Organic Pollutants Hazard in Sediments and Green Mussels in Jakarta Bay, Indonesia

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Abstract	Organic pollutants (PAHs, PCBs, and organochlorine pesticides (OCPs) from sediments and Asian green mussels (Perna viridis) in Jakarta Bay were studied using GC-MS/MS. The PAHs concentration in the sediments ranged from 186.64 to 915.71 mu g.kg(-1) per sediment dry weight (dw), while the PCBs and the OCPs concentration ranged from 3 to 117 mu g.kg(-1) and 3 to 17.99 mu g.kg(-1) per sediment dw, respectively. For the P. viridis, 16 types of PAHs concentration ranged from 591 to 997 mu g.kg(-1) per dw of mussels, while the OCPs concentration varied from 5 to 6 mu g.kg(-1) per dw of mussel. The selected PAHs ratios, including Ant/ n-ary sumation 178, Fl/ n-ary sumation 202, BaAnt/ n-ary sumation 228, and IPyr/ n-ary sumation 276, potentially showed that the sources of the hydrocarbons in sediments were generally biogenic and terrigenous than for mussels were petroleum source. The concentration of PAHs in mussels was higher than sediments, meanwhile the organic pollutant contains chlorine (PCBs and OCPs) were potentially found in sediments. The reclamation, urban and mangrove areas (stations G and H) in this study found more high risk of than other sampling stations of sediments and mussels. According to the environmental risk assessment parameters (TEL, ERM, and ERL) from the sediment quality guidelines, the stations have various potential ecological risks. P. viridis was shown to be highly contaminated in polluted stations (except station A) that were not recommended for consumption (>200 mu g.kg(-1) tissue dw).
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