

2. GCMS of n-alkanes (biomarkers of algae and plants)

Author: Badawy, M. I.; Abou-Waly, H. F.; Ali, G. H.

Year: 1999

Title: Excretion Products of algae and their occurrence in Solar Lake. Taba, Egypt

Journal: International Journal of Environmental Health Research

Volume: 9

Pages: 233-243

Notes: correlation between bacterial populations and n-alkanes as measured by GC-MS

Author: Ballot, Andreas; Krienitz, Lothar; Kotut, Kiplagat; Wiegand, Claudia; Metcalf, James S.; Codd, Geoffrey A.; Pflugmacher, Stephan

Year: 2004

Title: Cyanobacteria and cyanobacterial toxins in three alkaline Rift Valley lakes of Kenya - Lakes Bogoria, Nakuru and Elmenteita

Journal: Journal of Plankton Research

Volume: 26

Issue: 8

Pages: 925-935

Notes: MALDI-TOF analysis of micrystins to detect bacteria

Author: Bendle, James A.; Kawamura, Kimitaka; Yamazaki, Koji

Year: 2006

Title: Seasonal Changes in stable carbon isotopic compositions of n-alkanes in the marine aerosols from the western North Pacific: Implications for the source and atmospheric transport

Journal: Geochimica et Cosmochimica Acta

Volume: 70

Pages: 13-26

Author: Bi, Xinhui; Sheng, Guoying; Liu, Xiaohong; Li, Chao; Fu, Jiamo

Year: 2005

Title: Molecular and carbon and hydrogen isotopic composition of n-alkanes in plant leaf waxes

Journal: Organic Geochemistry

Volume: 36

Pages: 1405-1417

Notes: n alkanes analyzed from leaf extracts by GCMS and isotope ratios determined to relate to prior climate change

Author: Chikaraishi, Yoshito; Naraoka, Hiroshi

Year: 2003

Title: Compound specific δD - $\delta^{13}C$ analyses of n-alkanes extracted from terrestrial and aquatic

plants

Journal: Phytochemistry

Volume: 63

Issue: 3

Pages: 361-371

Notes: GCMS isotopic ratios to determine plant sources of n-alkanes

Author: Coban-Yildez, Y.; Chiavari, G.; Fabbri, D.; Gaines, A. F.; Galletti, G.; Tugral, S.

Year: 2000

Title: The chemical composition of Black Sea suspended particulate organic matter: pyrolysis GC-MS as a complementary tool for traditional oceanographic analyses.

Journal: Marine Chemistry

Volume: 69

Issue: 55-67

Notes: GCMS for the description of organic material in a sea

Author: Coban-Yildez, Y.; Fabbri, D.; Tartari, D.; Tugral, S.; Gaines, A. F.

Year: 2000

Title: Application of pyrolysis GC/MS for the characterization of suspended particulate organic matter in the Mediterranean Sea: a comparison with the Black Sea

Journal: Organic Geochemistry

Volume: 31

Pages: 1627-1639

Notes: GCMS for n-alkane identification

Author: Doskey, P. V.; Andren, A. W.

Year: 1986

Title: Particular and vapor phase n-alkanes in the northern Wisconsin atmosphere

Journal: Atmospheric environment

Volume: 20

Issue: 9

Pages: 1735-1744

Author: Duan, Yi; Ma, Lanhua

Year: 2001

Title: Lipid geochemistry in a sediment core from Ruoergai Marsh deposit (Eastern Qinghai - Tibet plateau, China)

Journal: Organic Geochemistry

Volume: 32

Pages: 1429-1442

Notes: GCMS for diagenetic analysis of organic carbon in sediment

Author: Ekpo, b. O.; Oyo-Ita, O. E.
Year: 2005
Title: Even n-alkane/alkene predominances in surface sediments from the Calabar River, SE Niger Delta, Nigeria
Journal: Die Naturwissenschaften
Volume: 92
Issue: 7
Pages: 341-346
Notes: Uses GCMS to examine natural n-alkanes vs. petroleum derived pollution

Author: Elias, Vladimer O.; Cardoso, Jari N.
Year: 1996
Title: Sources and transport of lipids on Amazon continental shelf
Journal: Geo-marine letters
Volume: 16
Issue: 1
Pages: 11-16
Notes: Uses GCMS of n-alkanes to monitor organic carbon in a river

Reference Type: Journal Article

Author: Elias, Vladimer O.; DeBarros, A. M. A.; DeBarros, A. B.; Simoneit, B. R. T.; Cardoso, J. N.
Year: 1997
Title: Sesquiterpenoids in sediments of a hypersaline lagoon: A possible algal origin
Journal: Organic Geochemistry
Volume: 26
Issue: 11-12
Pages: 721-730
Notes: Uses GCMS to examine sesquiterpenoids and carbon isotope ratio to determine source of organic carbon

Author: Ficken, K. J.; Li, B.; Swain, D. L.; Eglinton, G.
Year: 2000
Title: An n-alkane proxy for the sedimentary input of submerged/floating freshwater aquatic macrophytes
Journal: Organic Geochemistry
Volume: 31
Pages: 745-749
Notes: Title indicates GCMS of n-alkanes to measure sedimentary (erosion) inputs

Author: Freeman, K. H.; Colarusso, L. A.
Year: 2001

Title: Molecular and isotopic records of C₄ grassland expansion in the late Miocene
Journal: Cosmochimica et Geochimica Acta
Volume: 65
Issue: 9
Pages: 1439-1454
Notes: Uses GCMS to measure n-alkanes and carbon isotope shift to monitor climate change

Author: Frilley, T. R.; Freeman, K. H.; Bianchi, T. S.; Baskaran, M.; Colarusso, L. A.; Hatcher, P. G.
Year: 2001
Title: An isotopic biogeochemical assessment of shifts in organic matter input to Holocene sediments from Mud Lake, Florida
Journal: Organic Geochemistry
Volume: 32
Pages: 1153-1167
Notes: Uses GCMS to look at organic carbon inputs over 5000 years to determine climate change

Author: Garg, Anita; Bhosle, Narayan
Year: 2004
Title: Abundance of Macroalgal Organic Matter in Biofilms: Evidence from n-Alkane Biomarkers
Journal: Biofueling
Volume: 20
Issue: 3
Pages: 155-165
Notes: Discusses relation between of n-alkanes to plants and algae; GCMS

Author: Glaser, Bruno; Zech, Wolfgang
Year: 2005
Title: Reconstructing climate and landscape changes in a high mountain lake catchment in the Gorkha Himal, Nepal during the Lake Glacial and Holocene as deduced from radiocarbon and compound-specific stable isotope analysis of terrestrial, aquatic and microbial biomarkers
Journal: Organic Geochemistry
Volume: 36
Pages: 1086-1098
Notes: GCMS for biomarkers in a sediment (n-alkanes and others) including carbon isotopic ratios

Author: Grimalt, Joan; Albaiges, Joan
Year: 1987

Title: Sources and occurrence of C12-C22 n-alkane distributions with even carbon-number preference in sedimentary environments

Journal: Geochimica et Cosmochimica Acta

Volume: 51

Pages: 1379-1384

Notes: relates n-alkane type to source type (plant or algae)

Author: Han, Jerry; Calvin, Melvin

Year: 1969

Title: Hydrocarbon distribution of algae and bacteria and microbiological activity in sediments

Journal: Proceedings of the National Academy of Science of the USA

Volume: 64

Issue: 2

Pages: 436-444

Notes: demonstrates petroleum comes from algae by virtue of the n-alkane distribution

Author: Hedges, J. I.; Oades, J. M.

Year: 1997

Title: Review Paper: Comparative organic geochemistries of soils and marine sediments

Journal: Organic Geochemistry

Volume: 27

Issue: 7/8

Pages: 319-361

Notes: review of use of GCMS for n-alkane distributions in natural organic matter

Author: Huang, Y.; Street-Perrott, F. Alayne; Metcalfe, S. E.; Brenner, M.; Moreland, M.; Freeman, K. H.

Year: 2001

Title: Climate change as the dominant control on Glacial-Interglacial Variations in C3 and C4 plant abundance

Journal: Science

Volume: 293

Issue: 5535

Pages: 1647-1651

Notes: n-alkane analysis by GCMS for climate change Mount Kenya

Author: Ishiwatari, R.; Uzaki, M.; Yamada, K.

Year: 1994

Title: Carbon isotope composition of individual n-alkanes in recent sediments

Journal: Organic Geochemistry

Volume: 21

Issue: 6/7

Pages: 801-808

Notes: discusses GCMS isotopic ratio measurements of n-alkanes in sediments

Author: Lichtfouse, Eric

Year: 1998

Title: Isotopic and Biosynthetic Evidence for the Origin of Long-Chain Aliphatic Lipids in Soils

Journal: Naturwissenschaften

Volume: 85

Pages: 76-77

Notes: Discusses use of n-alkanes to determine source of organic matter

Author: Zhao, Meixun; Dupont, Lydie; Eglinton, Geoffrey; Teece, Mark

Year: 2003

Title: n-alkane and pollen reconstruction of terrestrial climate and vegetation for N. W. Africa over the last 160 kyr

Journal: Organic Geochemistry

Volume: 34

Pages: 131-143

Notes: n-alkanes for climate change

Author: Lockey, Kenneth H.

Year: 1991

Title: Cuticular Hydrocarbons of adult onymacris bicolor (Haag) and onymacris boschimana (Peringuey) (Coleoptera: Tenebrionidea)

Journal: Comparative Biochemistry Physiology

Volume: 98B

Issue: 1

Pages: 151-163

Notes: Discusses origin of higher n-alkanes and even/odd distribution from plant waxes

Author: Logan, Graham A.; Calver, Clive R.; Gorian, Paul; Summons, Roger E.; Hayes, John M.; Walter, Malcolm R.

Year: 1999

Title: Terminal Proterozoic mid-shelf benthic microbial mats in the Centralian Superbasin and their environmental significance

Journal: Geochimica et Cosmochimica Acta

Volume: 63

Issue: 9

Pages: 1345-1358

Notes: n-alkane distributions analyzed

Author: Martins, C. M. C.; Mesquita, S. M. M.; Vaz, W. L. C.

Year: 1999

Title: Cuticular Waxes of the Holm (*Quercus ilex* L. subsp. *ballota* (Desf.) Samp.) and Cork (*Q. suber* L.) Oaks

Journal: *Phytochemical Analysis*

Volume: 10

Pages: 1-5

Notes: gives distribution of various n-alkane related compounds by carbon number and demonstrates even odd distributions and bias toward higher chains length

Author: McCaffrey, Mark A.; Farrington, John W.; Repeta, Daniel J.

Year: 1991

Title: The organic geochemistry of Peru margin surface sediments. II. Paleoenvironmental implications of hydrocarbon and alcohol profiles

Journal: *Geochimica et Cosmochimica Acta*

Volume: 55

Pages: 483-498

Notes: relates hydrocarbon chain length even odd to prior climate

Author: Merritt, Dawn A.; Freeman, Katherine H.; Ricci, Margaret P.; Studley, Stephen A.; Hayes, J. M.

Year: 1995

Title: Performance and Optimization of a combustion Interface for Isotope Ratio Monitoring Gas Chromatography Mass Spectrometry

Journal: *Analytical Chemistry*

Volume: 67

Pages: 2461-2473

Notes: pristane measurement by GCMS (pristane is a plant marker)

Author: Meyers, Philip A.

Year: 1997

Title: Organic Geochemical proxies of paleoceanographic, paleolimnologic, and paleoclimatic processes

Journal: *Organic Geochemistry*

Volume: 27

Issue: 5/6

Pages: 213-250

Notes: Review of how to relate biomarkers to terrestrial runoff and algal production

Author: Obaje, N. G.; Wehner, H.; Scheeder, G; Abubakar, M. B.; Jauro, A.

Year: 2004

Title: Hydrocarbon prospectivity of Nigeria's inland basins: From the viewpoint of organic geochemistry and organic petrology

Journal: AAPG Bulletin

Volume: 88

Issue: 3

Pages: 325-354

Notes: GCMS used for n-alkane and other markers of organic origin

Author: Ohkouchi, N.; Kawamura, K.; Takemoto, N.; Ikehara, M.; Nakatsuka, T.

Year: 2000

Title: Implications of carbon isotope ratios of C₂₇-C₃₃ alkanes and C₃₇ alkenes for the sources of organic matter in the Southern Ocean surface sediments

Journal: Geophysical Research Letters

Volume: 27

Issue: 2

Pages: 233-236

Notes: GCMS of carbon isotopes and n-alkane even odd ratios to determine carbon source

Author: Piasentier, E.; Bovolenta, S.; Malossini, F.

Year: 2000

Title: The n-alkane concentrations in buds and leaves of browsed broadleaf trees

Journal: Journal of Agricultural Science, Cambridge

Volume: 135

Pages: 311-320

Notes: analyzes various n-alkanes from variety of plants

Author: Rontani, Jean-Francois; Volkman, John K.

Year: 2005

Title: Lipid characterization of coastal hypersaline cyanobacterial mats from the Camargue (France)

Journal: Organic Geochemistry

Pages: 251-272

Notes: Lipids in cyanobacteria

Author: Sachse, D.; Radke, J.; Gleixner, G.

Year: 2004

Title: Hydrogen isotope ratios of recent lacustrine sedimentary n-alkanes record modern climate variability

Journal: Geochimica et Cosmochimica Acta

Volume: 68

Issue: 23

Pages: 4877-4889

Notes: GCMS for n-alkane even odd distribution and isotope ratios for climate change

Author: Saliot, A.; Laureillard, J.; Scribe, P.; Sicre, M. A.

Year: 1991

Title: Evolutionary trends in the lipid biomarker approach for investigating the biogeochemistry of organic matter in the marine environment

Journal: Marine Chemistry

Volume: 36

Pages: 233-248

Notes: n-alkanes and lipids as biomarkers

Author: Sauer, Peter E.; Eglinton, Timothy I.; Hayes, John M.; Schimmelmann, Arndt; Sessions, Alex L.

Year: 2001

Title: Compound-specific D/H ratios of lipid biomarkers from sediments as a proxy for environmental and climatic conditions

Journal: Geochimica et Cosmochimica Acta

Volume: 65

Issue: 2

Pages: 213-222

Notes: discusses biomarkers - measurable by GCMS

Author: Simoneit, B. R. T.; Aboul-Kssim, Tarek A. T.; Tiercelin, J. J.

Year: 2000

Title: Hydrothermal petroleum from lacustrine sedimentary organic matter in the East African Rift

Journal: Applied Geochemistry

Volume: 15

Pages: 355-368

Notes: discusses origin of organic material in lakes using biomarkers (using GCMS)

Author: Smith, D. G.; Mayes, R. W.; Raats, J. G.

Year: 2001

Title: Effect of species, plant part, and season of harvest on n-alkane concentrations in the cuticular wax of common rangeland grasses from southern Africa

Journal: Australian Journal of Agricultural Research
Volume: 52
Pages: 875-882
Notes: n-alkane distributions by plant type

Author: Volkman, John K.; Barrett, Stephanie M.; Blackburn, Susan I.; Mansour, Maged P.; Sikes, Elisabeth L.; Gelin, Francois
Year: 1998
Title: Microalgal biomarkers: A review of recent research developments
Journal: Organic Geochemistry
Volume: 29
Issue: 5/7
Pages: 1163-1179
Notes: discusses n-alkanes as biomarkers

Author: Wakeham, Stuart G.; Farrington, John W.
Year: 1980
Title: Hydrocarbons in Contemporary Aquatic Sediments

Reference Type: Journal Article
Author: Wang, Ruiliang; Brassell, Simon C.; Fu, Jiamo; Sheng, Guoying
Year: 1998
Title: Molecular indicators of microbial contributions to recent and Tertiary hypersaline lacustrine sediments in China
Journal: Hydrobiologia
Volume: 381
Pages: 77-103
Notes: GCMS and isotope ratio of biological markers

Author: Weete, John D.
Title: Algal and Fungal Waxes, Chapter 8

Author: Xie, S.; Nott, C. F.; Avsejs, L. A.; Volders, F.; Maddy, D.; Chambers, F. M.; Gledhill, A.; Carter, J. F.; Evershed, R. P.
Year: 2000
Title: Palaeoclimate records in compound-specific δD values of a lipid biomarker in ombrotrophic peat
Journal: Organic Geochemistry
Volume: 31

Pages: 1053-1057

Notes: GCMS isotope ratio analysis of biomarkers (n-alkanes)

Author: Yunker, Mark B.; Macdonald, Robie W; Cretney, Walter J.; Fowler, Brian R.; McLaughlin, Fiona A.

Year: 1993

Title: Alkane, terpene and polycyclic aromatic hydrocarbon geochemistry of the Mackenzie shelf: Riverine contributions to Beau fort Sea coastal sediment

Journal: Geochimica et Cosmochimica Acta

Volume: 57

Pages: 3041-3061

Notes: Biomarkers to determine erosion

Author: Yunqian, Tang; Kewen, Liu

Year: 1995

Title: Identification of biomarkers of cores from the South China Sea

Journal: Acta Oceanologica Sinica

Volume: 14

Issue: 1

Pages: 23-37

Notes: biomarkers (n-alkanes) for sedimentation