

## Poster Presentation

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### *Study of spatial structure TvNiR by Cryo TEM*

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Cryo-electron microscopy of biological objects is one of the most interesting and promising trends now. A distinctive feature of this method is the opportunity to explore biological objects in their native state, without conducting any preliminary preparatory actions.

Single particle analysis (SPA) method is used for the study of biological objects in small sizes, such as viruses, membrane proteins, etc. In this paper, an example of the hexamer cytochrome c nitrite reductase acquisition of thioalkalivibrio nitratireducens (TVNiR) [1] shows the capabilities of modern structural biology.

The cryo-TEM specimens were prepared in native buffer conditions: samples were applied onto the grid manually via the side port of the Vitrobot (FEI, US) directly onto the Lacey carbon-coated side of the 300-mesh copper TEM grid using a pipette. After the sample deposition the grid was blotted and immediately plunged into the ethane at liquid N<sub>2</sub> temperature. All samples were studied in bright field (BF) TEM in a Titan Krios 60-300 TEM/STEM (FEI, Oregon, US) equipped with a spherical aberration (Cs) corrector (image corrector), a direct detection camera Falcon II (FEI, US) and post-column energy filter (Gatan, Pleasanton, CA, US). In the present investigation the TEM was operated at 300 kV. The micrographs were obtained in Low Dose mode with total electron dose of less than 60e/Å<sup>2</sup>. Digital Micrograph (Gatan, US) and TIA (FEI,US) software were used for the image processing.

Tikhonova, T. V., Polyakov, K. M., Boyko, K. M., Safonova, T. N. and Popov, V. O. 2011. Octaheme Cytochrome c Nitrite Reductase. Encyclopedia of Inorganic and Bioinorganic Chemistry.

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