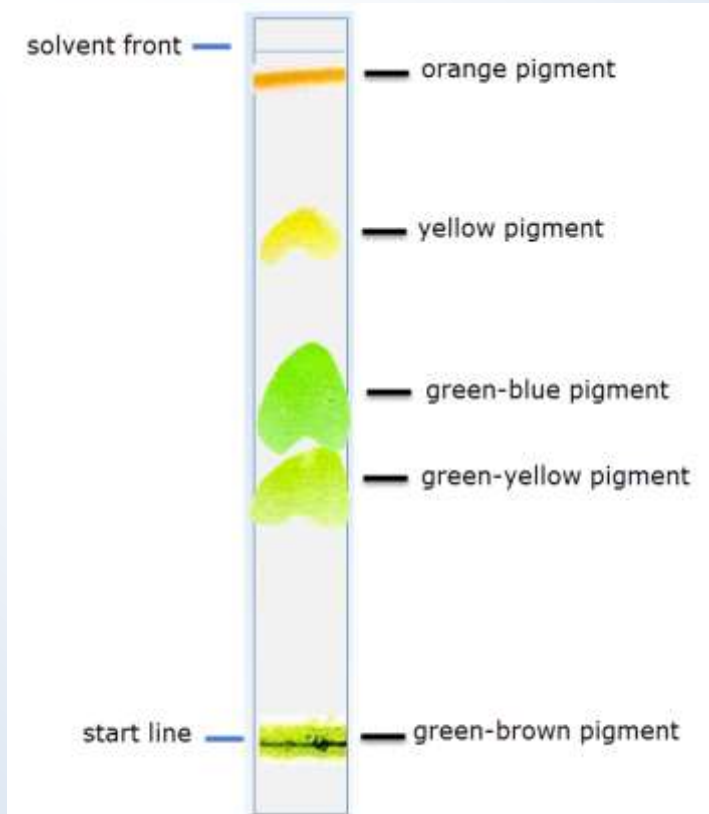## Activity 2 – Identification of pigments

This chromatography paper from the experiment has been analysed and four pigments identified. The centre of each pigment is marked and the colour labelled.

1. Measure the distance moved by the solvent

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2. Determine the distance moved by each of the four solvents

   I.   …orange…………………………………………………………………………………………………

   II. …yellow…………………………………………………………………………………………………

   III. …green-blue……………………………………………………………………………………………

   IV. …green-yellow…………………………………………………………………………………………

To calculate the Rf value for each pigment use the following formula:

$$Rf\ Value = \frac{\text{distance travelled by the pigment}}{\text{distance travelled by the solvent}}$$

R_f Value table for the solvent used (90% propanol, 10% ether)

Pigment	R_f value
Carotene	0.94
Xanthophyll	0.89
Chlorophyll A	0.46
Chlorophyll B	0.22

3. Calculate the Rf value for each pigment on the diagram

   i. …………………………………………………………………………………………………

   ii. …………………………………………………………………………………………………

   iii. …………………………………………………………………………………………………

   iv. …………………………………………………………………………………………………

4. Identify the four pigments as best you can using the reference Rf values.

5. Compare and contrast the calculated Rf values with the table of reference data.

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6. Suggest reasons why there might be inaccuracies in the experiment?

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