**NUTMEG DATA PACK INFORMATION**

Based on the amounts I extracted (after recrystallisation), the nutmeg (from Sainsbury’s) contained 15.3 % by mass of trimyristin, and 20.0 % by mass of oil. It appears the yield extracted this year (2018) was higher than in 2017. Compared to the quoted amounts (25-40 % trimyristin, and 8-15 % nutmeg oil), this demonstrates that the technique is efficient, but a second/third extraction of the woody residue would be necessary to extract all trimyristin. Some trimyristin will have remained dissolved in the oil, hence the higher apparent % mass for oil. Pure trimyristin has a melting point of **56-57 °C**, but presence of oil impurities or moisture would account for a lower melting point, and may be seen in the IR analysis.



There are labelled IR spectra (annotated and unannotated), GC-MS analysis of the volatile oils (from the filtrate), and electrospray MS analysis of trimyristin. In the attached Powerpoint, I have added slide notes and text boxes, to explain the data in more detail, so please do have a look at these. All the figures are of a reasonable resolution for enlarging as needed. There is also an open access research paper, which analysed nutmeg oil, and page 3 (p 4773) has a list of the 32 compounds present in nutmeg oil (for your information).

I have also attached a picture showing how one component (myristicin) fragments in EI-MS, and the worksheet the students used, which has an Edshare link to the lab script, and the TLC video.