

Identifying Polar Molecules

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1.0.0

Revision History

Revision	Date	Author(s)	Description
1.0.0	02.12.2016	Sam White	Initial Version

1 Sequential Method

1. Set up a burette containing the substance which is to be tested - the substance should not be aqueous.
2. Charge a plastic rod by rubbing it with an insulating cloth.
3. Open the tap of the burette and put the rod close to the stream of liquid. If the liquid is polar the liquid will be attracted to the rod.

1.1 Diagram

N/A

1.2 Reasons for Method

- The substance which is to be tested should not be aqueous since this would always result in a positive result for polar molecules since the water itself is polar.
- The rubbing of the plastic rod with the insulating cloth results in a transfer of electrons between the two materials hence resulting in a charge on the plastic rod.

- The liquid will always be attracted to the rod if it is polar since it will orientate itself such that the region of complementary charge to the rod is closest to the rod.

1.3 Uncertainties in any Measurements

N/A

2 Results and Observations

Substance	Attracted toward Rod?
Cyclohexane	No
Water	Yes
Hydrochloric Acid	Yes

2.1 Processed Results

N/A

2.2 Uncertainty in Final Answer

N/A

3 Conclusions Drawn

The substances which contain covalent bonds with two atoms of significantly different electronegativities involved in the bond, where the dipole moments within the molecule did not cancel out were identified as polar molecules.

4 Evaluation

4.1 Systematic Errors

N/A

4.2 Uncertainties

N/A