

**Experiment title:**

The single crystal structure of zeolite ZSM-11 in as-synthesized and calcined form at low temperature ( - 180 deg. C)

**Experiment****number:**

CH-593

**Beamline:****Date of experiment:**

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**Shifts:****Local contact(s):**

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**Report:**

It turned out that the crystals were not mounted properly for low-temperature measurements. The N<sub>2</sub> – stream caused the glass fibre, used to mount the crystal on, to vibrate and accurate measurements were impossible.

Instead we started the absolute structure determination of a zeolitic AlPO<sub>4</sub> material (structure type code: AFI). These measurements were successful. The results will be published in Microporous Materials. Title, authors and abstract is given on the next page.

## GROWTH DIRECTION AND POLARITY IN $\text{AlPO}_4\text{-5}$ CRYSTALS

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### Abstract

The absolute configuration of  $\text{AlPO}_4\text{-5}$  has been determined from single crystal X-ray diffraction data. The intensities of Friedel related reflections were measured at room temperature from a micro-crystal (maximum size  $\sim 50 \mu\text{m}$ ) using synchrotron radiation ( $\lambda = 1.46 \text{ \AA}$ ) and at 100 K from a large crystal ( $\sim 250 \mu\text{m}$ ) using radiation from a sealed Cu tube ( $\lambda = 1.5418 \text{ \AA}$ ). Both data sets indicated the same absolute configuration. The Al(O)P vector, parallel to the polar channel axis, points into the main growth direction. Perpendicular to the main growth direction, the crystal is terminated by a plane containing Al atoms.