

## MS18 Biomineralogy and bioinspired materials

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Preferred orientation of freshwater shells of the species *Sinanodonta woodiana* and *Anodonta anatina* studied by neutron and X-ray diffraction

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### Abstract

Using neutron and X-ray diffraction, the texture of the prismatic and nacreous layer of several shells of the species *Sinanodonta woodiana* was studied and compared with the preferred orientation of the shells of the species *Anodonta anatina*. The shells of both molluscs were collected in freshwater streams in the Czech Republic. The neutronographic texture measurements were performed on the KSN-2 neutron diffractometer located at the research reactor LVR-15 in the Nuclear Research Institute, plc. Rez, Czech Republic. X-ray texture measurements were performed on a SmartLab Rigaku X-ray diffractometer (with Cu K $\alpha$  rotating anode) located at the Institute of Physics of the Academy of Sciences of the Czech Republic. It was found that during the growth of the shell the a and b axes of aragonite are reoriented and the direction of the c-axis does not change alignment. The texture strength is increasing with the shell growth.