

XRD

21/02/2025

Ray will help us with the test but we will prepare the samples.

We use the two salts: NaCl, NaBr

The placeholders and glass were cleaned with acetone (carefully)

$$\text{Volume} = \frac{\pi r^2 h}{2} = \frac{\pi (1.6 \text{ cm})^2 (2 \text{ cm})}{2} = 3.14 \cdot 16 \text{ mm}^2 = 3.14 \cdot 16 \cdot 10^{-6} \text{ cm}^3$$

$$\rho_{\text{NaCl}} = 2.17 \text{ g/cm}^3$$

$$\rho_{\text{NaBr}} = 3.21 \text{ g/cm}^3$$

→ we need: 0.143 g NaCl
 0.642 g NaBr

6.8117 g of NaCl

10.085 g of NaBr
↓

use weighing paper + a scale

The calculation seems like an overestimation, in reality we don't need that much

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⇒ there is enough salt so just fill up the sample holder

• During preparation: from manual, it wasn't clear that the double sided tape needed to be put inside the sample holder (and not underneath). Turns out, the cap tape is there to keep the salt in place, not the holder!

→ Roy helped at the XRD machine, nothing special there.

Problem! We did not bring a USB, and data is stored locally on XRD computer → we have to return another day or ask other students to borrow their USB stick