# Properties of stereoisomers– teacher notes

## Topic

Stereochemistry

## Timing

5 minutes

## Procedure

In this experiment, students detect the differences in smell of each enantiomer absorbed on cotton wool inside small sample bottles.

To prepare these;

1. Place a small quantity of cotton wool into each bottle.
2. Add 10 drops of the stereoisomer.
3. The bottles can then be passed around the classroom.

![Diagram

Description automatically generated]()

## Apparatus

* Plastic bottles x2
* Cotton wool

## Chemicals

* (R)-(+)-Limonene
* (S)-(–)-Limonene

## Extension

Students could obtain small quantities of (R)-(+)- limonene in natural fruits by carrying out steam distillation of the peel of citrus fruits such as oranges and lemons and comparing the odours against the standards.

However, the S-(-) isomer is scarce in citrus fruits: pine needles might be a good source, but the presence of other terpenes might make it hard to separate.

## Health, safety and technical notes

* Read our standard health and safety notes here <https://rsc.li/3fJh126>
* Students must wear eye protection if carrying out steam distillation.
* Not needed for sniffing the stereoisomers.