Biomonitoring for Oil and Gas Exposures: Selected References

Biomonitoring California Scientific Guidance Panel Meeting

March 20, 2024

Dhar K, Abinandan S, Sana T, Venkateswarlu K, Megharaj M (2023). Anaerobic biodegradation of phenanthrene and pyrene by sulfate-reducing cultures enriched from contaminated freshwater lake sediments. Environ Res 235:116616. Available at: https://pubmed.ncbi.nlm.nih.gov/37437866/

Huang M, Mesaros C, Hackfeld LC, Hodge RP, Blair IA, Penning TM (2017). Potential metabolic activation of representative alkylated polycyclic aromatic hydrocarbons 1-methylphenanthrene and 9-ethylphenanthrene associated with the deepwater horizon oil spill in human hepatoma (HepG2) cells. Chem Res Toxicol 30(12):2140-2150. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5734992/

Johnston JE, Lim E, Roha H (2019). Impact of upstream oil extraction and environmental public health: a review of the evidence. Sci Total Environ 657:187-199. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6344296/

Johnston JE, Cushing L (2020). Chemical exposures, health and environmental justice in communities living on the fenceline of industry. Curr Environ Health Rep 7(1):48-57. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7035204/

Lin Y, Gao X, Qiu X, Liu J, Tseng CH, Zhang JJ, Araujo JA, Zhu Y (2021). Urinary carboxylic acid metabolites as possible novel biomarkers of exposures to alkylated polycyclic aromatic hydrocarbons. Environ Int 147:106325. Available at: https://pubmed.ncbi.nlm.nih.gov/33340988/

Lin Y, Zhang H, Han Y, Qiu X, Jiang X, Cheng Z, Wang Y, Chen X, Fan Y, Li W, Zhang J, Zhu T (2022). Field evaluation of a potential exposure biomarker of methylated polycyclic aromatic hydrocarbons: association between urinary phenanthrene-2-carboxylic acid and personal exposure to 2-methylphenanthrene. Environ Sci Technol Lett 9(2):166-172. Abstract available at: https://pubs.acs.org/doi/10.1021/acs.estlett.1c00938 (full article available upon request).

Lu X, Lin Y, Qiu X, Liu J, Zhu T, Araujo JA, Zhang J, Zhu Y (2022). Metabolomic changes after subacute exposure to polycyclic aromatic hydrocarbons: A Natural Experiment among Healthy Travelers from Los Angeles to Beijing. Environ Sci Technol 55(8):5097-5105. Abstract available at: https://pubmed.ncbi.nlm.nih.gov/33683876/ (full article available upon request).

Peng B, Dong Q, Li F, Wang T, Qiu X, Zhu T (2023). A systematic review of polycyclic aromatic hydrocarbon derivatives: occurrences, levels, biotransformation, exposure biomarkers, and toxicity. Environ Sci Technol 57(41):15314-15335. Abstract available at: https://pubs.acs.org/doi/10.1021/acs.est.3c03170 (full article available upon request).

Pereira WE, Hostettler FD, Luoma SN, van Geen A, Fuller CC, Anima RJ (1999). Sedimentary record of anthropogenic and biogenic polycyclic aromatic hydrocarbons in San Francisco Bay, California, Mar Chem 64(1-2):99-113. Abstract available at: https://www.sciencedirect.com/science/article/abs/pii/S0304420398000875 (full article available upon request).

Quist, AJ, Van Horne, YO, Farzan, SF, Johnston, J E (2022). Metal exposures in residents living near an urban oil drilling site in Los Angeles, California. Environ Sci Technol, 56(22), 15981-15989. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9670842/

Saha M, Togo A, Mizukawa K, Murakami M, Takada H, Zakaria MP, Chiem NH, Tuyen BC, Prudente M, Boonyatumanond R, Sarkar SK, Bhattacharya B, Mishra P, Tana TS (2009). Sources of sedimentary PAHs in tropical Asian waters: differentiation between pyrogenic and petrogenic sources by alkyl homolog abundance. Mar Pollut Bull 58(2):189-200. Available at: https://pubmed.ncbi.nlm.nih.gov/19117577/

Wang D, Schramm V, Pool J, Pardali E, Brandenburg A, Rietjens IMCM, Boogaard PJ (2022). The effect of alkyl substitution on the oxidative metabolism and mutagenicity of phenanthrene. Arch Toxicol 96(4):1109-1131. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8921064/