



Figure 3: Biota Sediment Accumulation Factors (BSAF) of PAHs and CIPAHs in Fishes in Tokyo Bay (A), Relationship Between Water Solubility ($\log S_s$) and BSAFs for Sea Bass (B)

Conclusions:

CIPAHs were detected in fish and sediment samples collected from Tokyo Bay, Japan. BSAFs of CIPAHs were higher than those of PAHs. These results suggested that CIPAHs were more easily bio-concentrated in fished than PAHs. Highly chlorinated PAHs were detected from the sediments, but not from the fish samples. These findings suggest that research on the metabolism of highly chlorinated CIPAHs is desired.

Acknowledgements:

This study was supported by a Grant-in-Aid for Scientific Research (KAKENHI) from the Japan Society for the Promotion of Science (grant number JP16H05891)

References:

1. Webster T, Commoner B (1994) *The dioxin debate*. In Plenum Press: New York. (1): 1-50.
2. Ohura T, Sawada K, Amagai T, et al. (2009) *Environ. Sci. Technol.* 43(7): 2269-2275.
3. Ohura T, Kitazawa A, Amagai T, et al. (2005) *Environ. Sci. Technol.* 39(1): 85-91.
4. Ohura T, Horii Y, Yamashita N (2018) *Environ Pollut.* 232: 367-374.
5. Horii Y, Ohura T, Yamashita N, et al. (2009) *Archives of Environmental Contamination and Toxicology.* 57(4): 651.
6. Yamashita N, Kannan K, Imagawa T, et al. (2000) *Environ. Sci. Technol.* 34(17): 3560-3567.
7. Liang Y, Tse M, Young L, et al. (2007) *Water Research.* 41(6): 1303-1311.
8. Ikenaka Y, Ito Y, Miyabara Y, et al. (2008) *Environ Chem.* 18(3): 341-352.
9. Belfroid A, Sijm D, Gestel C V (1996) *Environmental Reviews.* 4(4): 276-299.
10. Thomann R V, Komlos J (1999) *Environmental Toxicology and Chemistry: An International Journal.* 18(5): 1060-1068.
12. Ni H G, Guo J Y (2013) *Journal of agricultural and food chemistry.* 61(8): 2013-2018.
13. Sakurai T, Kim J G, Suzuki N, et al. (2000) *Chemosphere.* 40(6): 627-640.