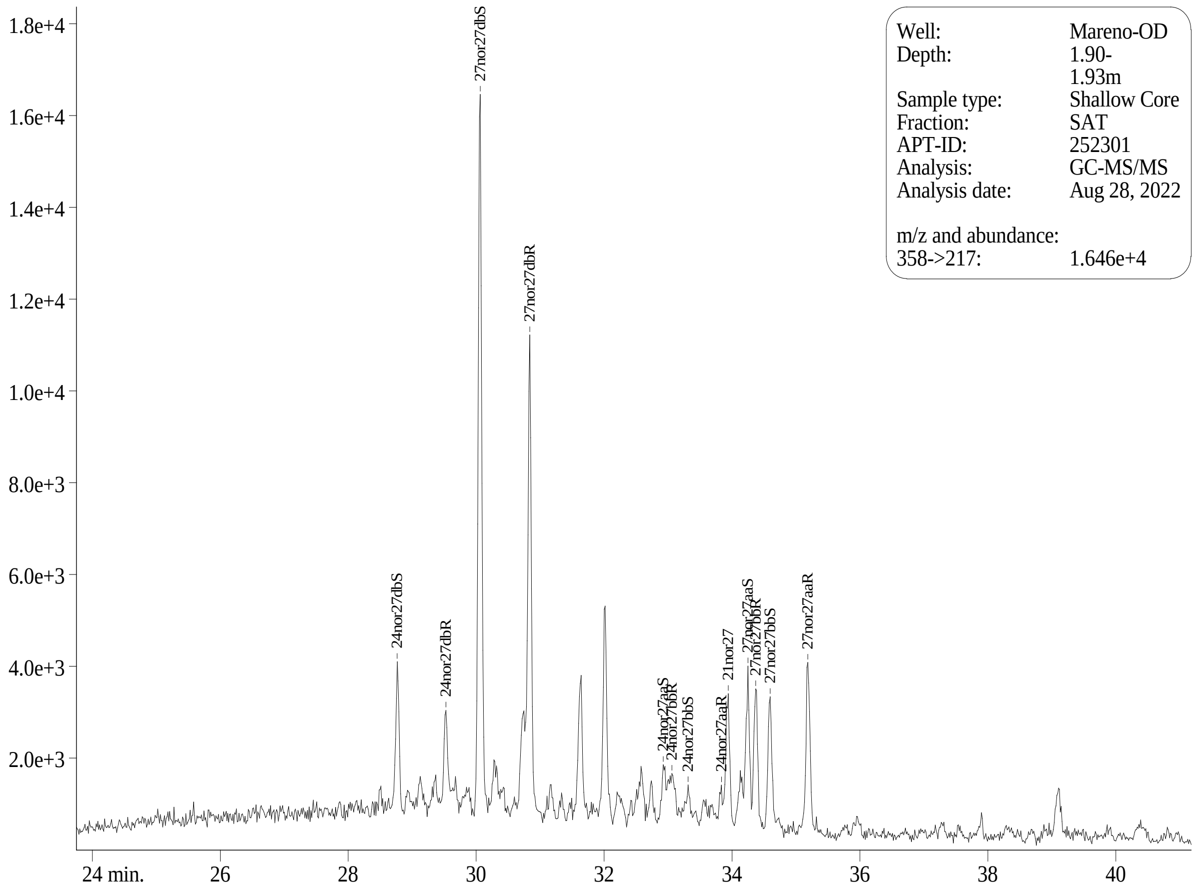

Well: Mareno-OD
Depth: 0.20-0.23m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252296
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.393e+4
24nor27dbS
24nor27dbR
27nor27dbS
27nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
24 min.
26
28
30
32
34
36
38
40


Well: Mareno-OD
Depth: 0.30-0.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252297
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.177e+4
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27bbS
27nor27aaR
1.3e+4
1.2e+4
1.1e+4
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
24 min.
26
28
30
32
34
36
38
40

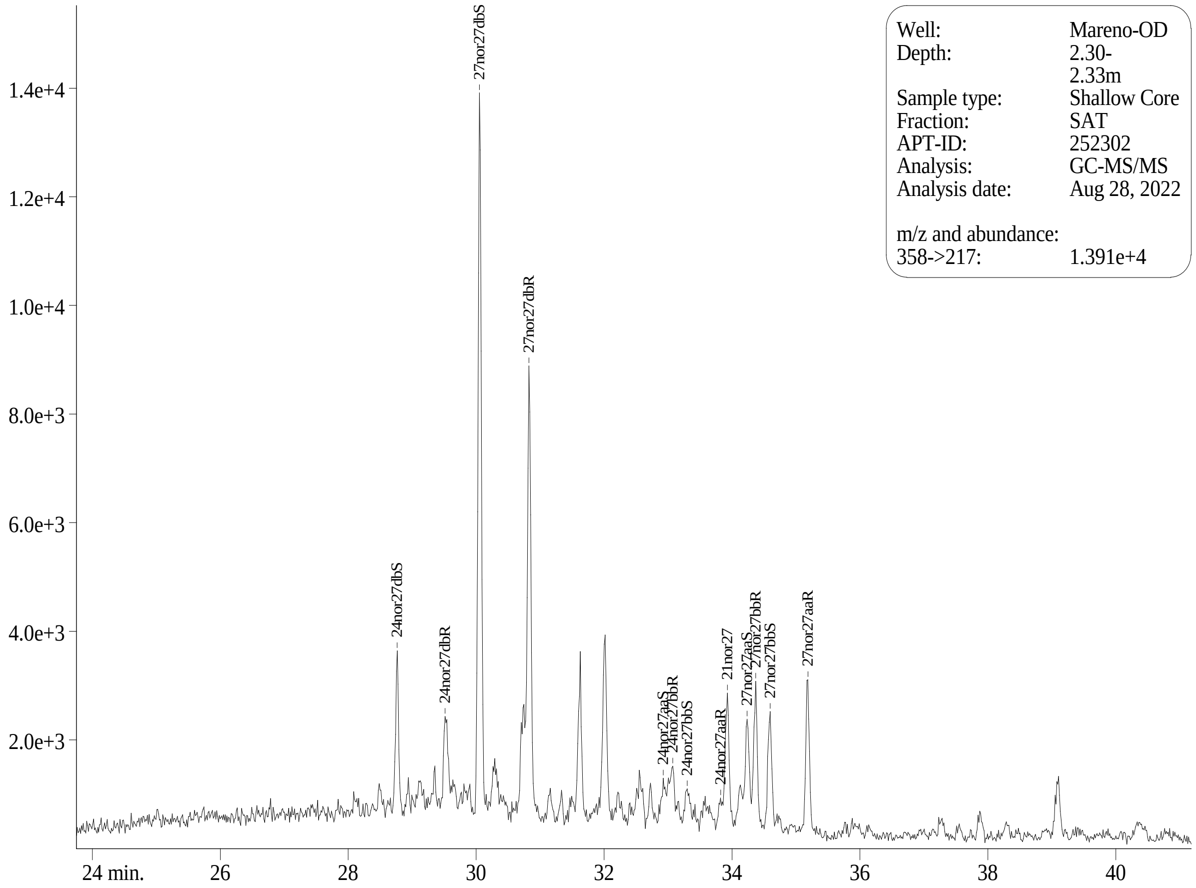

Well: Mareno-OD
Depth: 0.70-0.73m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252298
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.243e+4
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27bbS
24nor27aaR
21nor27
27nor27bbS
27nor27aaR
1.3e+4
1.2e+4
1.1e+4
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
24 min.
26
28
30
32
34
36
38
40


Well: Mareno-OD
Depth: 1.10-1.13m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252299
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.105e+4
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
1.2e+4
1.1e+4
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
24 min.
26
28
30
32
34
36
38
40

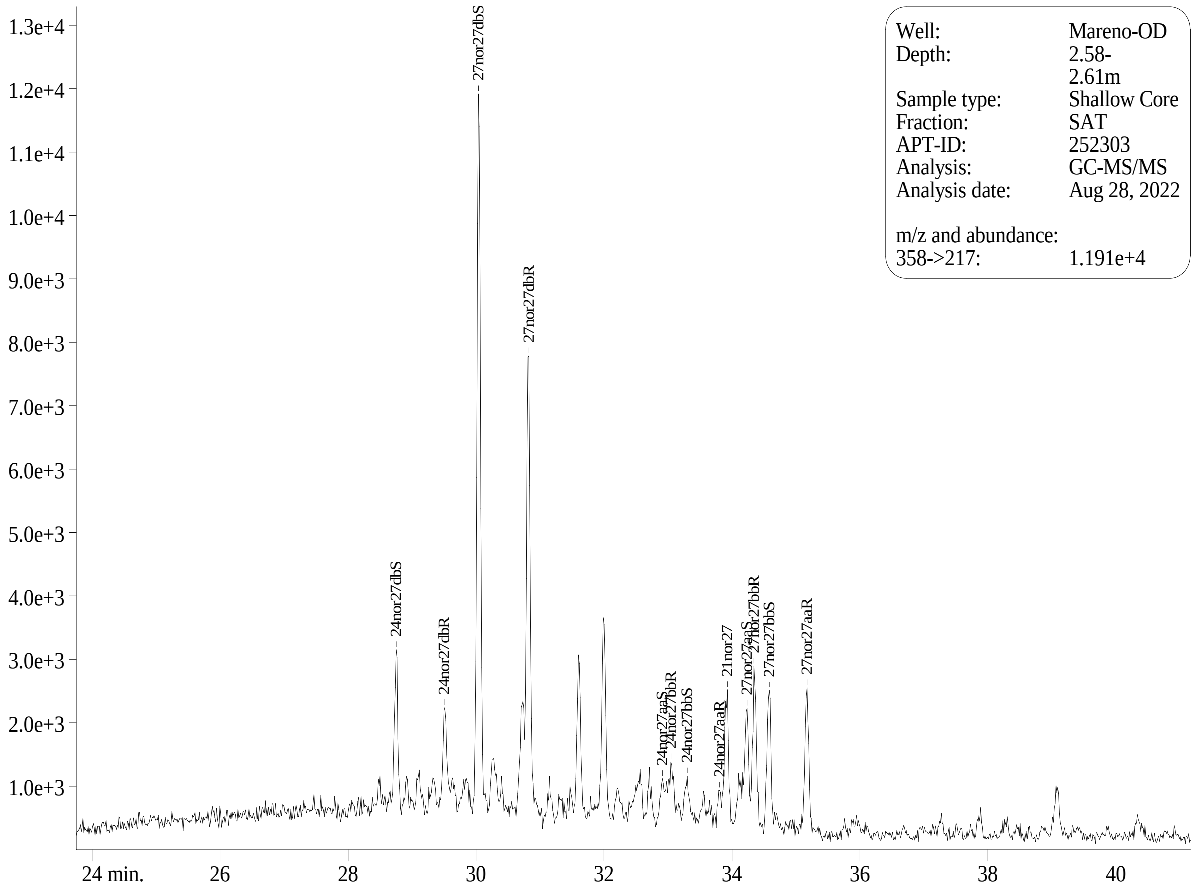

Well: Mareno-OD
Depth: 1.50-1.53m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252300
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.262e+4
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
24 min.
26
28
30
32
34
36
38
40



1.8e+4
1.6e+4
1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
24 min.
26
28
30
32
34
36
38
40
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
Well: Mareno-OD
Depth: 1.90-1.93m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252301
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.646e+4



1.4e+4
1.2e+4
1.0e+4
8.0e+3
6.0e+3
4.0e+3
2.0e+3
24 min.
26
28
30
32
34
36
38
40
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
Well: Mareno-OD
Depth: 2.30-2.33m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252302
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.391e+4



1.3e+4
1.2e+4
1.1e+4
1.0e+4
9.0e+3
8.0e+3
7.0e+3
6.0e+3
5.0e+3
4.0e+3
3.0e+3
2.0e+3
1.0e+3
24 min.
26
28
30
32
34
36
38
40
27nor27dbS
27nor27dbR
24nor27dbS
24nor27dbR
24nor27aaS
24nor27bbR
24nor27bbS
24nor27aaR
21nor27
27nor27aaS
27nor27bbR
27nor27bbS
27nor27aaR
Well: Mareno-OD
Depth: 2.58-2.61m
Sample type: Shallow Core
Fraction: SAT
APT-ID: 252303
Analysis: GC-MS/MS
Analysis date: Aug 28, 2022
m/z and abundance:
358->217: 1.191e+4

Table 17. Reference data for GC-EOM measured on NSO-1

Variable	Permissible range	Most likely value	10.08.2022	10.08.2022	11.08.2022	11.08.2022	12.08.2022
Pr/n-C17	0.55-0.66	0.60	0.59	0.58	0.58	0.59	0.58
n-C15/n-C20	1.4-2.0	1.8	1.86	1.86	1.84	1.86	1.83
n-C30/n-C20	0.20-0.32	0.29	0.23	0.24	0.24	0.24	0.25
n-C17/(n-C17+n-C27)	0.75-0.82	0.79	0.80	0.80	0.80	0.80	0.79

Table 18. Reference data for GC-MS of Saturated Compounds measured on NSO-1

Variable	Permissible range	Most likely value	22.08.2022	23.08.2022	23.08.2022
[23/3]/30αβ	0.04-0.09	0.07	0.05	0.05	0.05
35αβR/30αβ	0.06-0.13	0.08	0.09	0.09	0.09
25nor30αβ/25nor28αβ	0.3-0.8	0.5	0.89	0.87	0.88
29ααR/27dβS	0.2-0.6	0.3	0.37	0.36	0.37
29ββS/27ββR	0.7-1.2	0.9	0.83	0.82	0.81

Our column resolves the 25nor28αβ doublet, thus giving a value in the high-end region of the acceptable range specified by NIGOGA.

Table 19. Reference data for GC-MS of Aromatic Compounds measured on NSO-1

Variable	Permissible range	Most likely value	22.08.2022	23.08.2022	23.08.2022
1-MP/P	0.53-0.70	0.59	0.63	0.60	0.62
A1/E1	0.3-0.7	0.5	0.43	0.42	0.43
a1/d1	0.2-0.4	0.31	0.33	0.33	0.32

Experimental Procedures

All procedures follow NIGOGA, 4th Edition. Below are brief descriptions of procedures/analytical conditions.

Extraction
For extracting of shallow cores from surface geochemical exploration studies ultra sound bath is used. The crushed sample is weighed accurately into glass vials with approximately 80 cc of dichloromethane with 7% (vol/vol) methanol and placed in ultra-sound bath for 1 hour. An aliquot of 10% of the extract is transferred to a pre-weighed bottle and evaporated to dryness. The amount of extractable organic matter is calculated from the weight of this 10% aliquot.

Deasphaltening
Extracts are evaporated almost to dryness before a small amount of dichloromethane (3 times the amount of EOM) is added. Pentane is added in excess (40 times the volume of EOM/oil and dichloromethane). The solution is stored for at least 12 hours in a dark place before the solution is filtered or centrifuged and the weight of the asphaltenes measured.

Quantitative MPLC 3 fractions
The MPLC is constructed as described by Radke et al. (1980). The system includes two HPLC pumps, sample injector, sample collector and two packed columns. The pre column is filled with Kieselgel 100, which is heated at 600 °C for 2 hours to deactivate it. The main column, a LiChroprep Si60 column, is heated at 120 °C for 2 hours with a helium flow to make it water free.
Approximately 30 mg of deasphaltened oil or EOM diluted in 1 ml hexane is injected into a sample loop. The solvents used are hexane and dichloromethane.

Fraction 1 - Saturates
Hexane through the sample loop, the pre column and the main column is collected until all saturates are collected.

Fraction 2 – Aromatics A
Hexane that back flushes the main column is collected.

Fraction 3 – Polars (NSO-fraction)
Dichloromethane that back flushes the pre column is collected.

Solvents from all fractions are removed until the total volume is 1 ml by using a Turbovap unit. The fractions are transferred to small pre weight vials and dried carefully. Then the weights are measured.

Stable carbon isotope analysis of fractions
The samples were dissolved in a known amount of dichloromethane and 20ul was transferred to a 5X8mm tin capsule. The solvent was evaporated in an oven at 50 °C. The samples were then loaded into an automatic sampler which then placed them into a combustion reactor (Thermo Fisher Scientific Elemental Analyzer) held at 1020 °C. The excess supply of oxygen helps to flash combust the tin capsules which results in a temperature rise to 1700 °C. The produced water is trapped on Magnesium Perchlorate. CO2 is separated by column and flashed into Delta V Plus Isotope Ratio Mass Spectrometer (IRMS) (Thermo Fisher Scientific) via Conflo IV. A standard (NGS NSO-1, topped oil) is analyzed for each 12th

sample. The δ13C value obtained for this standard is –28.6‰ vPDB. The variation in the isotopic values for NSO-1 by repeated analysis over a period of one year is ± 0.09‰.

GC of EOM fraction
A HP7890 A instrument is used. The column is a CP-Sil-5 CB-MS, length 30 m, i.d. 0.25 mm, film thickness 0.25 µm. C20D42 is used as an internal standard.
Hydrogen is used as carrier gas.

Temperature programme
50 °C (0.7 min.) – 5.7 °C/min. - 320 °C (14 min.)

GC-MS of saturated fractions
A Thermo Scientific DFS high resolution instrument is used. The instrument is tuned to a resolution of 3000 and data is acquired in Selected Ion Recording (SIR) mode. The column used is a 60 m CP-Sil-5 CB-MS with an i.d. of 0.25 mm and a film thickness 0.25 µm. D_4-27ααR is used as internal standard when quantitative results are requested.

Temperature programme
50 °C (1 min.) - 20 °C/min. - 120 °C - 2 °C/min - 320 °C (20 min.)

GCMS of aromatic fractions
A Thermo Scientific TSQ Quantum XLS instrument is used. The instrument is tuned to a resolution of 0.4 mass units and data is acquired in Selected Ion Recording (SIR) mode. The column used is a 60 m CP-Sil-5 CB-MS with an i.d. of 0.25 mm and a film thickness 0.25 µm. D_8-Naphthalene, D_{10}-Biphenyl, D_{10}-Phenanthrene and D12-Chrysene are used as internal standards when quantitative results are required for the aromatic compounds.

Temperature programme
50 °C (1 min.) - 20 °C/min. - 120 °C - 2 °C/min - 320 °C (20 min.)

GC-MS/MS of age specific biomarkers
A Thermo Scientific TSQ Quantum instrument is used. The instrument is tuned to a resolution of 0.7 mass units. The collision energy is 15 V with Argon as the collision gas at a pressure of 1.0 mTorr. The column used is a 60 m CP-Sil-5 CB-MS with an i.d. of 0.25 mm and a film thickness 0.25 µm. d4-27ααR is used as internal standard when quantitative results are requested.

Temperature programme
50 °C (1 min.) - 20 °C/min. - 225 °C - 2 °C/min - 300 °C - 20 °C/min. - 320 °C (20 min.)