

**LECTURE OUTLINE**

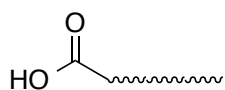
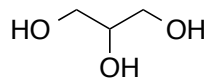
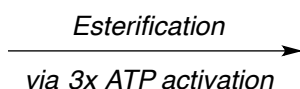
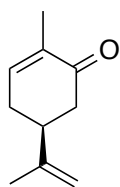
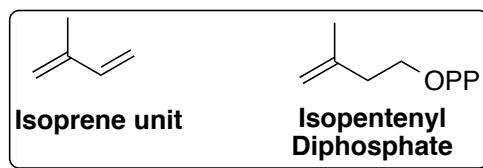
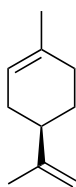
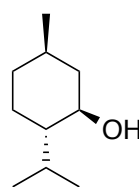
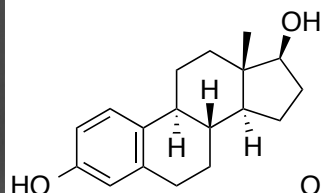
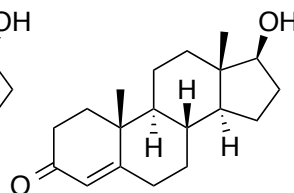
Lipids (Reading: McMurry 27.1-3, 27.5)

- Classification
- Mevalonate Pathway to Isopentenyl Diphosphate (IPP)
- Conversion of IPP to Terpenoids
  - o Carbocation Rearrangements (RRGT): Hydride & Methyl Shifts

Lecture 12 HW posted online

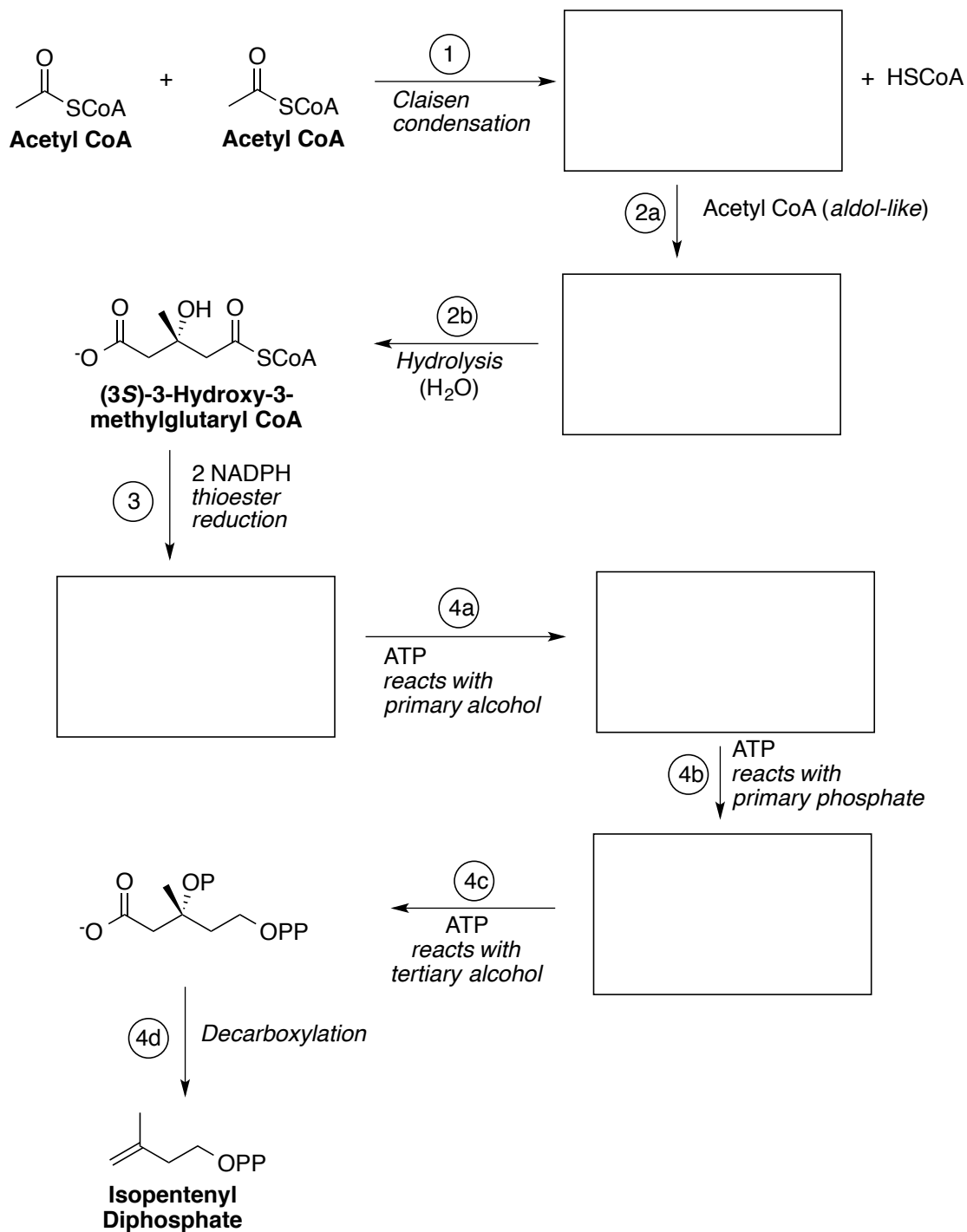
**General Lipid Classifications**

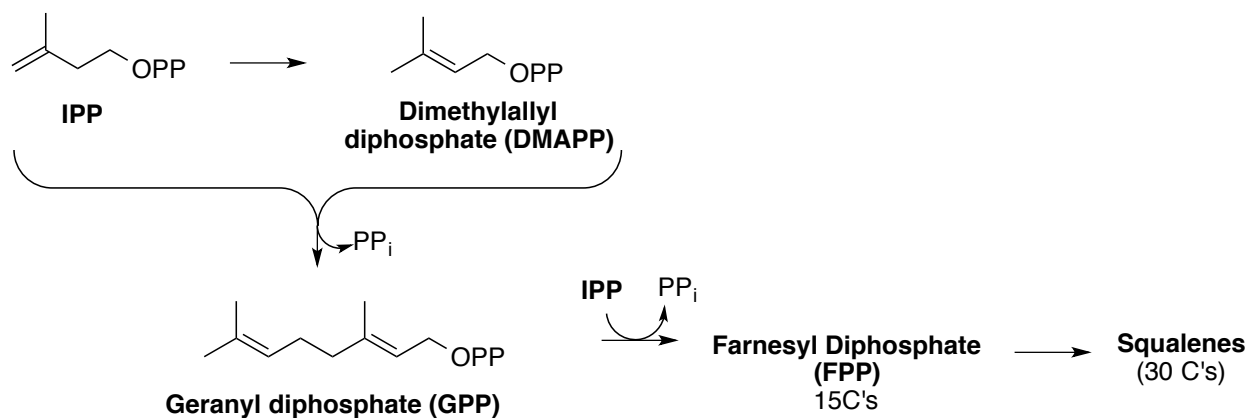
- Fatty acids, triacylglycerols, terpenes, and steroids
  - o Be able to identify and/or construct these given the components

**Fatty Acids & Triacylglycerols****Fatty Acids****Glycerol****Triacylglycerols****Terpenes & Terpenoids***some monoterpenoids:***(+)-(S)-Carvone****(+)-(R)-Limonene****l-Menthol****(-)-β-Pinene****Steroids****Estradiol****Testosterone**

**Mevalonate Pathway to Isopentenyl Diphosphate (IPP)**

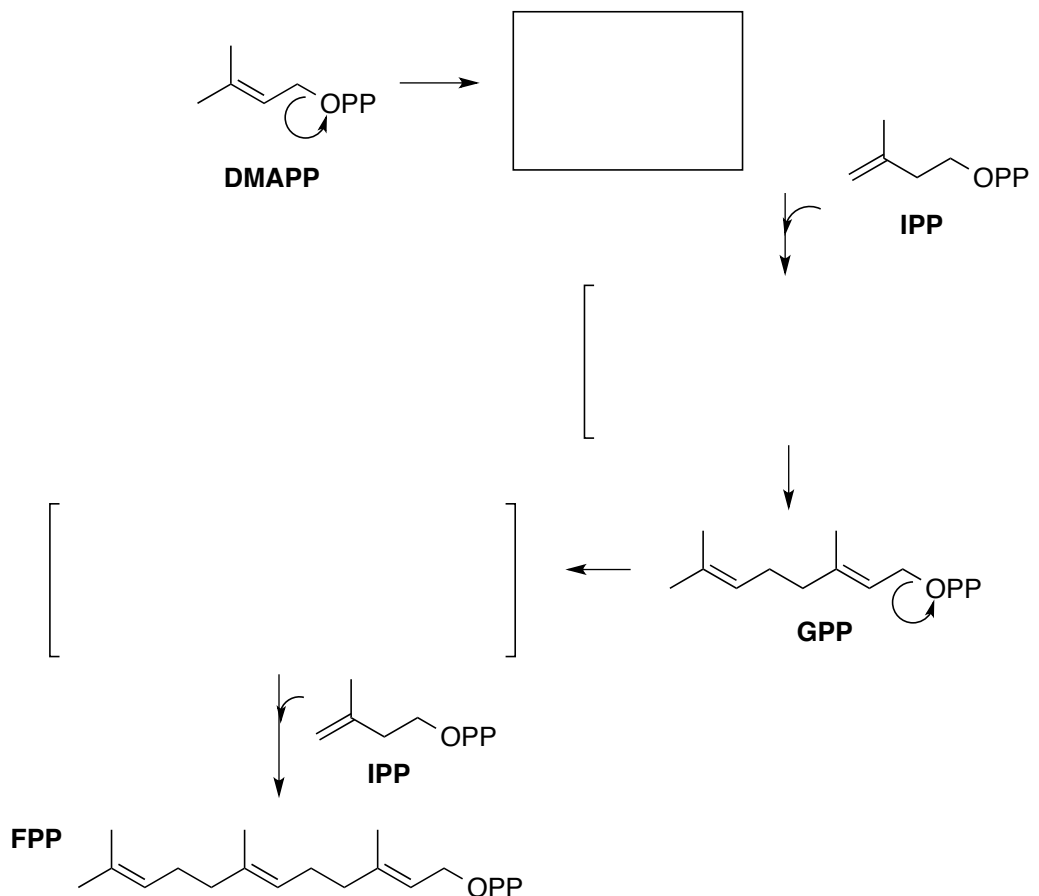
Fill in the boxes! Test your knowledge of reaction names, co-factors, etc.



**The IPP Building Block** – process overview

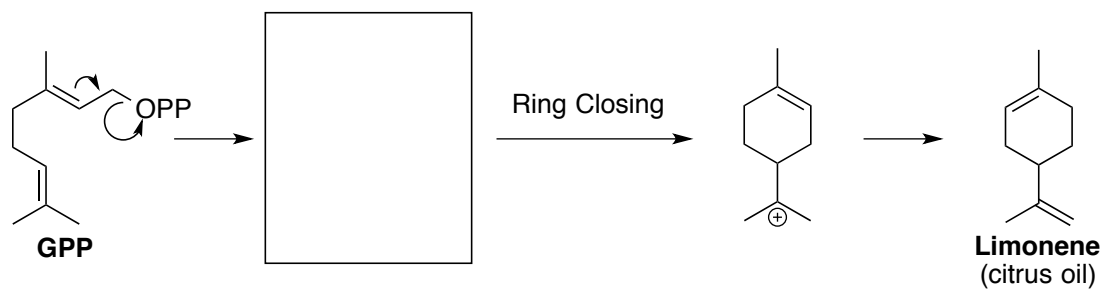
**Geranyl Diphosphate (GPP) & Farnesyl Diphosphate (FPP):**  
**Mono- and Sesquiterpenoid Scaffolds**

Add or follow arrows, fill in the boxes...

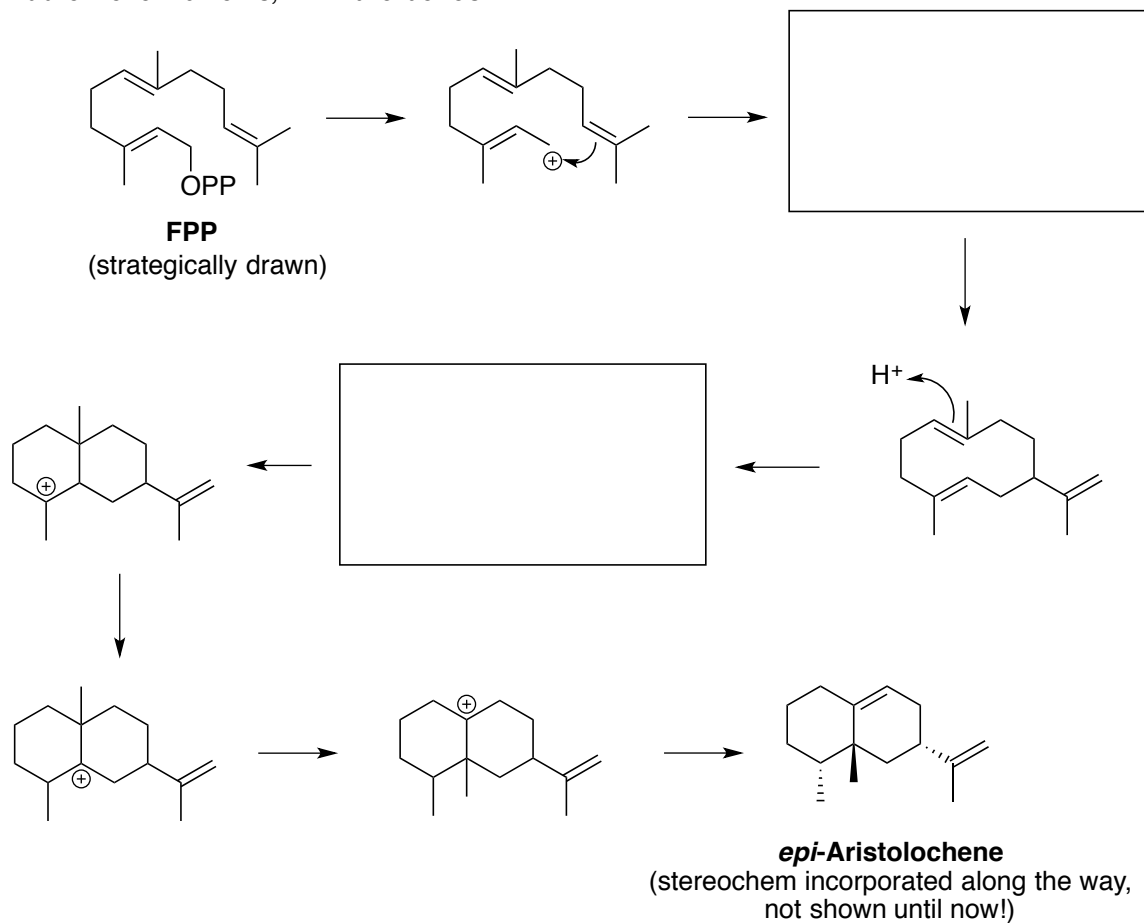


**Monoterpenoids: Biosynthesis of Citrus Oil from GPP via C<sup>+</sup> Rearrangements**

Add or follow arrows, fill in the boxes...

**Sesquiterpenoids: Biosynthesis of a Tobacco Component via C<sup>+</sup> Rearrangements**

Add or follow arrows, fill in the boxes...



And thus concludes Exam 2 material (Lectures 6-12)!