

Simple Distillation of Coffee

Author: Claire McDonnell

Practical:

A simple distillation is carried out on a sample of coffee. The colour and aroma of the distillate are recorded.

Intended academic level

Undergraduate 1

Duration

2 hours

Outcomes

Aim is to develop competence in carrying out a distillation. Outcomes are that students will be able to; Gain an appreciation of the application of chemistry to everyday life by recognising coffee as an aqueous solution containing organic compounds, Assemble and dismantle a distillation apparatus safely, Carry out the distillation and observe and record the results, Interpret the observations and results

Materials

Per pair of students;
100 cm³ coffee,
1 Heating mantle,
3-4 anti-bump granules,
Silicone grease,
500 cm³ round bottomed flask,
distillation head,
alcohol thermometer,
thermometer adaptor,
condenser,
receiver adaptor,
2 x 100 cm³ beakers,
rubber tubing for condenser

Costs

Approx 1 euro for each pair of students. The only consumable required is freshly made (within about 24 hours) filter coffee. It can be diluted about 1:1 with water before use in the experiment. All equipment is standard to general chemistry laboratories.

Further comments

This practical has been running for our first years for 3 years and achieves much better engagement of students when teaching them about distillation than the previous experiments we ran involving distillation of mixtures of methanol and water.

The original idea for this practical came from the University of Wisconsin website, http://genchem.chem.wisc.edu/demonstrations/Gen_Chem_Pages/01mattermixpage/matter%26mixtures.htm

Reading

N/A

Contact details

Dr. Claire McDonnell
School of Chemistry,
Dublin Institute of Technology,
Kevin St.,
Dublin 8,
Ireland.