

Study of Constituent components of organic Liver of Pomadasys KaakanFish

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Abstract: In this project, Sangsar is the scientific name of Pomadasys Kaakan. The liver oil of the Pomadasys Kaakan for Blight and Dyer extraction method was extracted due to oxidation off at sin the liver being minimal. The fat content of the liver tissue was extracted with chloroform and then with n-butanol was isolated from liver tissue of polar materials. To identify organic compounds in chloroform and n-butanol phases with each phase separately concentrated in a vacuum rotary evaporator and then by mass spectroscopy(GC-MS)spectra were measure din isolated parts of compounds. Using spectral data in compare is on with other standard data sources(Eight Peak)and calculates the Kovts *index* (KI) and comparison with the standard kovts index, natural compounds in chloroform and phase n- butanol was identified. Polar compounds by methanol and non-polar solvent chloroform by were extracted. After evaporation of solvents by Rotary Evaporator, normal hexane extracted. They were dissolved in a solvent and diluted samples prepared from the corresponding two-phase Gas Chromatography with Mass Spectrometry(GC / MS). The mass spectra injection compounds were obtained. Using references(Eight Peak),compounds in chloroform phases were identified in the liver. According to the results of liver chloroform phase17materials were identified as the highest percentage(cholesterol)relative to the percentage 48.84 percent which was allocated. In polar phase eight compounds were detected. The highest and relative percentage is about Propyl isocyanides with 2.02%. **Fatty acids were identified as follows:** Hexanoic acid, Hexanoic acid, Heptanoic acid, Decanoicacid, hexyl ester, octatriene, Formic acid, methylpropyl ester

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Keywords: Extraction, Gas chromatography, Pomadasys Kaakan fish liver oil, Persian Gulf.

1. Introduction

Fish consumption has given role in human health care, especially in recent years much attention has been Nutritionists .These days, most of the time, doctors prescribe more fish in the diet of their patients .So people who have been excluded from various diseases of red meat or can fish. This recommendation is due to a substance called omega-3fats in fish .A group called omega-3 unsaturated fatty acids required by the human body which cannot produce and must be supplied through diet or supplements . Fish are rich sources of essential fatty acids, despite all the properties and importance of omega-3 found in fish oil on human health, it is very important to have this weakness is due to the un saturated chain in their chemical formulas, when air and heat can be easily oxidized and loses not only his property , but becomes toxic substances and carcinogens .It is the importance and sensitivity of the fishing, processing and storing fish and cooking properly identified .The fact that , in some cases it doesn't have uses this fish properly and valuably now.

1 –Procedure method (Experimental Section)

1-1 -Sampling and sample storage

Sample preparation for the Persian Gulf, 4 fresh fish caught in various sizes and then using the standard method described in the book(shipped in a plastic bag and on ice) was transferred to the laboratory to test time-temperature - 20° C was maintained.



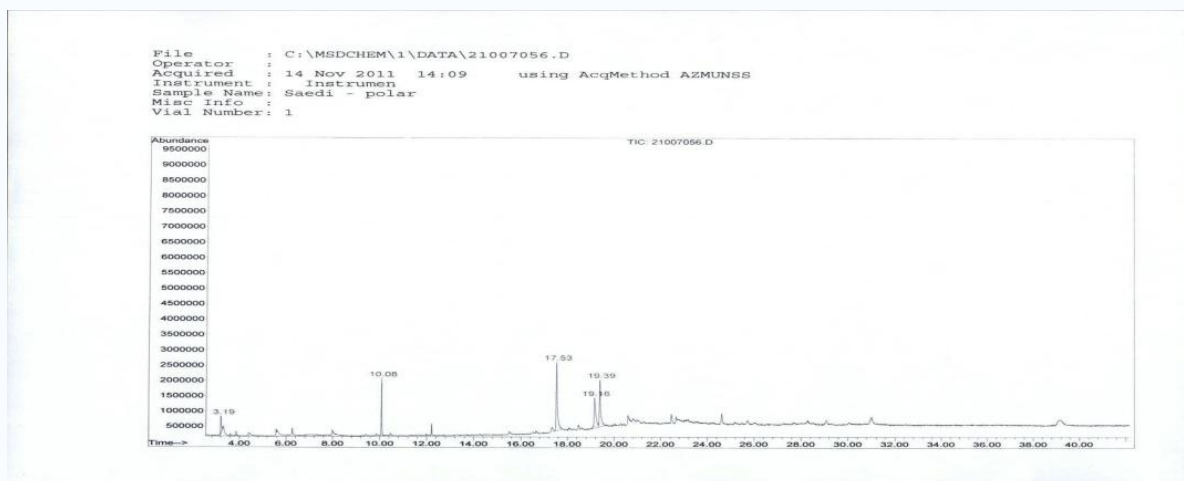
The weighed liver

1-2 -a practical method of extracting oil from fish liver

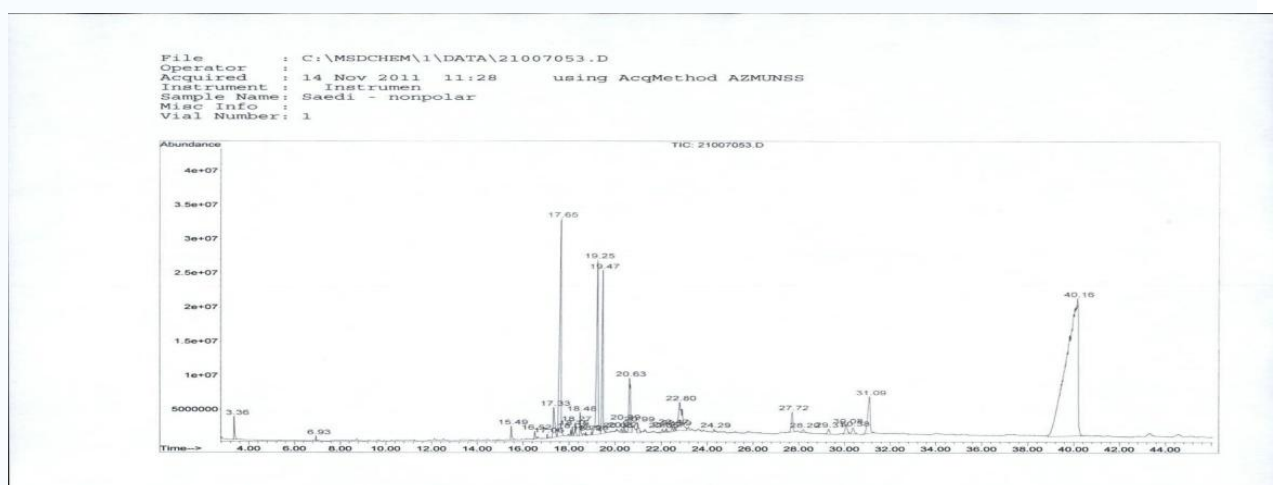
Natural compounds found in fish liver Pomadasys Kaakan Blight and Dyer extraction method .Livers temperature - 20 °C and then maintained until the experiment using Chinese Huang are converted to soft paste. In addition, we simultaneously added to solution to the mixed sample are in interaction with the solvent. Extraction of polar compounds by methanol and non-polar compounds were dissolved in chloroform solvent mixing in a flask evacuated. The flask tightly with foil and Teflon Valid for 12 hours in the refrigerator and then dissolved in flasks and Büchner funnel and using Whatman filter paper

was smooth. Divided into two phases, the upper phase and methanol solution polar phase and non-polar phase, the lower phase Chloroform(containing fats and heavy Trusts) non-polar phases were separated and transferred to a round bottom flask. Round-bottom flask connected to a rotary evaporator and the machine to rotation 150rpm and the temperature reach to 70 ° C in order to evaporate the solvent. The sample was diluted with chloroform and then filtered with filter paper test tubes were prepared and injection to the GC-MS ad the advantageous provided . [3][4][6]

2-Advantagouse



GC chromatogram of the methanol phase of liver

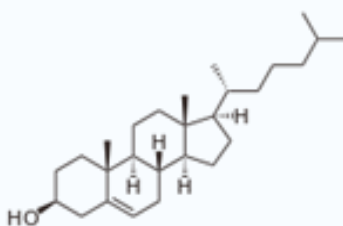
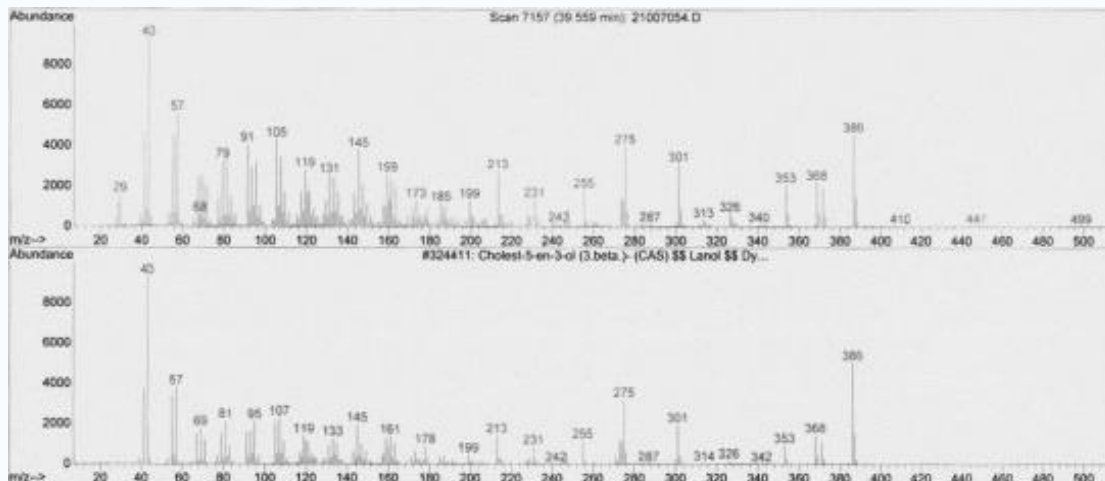


GC chromatogram of the chloroform phase liver

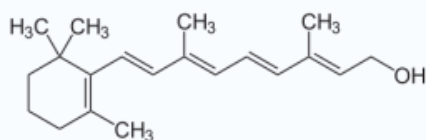
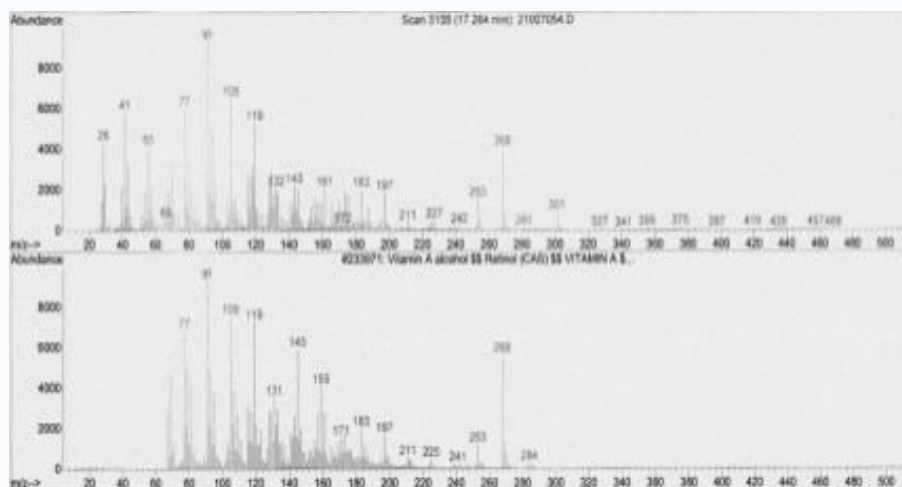
1-2 -) Cholesterol

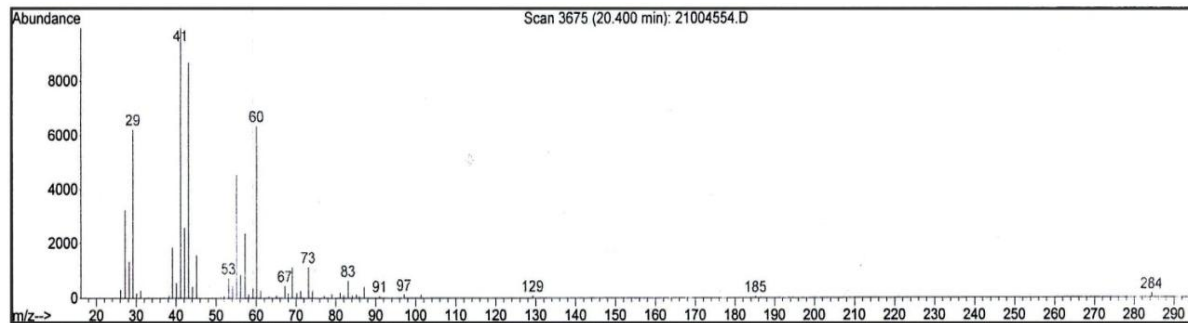
hormones and cell membranes are used. Cholesterol is a major sterol synthesized by animals [1].

Cholesterol was highest in the liver, a steroid of fat that is produced in the liver or gut, and to produce

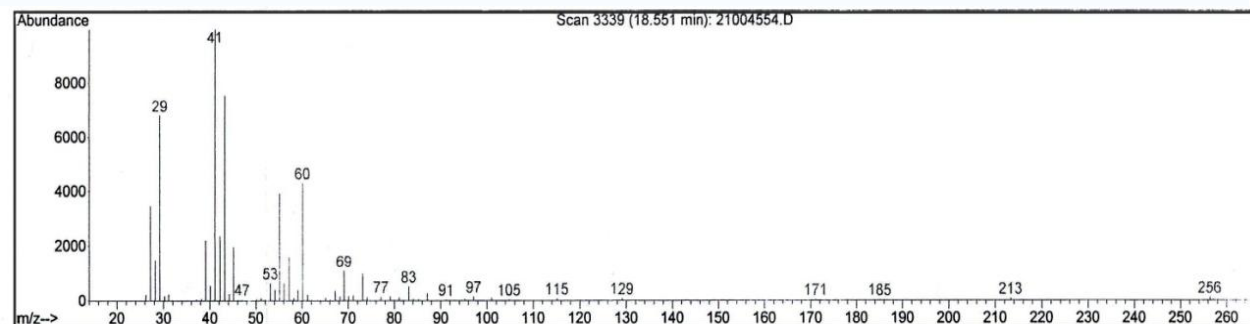


2-2 -C20H30O- (Vitamin A)

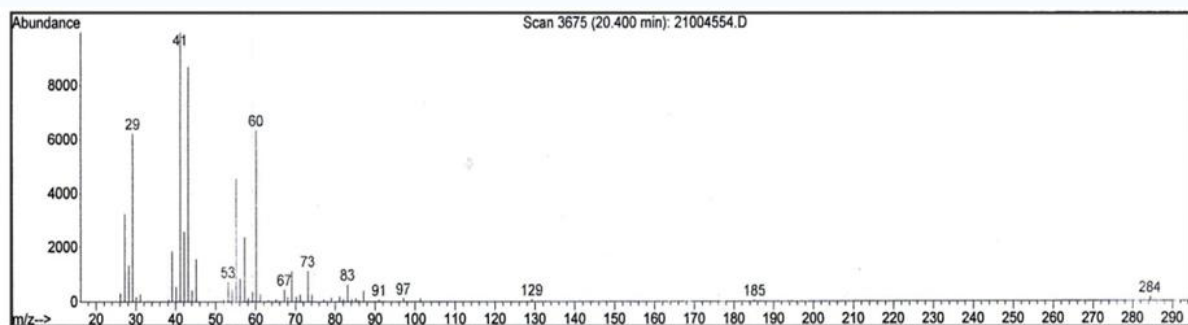




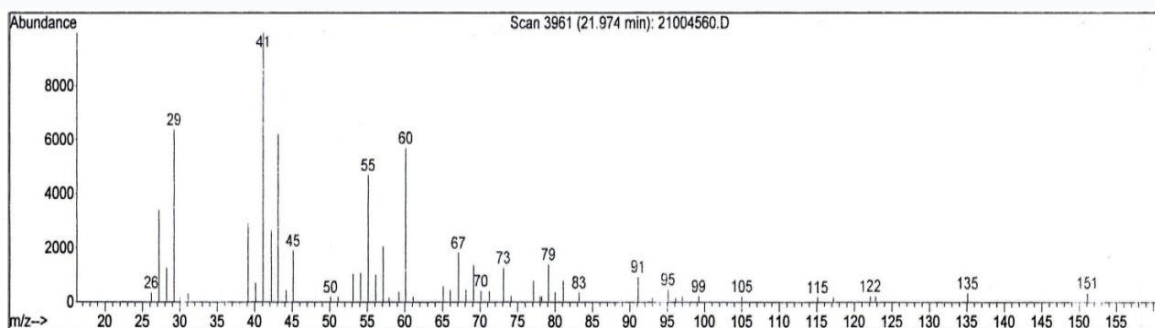
The mass spectra of Formic acid ,2-methylpropyl ester



The mass spectra of Decanoic acid, hexyl ester



The mass spectra of 5- Hexenoic acid



The mass spectra of Heptanoic acid

Conclusion

In this study, natural compounds found in the livers of fish caught by the Persian Gulf Sangsar were identified. The results of the experiments, it was found that high levels of fatty acids in cod liver fish there are also ortho meta-xylene and Pomadasys Kaakan pollutants, Ortho-meta-xylene, Hexanoic acid, Hexylacid ester and Decanoic acid have found that the accumulation of large amounts Regarding the food consumption of fish and it is important. Vitamin A is made up of compounds called retinoid, which forms vitamin A is active because of vitamin A is fat-soluble and its absorption in the intestine to digest fat. So people who have trouble digesting fats such as biliary problems have higher levels of vitamin A can receive. Because it is a fat-soluble vitamin, retinoid in the liver and fat tissue has the ability and can be used in times of shortage. Fish liver oil is the richest source of "vitamin A". [7],[8]

Lipids are fatty acids that occur naturally in almost "exclusively" to the cis form, but the fish examined considerable amount of Trans fatty acids were extracted as it is likely to depend on the feeding fish. The result of the study made it clear that due to the composition of chloroform and n-butanol phase and valuable fish liver can Pomadasys Kaakan this resource useful and important in the food, pharmaceutical and cosmetic. Hope it is useful to replace the benefits of taking fish oil contains polyunsaturated fatty acids (PUFAS) instead of solid fats with polyunsaturated fatty acids (SFAS) in the diet, these verify of heart disease-Coronary, dry eye, increase focus and learning, joint pain and stiffness of arthritis, rheumatism, cancer prevention, treatment, and prevention of HIV disease. Take an enormous step.

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