



GEOCHEMISTRY ARTICLES – February 2018

Analytical Chemistry

Comprehensive two-dimensional gas chromatography-mass spectrometry of complex mixtures of anaerobic bacterial metabolites of petroleum hydrocarbons

Aitken, C.M., Head, I.M., Jones, D.M., Rowland, S.J., Scarlett, A.G., West, C.E., 2018. *Journal of Chromatography A* 1536, 96–109.
<https://www.sciencedirect.com/science/article/pii/S0021967317308774>

Carbon nanotube-based benzyl polymethacrylate composite monolith as a solid phase extraction adsorbent and a stationary phase material for simultaneous extraction and analysis of polycyclic aromatic hydrocarbon in water

Al-Rifai, A.a., Aqel, A., Wahibi, L.A., Alothman, Z.A., Badjah-Hadj-Ahmed, A.-Y., 2018. *Journal of Chromatography A* 1535, 17–26.
<https://www.sciencedirect.com/science/article/pii/S0021967318300116>

Optimizing loop-type cryogenic modulation in comprehensive two-dimensional gas chromatography using time-variable combination of the dual-stage jets for analysis of crude oil

Alexandrino, G.L., de Sousa Júnior, G.R., de A.M. Reis, F., Augusto, F., 2018. *Journal of Chromatography A* 1536, 82–87.
<https://www.sciencedirect.com/science/article/pii/S0021967317315601>

Development of a precolumn derivatization HPLC method with diode-array detection for the determination of amino sugars in peat and soil humic acids

Beño, E., Góra, R., Hutta, M., 2018. *Journal of Separation Science* 41, 814–821.
<https://dx.doi.org/10.1002/jssc.201700776>

Flow optimization in one-dimensional and comprehensive two-dimensional gas chromatography

Blumberg, L.M., 2018. *Journal of Chromatography A* 1536, 27–38.
<https://www.sciencedirect.com/science/article/pii/S0021967317312013>

Improved coverage of naphthenic acid fraction compounds by comprehensive two-dimensional gas chromatography coupled with high resolution mass spectrometry

Bowman, D.T., Jobst, K.J., Ortiz, X., Reiner, E.J., Warren, L.A., McCarry, B.E., Slater, G.F., 2018. *Journal of Chromatography A* 1536, 88–95.
<https://www.sciencedirect.com/science/article/pii/S0021967317309998>

Sequential extraction procedure for the separation of Ni and V species in crude oil and analysis by ETAAS, GC-MS, and IR

Cavalcante, C., de Oliveira, J.P., Hamada, J., de Siqueira, F.A., Nascimento, A.N.d., 2018. *Fuel* 220, 631–637.
<https://www.sciencedirect.com/science/article/pii/S0016236118301923>

Rapid hydrocarbon group-type semi-quantification in crude oils by comprehensive two-dimensional gas chromatography

Coutinho, D.M., França, D., Vanini, G., Mendes, L.A.N., Gomes, A.O., Pereira, V.B., Ávila, B.M.F., Azevedo, D.A., 2018. *Fuel* 220, 379–388.
<https://www.sciencedirect.com/science/article/pii/S0016236118301686>

Likelihood of total resolution in selective comprehensive two-dimensional liquid chromatography with parallel processing: Simulation and theory

Davis, J.M., Stoll, D.R., 2018. *Journal of Chromatography A* 1537, 43–57.
<https://www.sciencedirect.com/science/article/pii/S0021967317318149>

The importance of mass accuracy in selected ion monitoring analysis of branched and isoprenoid tetraethers

Davtian, N., Bard, E., Ménot, G., Fagault, Y., 2018. *Organic Geochemistry* 118, 58–62.
<https://www.sciencedirect.com/science/article/pii/S0146638018300147>

Systematic evaluation of matrix effects in supercritical fluid chromatography versus liquid chromatography coupled to mass spectrometry for biological samples

Desfontaine, V., Capetti, F., Nicoli, R., Kuuranne, T., Veuthey, J.-L., Guillarme, D., 2018. *Journal of Chromatography B* 1079, 51–61. <https://www.sciencedirect.com/science/article/pii/S1570023217321189>

Oversampling to improve spatial resolution for liquid extraction mass spectrometry imaging

Duncan, K.D., Lanekoff, I., 2018. *Analytical Chemistry* 90, 2451–2455. <https://doi.org/10.1021/acs.analchem.7b04687>

Enhancing the chemical selectivity in discovery-based analysis with tandem ionization time-of-flight mass spectrometry detection for comprehensive two-dimensional gas chromatography

Freye, C.E., Moore, N.R., Synovec, R.E., 2018. *Journal of Chromatography A* 1537, 99–108. <https://www.sciencedirect.com/science/article/pii/S0021967318300086>

Evaluation of MALDI-TOF mass spectrometry for the identification of bacteria growing as biofilms

Gaudreau, A.M., Labrie, J., Goetz, C., Dufour, S., Jacques, M., 2018. *Journal of Microbiological Methods* 145, 79–81. <https://www.sciencedirect.com/science/article/pii/S0167701218300034>

Advances in laser concepts for multiplex, coherent Raman scattering micro-spectroscopy and imaging

Gottschall, T., Meyer, T., Schmitt, M., Popp, J., Limpert, J., Tünnermann, A., 2018. *TrAC Trends in Analytical Chemistry* 102, 103–109. <https://www.sciencedirect.com/science/article/pii/S0165993617304703>

Collision-induced dissociation of doubly-charged barium-cationized lipids generated from liquid samples by atmospheric pressure matrix-assisted laser desorption/ionization provides structurally diagnostic product ions

Hale, O.J., Cramer, R., 2018. *Analytical and Bioanalytical Chemistry* 410, 1435–1444. <https://doi.org/10.1007/s00216-017-0788-6>

Determining double bond position in lipids using online ozonolysis coupled to liquid chromatography and ion mobility-mass spectrometry

Harris, R.A., May, J.C., Stinson, C.A., Xia, Y., McLean, J.A., 2018. *Analytical Chemistry* 90, 1915–1924. <https://dx.doi.org/10.1021/acs.analchem.7b04007>

Improved precursor characterization for data-dependent mass spectrometry

Hebert, A.S., Thöing, C., Riley, N.M., Kwiecien, N.W., Shiskova, E., Hugué, R., Cardasis, H.L., Kuehn, A., Eliuk, S., Zabrouskov, V., Westphall, M.S., McAlister, G.C., Coon, J.J., 2018. *Analytical Chemistry* 90, 2333–2340. <https://dx.doi.org/10.1021/acs.analchem.7b04808>

Adiabatic packed column supercritical fluid chromatography using a dual-zone still-air column heater

Helmüller, S.C., Poe, D.P., Kaczmarek, K., 2018. *Journal of Chromatography A* 1535, 141–153. <https://www.sciencedirect.com/science/article/pii/S0021967318300049>

Correlative microscopy for structural microbiology

Howes, S.C., Koning, R.I., Koster, A.J., 2018. *Current Opinion in Microbiology* 43, 132–138. <https://www.sciencedirect.com/science/article/pii/S1369527417302217>

Characterization of the spectral accuracy of an Orbitrap mass analyzer using isotope ratio mass spectrometry

Khodjanizova, S., Nazari, M., Garrard, K.P., Matos, M.P.V., Jackson, G.P., Muddiman, D.C., 2018. *Analytical Chemistry* 90, 1897–1906. <https://dx.doi.org/10.1021/acs.analchem.7b03983>

Comprehensive chemical characterization of lubricating oils used in modern vehicular engines utilizing GC × GC-TOFMS

Liang, Z., Chen, L., Alam, M.S., Zeraati Rezaei, S., Stark, C., Xu, H., Harrison, R.M., 2018. *Fuel* 220, 792–799. <https://www.sciencedirect.com/science/article/pii/S0016236117315478>

A four dimensional separation method based on continuous heart-cutting gas chromatography with ion mobility and high resolution mass spectrometry

Lipok, C., Hippler, J., Schmitz, O.J., 2018. *Journal of Chromatography A* 1536, 50–57. <https://www.sciencedirect.com/science/article/pii/S0021967317309950>

Analysis of underivatized low volatility compounds by comprehensive two-dimensional gas chromatography with a short primary column

Novaes, F.J.M., Kulsing, C., Bizzo, H.R., de Aquino Neto, F.R., Rezende, C.M., Marriott, P.J., 2018. *Journal of Chromatography A* 1536, 75–81. <https://www.sciencedirect.com/science/article/pii/S0021967317312682>

Implications of phase ratio for maximizing peak capacity in comprehensive two-dimensional gas chromatography time-of-flight mass spectrometry

Parsons, B.A., Pinkerton, D.K., Synovec, R.E., 2018. *Journal of Chromatography A* 1536, 16–26. <https://www.sciencedirect.com/science/article/pii/S0021967317310002>

Online HPLC-ESI-HRMS method for the analysis and comparison of different dissolved organic matter samples

Patriarca, C., Bergquist, J., Sjöberg, P.J.R., Tranvik, L., Hawkes, J.A., 2018. Environmental Science & Technology 52, 2091–2099. <https://dx.doi.org/10.1021/acs.est.7b04508>

Active modulation in neat carbon dioxide packed column comprehensive two-dimensional supercritical fluid chromatography

Petkovic, O., Guibal, P., Sassi, P., Vial, J., Thiébaud, D., 2018. Journal of Chromatography A 1536, 176–184. <https://www.sciencedirect.com/science/article/pii/S0021967317312414>

Surface fitting for calculating the second dimension retention index in comprehensive two-dimensional gas chromatography mass spectrometry

Prodhan, M.A.L., Yin, X., Kim, S., McClain, C., Zhang, X., 2018. Journal of Chromatography A 1539, 62–70. <https://www.sciencedirect.com/science/article/pii/S002196731830092X>

Matrix optical absorption in UV-MALDI MS

Robinson, K.N., Steven, R.T., Bunch, J., 2018. Journal of The American Society for Mass Spectrometry 29, 501–511. <https://doi.org/10.1007/s13361-017-1843-4>

Determination of crude oil physicochemical properties by high-temperature gas chromatography associated with multivariate calibration

Rodrigues, É.V.A., Silva, S.R.C., Romão, W., Castro, E.V.R., Filgueiras, P.R., 2018. Fuel 220, 389–395. <https://www.sciencedirect.com/science/article/pii/S0016236118301558>

Fractionation of dissolved organic matter on coupled reversed-phase monolithic columns and characterisation using reversed-phase liquid chromatography-high resolution mass spectrometry

Sandron, S., Davies, N.W., Wilson, R., Cardona, A.R., Haddad, P.R., Nesterenko, P.N., Paull, B., 2018. Chromatographia 81, 203–213. <https://doi.org/10.1007/s10337-017-3324-0>

The multi-mode modulator: A versatile fluidic device for two-dimensional gas chromatography

Seeley, J.V., Schimmel, N.E., Seeley, S.K., 2018. Journal of Chromatography A 1536, 6–15. <https://www.sciencedirect.com/science/article/pii/S0021967317308804>

Full characterization of CO₂-oil properties on-chip: Solubility, diffusivity, extraction pressure, miscibility, and contact angle

Sharbatian, A., Abedini, A., Qi, Z., Sinton, D., 2018. Analytical Chemistry 90, 2461–2467. <https://doi.org/10.1021/acs.analchem.7b05358>

Second dimension column ensemble pressure tuning in comprehensive two-dimensional gas chromatography

Sharif, K.M., Kulsing, C., Junior, A.I.d.S., Marriott, P.J., 2018. Journal of Chromatography A 1536, 39–49. <https://www.sciencedirect.com/science/article/pii/S0021967317315820>

21 Tesla FT-ICR mass spectrometer for ultrahigh-resolution analysis of complex organic mixtures

Smith, D.F., Podgorski, D.C., Rodgers, R.P., Blakney, G.T., Hendrickson, C.L., 2018. Analytical Chemistry 90, 2041–2047. <https://dx.doi.org/10.1021/acs.analchem.7b04159>

Comprehensive on-line two-dimensional liquid chromatography × supercritical fluid chromatography with trapping column-assisted modulation for depolymerised lignin analysis

Sun, M., Sandahl, M., Turner, C., 2018. Journal of Chromatography A 1541, 21–30. <https://www.sciencedirect.com/science/article/pii/S0021967318301407>

Development of a microfluidic open interface with flow isolated desorption volume for the direct coupling of SPME devices to mass spectrometry

Tascon, M., Alam, M.N., Gómez-Ríos, G.A., Pawliszyn, J., 2018. Analytical Chemistry 90, 2631–2638. <https://dx.doi.org/10.1021/acs.analchem.7b04295>

Improvement of the correlative AFM and ToF-SIMS approach using an empirical sputter model for 3D chemical characterization

Terlier, T., Lee, J., Lee, K., Lee, Y., 2018. Analytical Chemistry 90, 1701–1709. <https://dx.doi.org/10.1021/acs.analchem.7b03431>

Automating data analysis for two-dimensional gas chromatography/time-of-flight mass spectrometry non - targeted analysis of comparative samples

Titaley, I.A., Ogba, O.M., Chibwe, L., Hoh, E., Cheong, P.H.-Y., Massey Simonich, S.L., 2018. Journal of Chromatography A 1541, 57–62. <https://www.sciencedirect.com/science/article/pii/S0021967318301481>

Comprehensive two-dimensional gas chromatography: A perspective on processes of modulation

Tranchida, P.Q., 2018. Journal of Chromatography A 1536, 2–5. <https://www.sciencedirect.com/science/article/pii/S0021967317305927>

Unsupervised analysis of big ToF-SIMS data sets: A statistical pattern recognition approach

Tuccitto, N., Capizzi, G., Torrisi, A., Licciardello, A., 2018. *Analytical Chemistry* 90, 2860–2866.
<https://doi.org/10.1021/acs.analchem.7b05003>

Insights into the MALDI process after matrix deposition by sublimation using 3D ToF-SIMS imaging

Van Nuffel, S., Elie, N., Yang, E., Nouet, J., Touboul, D., Chaurand, P., Brunelle, A., 2018. *Analytical Chemistry* 90, 1907–1914.
<https://dx.doi.org/10.1021/acs.analchem.7b03993>

A retention index system for comprehensive two-dimensional gas chromatography using polyethylene glycols

Veenaas, C., Haglund, P., 2018. *Journal of Chromatography A* 1536, 67–74.
<https://www.sciencedirect.com/science/article/pii/S0021967317312426>

Capillary electrophoresis: Trends and recent advances

Voeten, R.L.C., Ventouri, I.K., Haselberg, R., Somsen, G.W., 2018. *Analytical Chemistry* 90, 1464–1481.
<https://doi.org/10.1021/acs.analchem.8b00015>

Improving the sensitivity of solid-phase microextraction by reducing the volume of off-line elution solvent

Xu, J., Liu, X., Wang, Q., Huang, S., Yin, L., Xu, J., Liu, X., Jiang, R., Zhu, F., Ouyang, G., 2018. *Analytical Chemistry* 90, 1572–1577.
<https://dx.doi.org/10.1021/acs.analchem.7b04777>

Differentiation and relative quantitation of disaccharide isomers by MALDI-TOF/TOF mass spectrometry

Zhan, L., Xie, X., Li, Y., Liu, H., Xiong, C., Nie, Z., 2018. *Analytical Chemistry* 90, 1525–1530.
<https://doi.org/10.1021/acs.analchem.7b03735>

Archaeological/Art Organic Chemistry**New protocol for compound-specific radiocarbon analysis of archaeological bones**

Devièse, T., Comeskey, D., McCullagh, J., Bronk Ramsey, C., Higham, T., 2018. *Rapid Communications in Mass Spectrometry* 32, 373–379.
<https://dx.doi.org/10.1002/rcm.8047>

Supercritical fluids for higher extraction yields of lipids from archeological ceramics

Devièse, T., Van Ham-Meert, A., Hare, V.J., Lundy, J., Hommel, P., Bazaliiskii, V.I., Orton, J., 2018. *Analytical Chemistry* 90, 2420–2424.
<https://dx.doi.org/10.1021/acs.analchem.7b04913>

Micro-RTI as a novel technology for the investigation and documentation of archaeological textiles

Goldman, Y., Linn, R., Shamir, O., Weinstein-Evron, M., 2018. *Journal of Archaeological Science: Reports* 19, 1–10.
<https://www.sciencedirect.com/science/article/pii/S2352409X17307009>

Anglo-Saxon diet in the Conversion period: A comparative isotopic study using carbon and nitrogen

Hannah, E.L., McLaughlin, T.R., Keaveney, E.M., Hakenbeck, S.E., 2018. *Journal of Archaeological Science: Reports* 19, 24–34.
<https://www.sciencedirect.com/science/article/pii/S2352409X17307940>

Geophysics and geochemistry; an interdisciplinary approach to archaeology in wetland contexts

Milton, C.J., 2018. *Journal of Archaeological Science: Reports* 18, 197–212.
<https://www.sciencedirect.com/science/article/pii/S2352409X16304667>

Developing FTIR microspectroscopy for the analysis of animal-tissue residues on stone tools

Monnier, G., Frahm, E., Luo, B., Missal, K., 2018. *Journal of Archaeological Method and Theory* 25, 1–44.
<https://doi.org/10.1007/s10816-017-9325-3>

Historical mystery solved: a multi-analytical approach to the identification of a key marker for the historical use of brazilwood (*Caesalpinia* spp.) in paintings and textiles

Peggie, D.A., Kirby, J., Poulin, J., Genuit, W., Romanuka, J., Wills, D.F., De Simone, A., Hulme, A.N., 2018. *Analytical Methods* 10, 617–623.
<https://dx.doi.org/10.1039/C7AY02626A>

Testing the validity of stable isotope analyses of dental calculus as a proxy in paleodietary studies

Price, S.D.R., Keenleyside, A., Schwarcz, H.P., 2018. *Journal of Archaeological Science* 91, 92–103.
<https://www.sciencedirect.com/science/article/pii/S0305440318300177>

Calling all archaeologists: guidelines for terminology, methodology, data handling, and reporting when undertaking and reviewing stable isotope applications in archaeology

Roberts, P., Fernandes, R., Craig, O.E., Larsen, T., Lucquin, A., Swift, J., Zech, J., 2018. *Rapid Communications in Mass Spectrometry* 32, 361–372.
<https://dx.doi.org/10.1002/rcm.8044>

Identification of proteins, drying oils, waxes and resins in the works of art micro-samples by chromatographic and mass spectrometric techniques

Witkowski, B., Duchnowicz, A., Ganeczko, M., Laudy, A., Gierczak, T., Biesaga, M., 2018. *Journal of Separation Science* 41, 630–638.
<https://dx.doi.org/10.1002/jssc.201700937>

Astrobiology

Microbial habitability of Europa sustained by radioactive sources

Altair, T., de Avellar, M.G.B., Rodrigues, F., Galante, D., 2018. Scientific Reports 8, Article 260.
<https://doi.org/10.1038/s41598-017-18470-z>

Astrovirology: Viruses at large in the universe

Berliner, A.J., Mochizuki, T., Stedman, K.M., 2018. Astrobiology 18, 207–223.
<https://doi.org/10.1089/ast.2017.1649>

Is searching for martian life a priority for the Mars community?

Fairén, A.G., Parro, V., Schulze-Makuch, D., Whyte, L., 2018. Astrobiology 18, 101–107.
<https://doi.org/10.1089/ast.2017.1772>

The effect of varying atmospheric pressure upon habitability and biosignatures of Earth-like planets

Keles, E., Grenfell, J.L., Godolt, M., Stracke, B., Rauer, H., 2018. Astrobiology 18, 116–132.
<https://doi.org/10.1089/ast.2016.1632>

Thinking differently about risk

Maynard, A.D., 2018. Astrobiology 18, 244–245.
<https://doi.org/10.1089/ast.2017.1774>

The habitability of Proxima Centauri b: Environmental states and observational discriminants

Meadows, V.S., Arney, G.N., Schwieterman, E.W., Lustig-Yaeger, J., Lincowski, A.P., Robinson, T., Domagal-Goldman, S.D., Deitrick, R., Barnes, R. K., Fleming, D.P., Luger, R., Driscoll, P.E., Quinn, T.R., Crisp, D., 2018. Astrobiology 18, 133–189.
<https://doi.org/10.1089/ast.2016.1589>

Inadvertently finding Earth contamination on Mars should not be a priority for anyone

Rummel, J.D., Conley, C.A., 2018. Astrobiology 18, 108–115.
<https://doi.org/10.1089/ast.2017.1785>

Halophilic-psychrotrophic bacteria of an Alaskan cryopeg—a model for astrobiology

Spirina, E.V., Durdenko, E.V., Demidov, N.E., Abramov, A.A., Romanovsky, V.E., Rivkina, E.M., 2017. Paleontological Journal 51, 1440–1452.
<https://doi.org/10.1134/S0031030117120036>

Biological methane production under putative Enceladus-like conditions

Taubner, R.-S., Pappenreiter, P., Zwicker, J., Smrzka, D., Pruckner, C., Kolar, P., Bernacchi, S., Seifert, A.H., Krajete, A., Bach, W., Peckmann, J., Paulik, C., Firneis, M.G., Schleper, C., Rittmann, S.K.M.R., 2018. Nature Communications 9, Article 748.
<https://doi.org/10.1038/s41467-018-02876-y>

If technological intelligent extraterrestrials exist, what biological traits are *de rigueur*

Taylor, E.R., 2018. Life Sciences in Space Research 17, 15–22.
<https://www.sciencedirect.com/science/article/pii/S2214552417301128>

Geophysical investigations of habitability in ice-covered ocean worlds

Vance, S.D., Panning, M.P., Stähler, S., Cammarano, F., Bills, B.G., Tobie, G., Kamata, S., Kedar, S., Sotin, C., Pike, W.T., Lorenz, R., Huang, H.-H., Jackson, J.M., Banerdt, B., 2018. Journal of Geophysical Research: Planets 123, 180–205.
<https://dx.doi.org/10.1002/2017JE005341>

Biochemistry

The molecular basis of noncanonical bacterial morphology

Caccamo, P.D., Brun, Y.V., 2018. Trends in Microbiology 26, 191–208.
<https://www.sciencedirect.com/science/article/pii/S0966842X17302172>

Characterization of biosurfactants produced by the oil-degrading bacterium *Rhodococcus erythropolis* S67 at low temperature

Luong, T.M., Ponamareva, O.N., Nechaeva, I.A., Petrikov, K.V., Delegan, Y.A., Surin, A.K., Linklater, D., Filonov, A.E., 2018. World Journal of Microbiology and Biotechnology 34, 20.
<https://doi.org/10.1007/s11274-017-2401-8>

Stem-loop RNA hairpins in giant viruses: Invading rRNA-like repeats and a template free RNA

Seligmann, H., Raoult, D., 2018. Frontiers in Microbiology 9, 101. doi: 10.3389/fmicb.2018.00101.
<https://www.frontiersin.org/article/10.3389/fmicb.2018.00101>

Virus-mediated transfer of nitrogen from heterotrophic bacteria to phytoplankton

Shelford, E.J., Suttle, C.A., 2018. Biogeosciences 15, 809–819.
<https://www.biogeosciences.net/15/809/2018/>

Biodegradation

Influence of a mixture of metals on PAHs biodegradation processes in soils

Baltrons, O., López-Mesas, M., Vilaseca, M., Gutiérrez-Bouzán, C., Le Derf, F., Portet-Kotalo, F., Palet, C., 2018. *Science of The Total Environment* 628–629, 150–158.
<https://www.sciencedirect.com/science/article/pii/S0048969718304017>

Determining biodegradation kinetics of hydrocarbons at low concentrations – covering 5 and 9 orders of magnitude of K_{ow} and K_{aw}

Birch, H., Hammershøj, R., Mayer, P., 2018. *Environmental Science & Technology* 52, 2143–2151.
<https://doi.org/10.1021/acs.est.7b05624>

Aromatic hydrocarbon biodegradation activates neutral lipid biosynthesis in oleaginous yeast

Deeba, F., Pruthi, V., Negi, Y.S., 2018. *Bioresource Technology* 255, 273–280.
<https://www.sciencedirect.com/science/article/pii/S096085241830110X>

Biodegradation of hexadecane using sediments from rivers and lagoons of the Southern Gulf of Mexico

García-Cruz, N.U., Sánchez-Avila, J.I., Valdés-Lozano, D., Gold-Bouchot, G., Aguirre-Macedo, L., 2018. *Marine Pollution Bulletin* 128, 202–207.
<https://www.sciencedirect.com/science/article/pii/S0025326X18300377>

Metagenomic analysis of a biphenyl-degrading soil bacterial consortium reveals the metabolic roles of specific populations

Garrido-Sanz, D., Manzano, J., Martín, M., Redondo-Nieto, M., Rivilla, R., 2018. *Frontiers in Microbiology* 9, 232. doi: 10.3389/fmicb.2018.00232.
<https://www.frontiersin.org/article/10.3389/fmicb.2018.00232>

Microbe and plant assisted-remediation of organic xenobiotics and its enhancement by genetically modified organisms and recombinant technology: A review

Hussain, I., Aleti, G., Naidu, R., Puschenreiter, M., Mahmood, Q., Rahman, M.M., Wang, F., Shaheen, S., Syed, J.H., 2018. *Science of The Total Environment* 628–629, 1582–1599.
<https://www.sciencedirect.com/science/article/pii/S004896971830425X>

Degradation of polycyclic aromatic hydrocarbons in soil mesocosms by microbial/plant bioaugmentation: Performance and mechanism

Kong, F.-x., Sun, G.-d., Liu, Z.-p., 2018. *Chemosphere* 198, 83–91.
<https://www.sciencedirect.com/science/article/pii/S0045653518301140>

Improved polycyclic aromatic hydrocarbon degradation in a crude oil by individual and a consortium of bacteria

Kumari, S., Regar, R.K., Manickam, N., 2018. *Bioresource Technology* 254, 174–179.
<https://www.sciencedirect.com/science/article/pii/S0960852418300890>

Oil-degrading properties of a psychrotolerant bacterial strain, *Rhodococcus* sp. Y2-2, in liquid and soil media

Pham, V.H.T., Chaudhary, D.K., Jeong, S.-W., Kim, J., 2018. *World Journal of Microbiology and Biotechnology* 34, 33.
<https://doi.org/10.1007/s11274-018-2415-x>

Biodegradation of crude oil in Arctic subsurface water from the Disko Bay (Greenland) is limited

Scheibye, K., Christensen, J.H., Johnsen, A.R., 2017. *Environmental Pollution* 223, 73–80.
<https://www.sciencedirect.com/science/article/pii/S0269749116326847>

Tracing the biotransformation of polycyclic aromatic hydrocarbons in contaminated soil using stable isotope-assisted metabolomics

Tian, Z., Vila, J., Yu, M., Bodnar, W., Aitken, M.D., 2018. *Environmental Science & Technology Letters* 5, 103–109.
<https://dx.doi.org/10.1021/acs.estlett.7b00554>

Biodegradation of marine oil spills in the Arctic with a Greenland perspective

Vergeynst, L., Wegeberg, S., Aamand, J., Lassen, P., Goswinkel, U., Fritt-Rasmussen, J., Gustavson, K., Mosbech, A., 2018. *Science of The Total Environment* 626, 1243–1258.
<https://www.sciencedirect.com/science/article/pii/S0048969718302110>

Biogeochemistry

Biosedimentary and geochemical constraints on the precipitation of mineral crusts in shallow sulphate lakes

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Recent Sediments/Hydrosphere**High total organic carbon in surface waters of the northern Arabian Gulf: Implications for the oxygen minimum zone of the Arabian Sea**

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Adsorption and dissolution behaviors of carbon dioxide and *n*-dodecane mixtures in shale

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Expanded compilations of references with abstracts in Microsoft Word and ISI EndNote formats are available at: <https://eaog.org/?cat=16>

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