

Struvite from urine

A. Main topics

The module should enable students to understand that waste products contain valuable and useful compounds and that we can do so much more with urine than just discharging it through our toilets. Besides, we hope to challenge students and create enthusiasm for science, technology and the environment.

- Recovery of nutrients and energy from urine
- Understanding the value of indispensable elements like; Phosphorous and Nitrogen
- Understanding the Phosphate and Nitrogen cycle
- Composition of struvite

B. Targeted audience

14-19 years old students

C. Key concepts

1. Synthesis
2. Chemical Calculations
3. Quantitative analysis

D. Experimental activity :

- Preparing a struvite sample from urine (synthetic form)
- Colorimetric phosphate determination.

E. Toolkit material

- Description synthesis of struvite from urine
- Description of Colorimetric determination method, which uses the light-absorbing capacity of a coloured solution, in this case; phosphate

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