**University of Southampton – Twilight Chemistry**

**Extraction of a Natural Product**

**Overall objectives:**

(i) **Extraction** of a mixture of compounds in to a particular solvent

(ii) **Separation** of the components of the mixture into separate chemical entities

(iii) **Analysis** of the compound to determine its structure.

Which techniques will you perform to complete each of these objectives? (You may want to check out the information sheet at the front of the lab script).

|  |  |  |
| --- | --- | --- |
| Extraction | Separation | Analysis |
|  |  |  |

Record below observations including length of time taken for each stage. Information like this is vital for results to be publishable.

Draw out your TLC plates below. What conclusions can you draw from this?

Calculate the yield of your product (% by mass of nutmeg)

How reliable do you think your results were?

Link to online script: <http://www.edshare.soton.ac.uk/13830/>

Link to TLC video: <http://youtu.be/jhWc5jFzNS0>

***Q*UESTIONS**

***Q***

Why is it necessary to thoroughly mix the nutmeg with the solvent, and stir for 30 minutes?

***Q***

What is the benefit of washing the brown nutmeg residue with extra diethyl ether?

***Q***

What effect does a vacuum have on evaporation of your solvent?

***Q***

Why do we need to dissolve the solid in the minimum amount of boiling acetone? *– CHALLENGING QUESTION*

***Q***

What is the purpose of washing your solid you collected with a little more cold acetone?

***Q***

What do you think the filtrate might contain, and what might TLC analysis show you?