

Experiment 3: Differentiation of chitin and chitosan

Duration: 10 minutes.

Equipment: 2 watch glasses, 2 Pasteur pipettes.

Reagents and materials: Chitin, chitosan, iodine/potassium iodide solution (0.2 g I₂ are added to 100 ml of a potassium iodide solution, w(KI) = 5 %), sulphuric acid, w(H₂SO₄) = 1 %.

Procedure: Some flakes of chitin or chitosan are put onto a watch glass. 2-3 drops of iodine/potassium iodide solution are added and the mixtures are acidified with 2-3 drops of sulphuric acid.

Observation: After addition of iodine/potassium iodide solution the chitosan change color to dark brown and the solution becomes colorless. On addition of sulphuric acid the dark brown colors turns dark purple.

In opposite the chitin remains unchanged on addition of iodine solution, which retains brownish-yellow colour. Also the acidification with sulphuric acid has no consequence.

Precautions: The experiment has to be performed in the hood. *Waste disposal:* Chitin and chitosan treated are added to the waste jar for solids.

