Drenzek, N.J., Eglinton, T.I., Wirsen, C.O., May, H.D., Qingzhong Wu, Q., Sowers, K.R. and Reddy, C.M., *The absence and application of stable carbon isotopic fractionation during the reductive dechlorination of polychlorinated biphenyls*, Env. Sci. and Technol., 2001; v35, 3310-3313

A bacterial enrichment culture (specific to doubly flanked Cl removal) reductively dechlorinated 2,3,4,5-tetrachlorobiphenyl (2,3,4,5-CB) to 2,3,5-trichlorobiphenyl (2,3,5-CB) in aq. media. Approx. 90% conversion to 2,3,5-CB occurred after 90 days, with no other products formed. The d13C values of 2,3,4,5-CB and 2,3,5-CB were relatively const. over the course of the reaction, indicating a very small or no isotope effect. Compd.-specific d13C anal. performed for every congener in 3 different lots of Aroclor 1268 showed an intrinsic isotopic trend of decreasing 13C abundance with increasing Cl content, similar to observations in other com. mixts. of polychlorinated biphenyls (PCBs). The results suggest that microbial reductive dechlorination of PCBs in contaminated sediments will create congeners with more depleted d13C values than native PCBs of similar chlorination. Such information may provide addnl. evidence for the occurrence of this process and aid in further understanding the biogeochem. of these compds.