DEMONSTRATION 10.6

DEHYDRATION OF SUCROSE

Sulfuric acid is added to a beaker containing sugar. After a short period, a reaction occurs in which a black foam is produced.

This demonstration should be performed in a fume hood.

EQUIPMENT

- 200 mL beaker

REAGENTS

- sucrose, $C_{12}H_{22}O_{11}$
- sulfuric acid, H_2SO_4 (18 M, 5-10 mL)

PROCEDURE

- Fill about one-third of the beaker with sugar (sucrose).
- Add the sulfuric acid carefully and do NOT stir.
- Stand at a safe distance.

RESULTS

After a short time a violent reaction will occur, in which a “carbon snake” is produced. Care must be taken as sulfur dioxide is in the fumes. Also, handle the snake with gloves as it still contains sulfuric acid.

$C_{12}H_{22}O_{11}(s) \zeta 12C(s) + 11H_2O$

The sulfuric acid is acting as a dehydrating agent.

High Risk Demonstration:

- **Refer to HIRAC**
- **Set up in Red Tray**