

## Organic complexation of copper along the GEOTRACES GA01 section

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Copper (Cu) is an essential micronutrient for surface ocean biology; it affects several metabolic processes e.g. photosynthesis, respiration and iron uptake. The bioavailability of Cu is a function of its chemical speciation, which is dominated by organic complexes formed with ligands, such as thiols or humics substances. Moreover, organic complexation stabilises copper in the dissolved fraction and protects it from scavenging by sinking particles. As a consequence, the chemical speciation is a key parameter shaping open ocean copper distribution. Further study here is needed to have a better understanding of the global biogeochemical cycle of copper.

We will present new results of organic copper complexation along the GEOTRACES GA01 section (GEOVIDE), conducted in May-June 2014 in North Atlantic. We measure organic speciation using a newly developed small-volume voltammetric cell. This new design allows 3 times lower sample volume than previous methods.

Our result will provide insight into the characteristics and distributions of Cu ligands in this highly productive area. These new results will offer an interesting insight of the speciation's implication on copper cycle in North Atlantic. Moreover, linking our speciation results with dissolved Cu data allows us to understand their interrelations in the North Atlantic.