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INFLUENCE OF FOOD INCREASED HG BIOACCUMULATION IN OYSTER WHEN FEEDING ON PROTOZOANS

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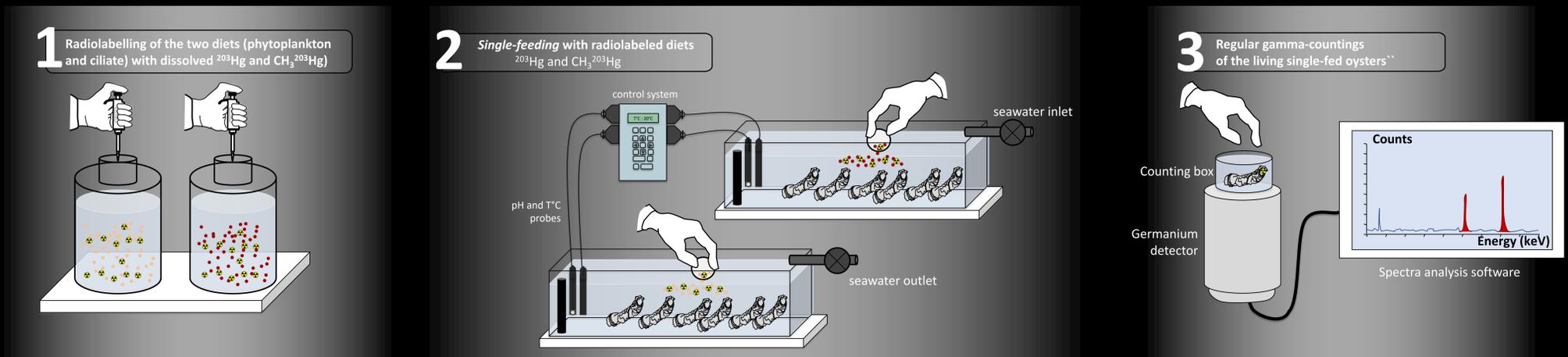
Context

- Food is an important route of mercury uptake in marine organisms, including in bivalves
- Knowledge on mercury accumulation from their food is mainly based on experiments using phytoplankton as food
- Oysters are also feeding on a variety of organisms, including ciliates, in addition to phytoplankton

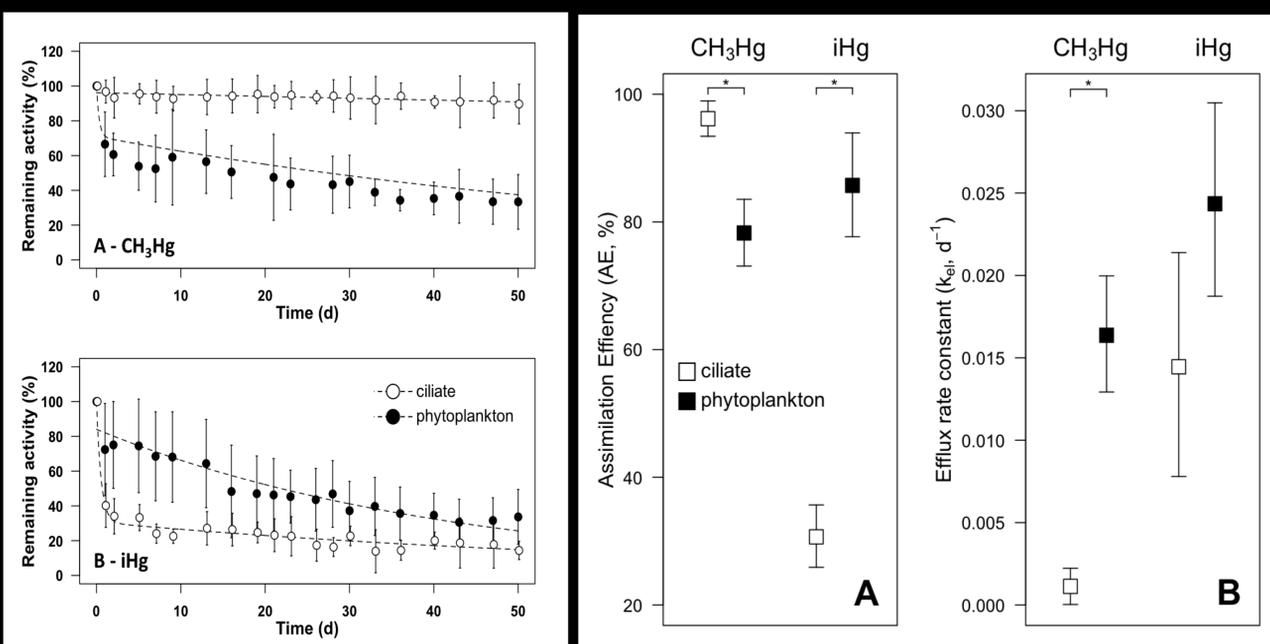
What is the influence of diet composition in the bioaccumulation of mercury in oysters ?
Does food types influence both inorganic mercury and methylmercury ?

Methods

- Pacific cupped oyster *Crassostrea gigas*
- Food: protist (*Uronema marina*) vs. phytoplankton (*Thalassiosira pseudonana*)
- Radiotracers: ²⁰³Hg and CH₃²⁰³Hg



Results and discussion



Oysters fed on ciliates assimilated 96 ± 1% and 31 ± 2% of the ingested CH₃Hg and iHg respectively while these elements were similarly assimilated in the oysters fed on phytoplankton (78 ± 3% and 86 ± 4% for CH₃Hg and iHg, respectively).

Mercury assimilation in oyster is thus diet dependent (significant differences in AE, $p < 0.05$) and likely resulting from variations in Hg bioavailability in the two feed items tested and a gut passage time-dependent of the ingested matrix.