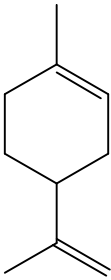
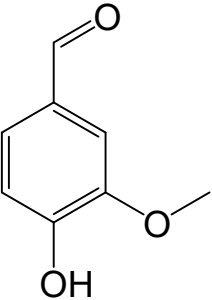
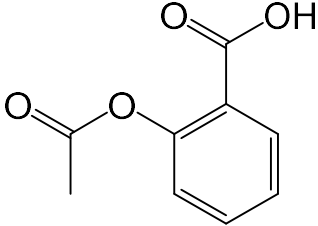
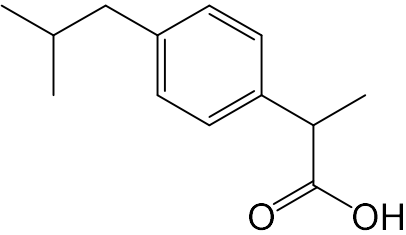
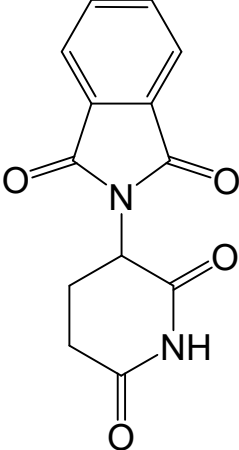
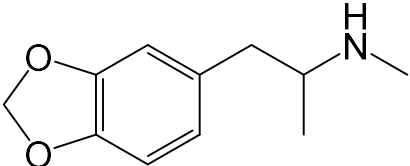


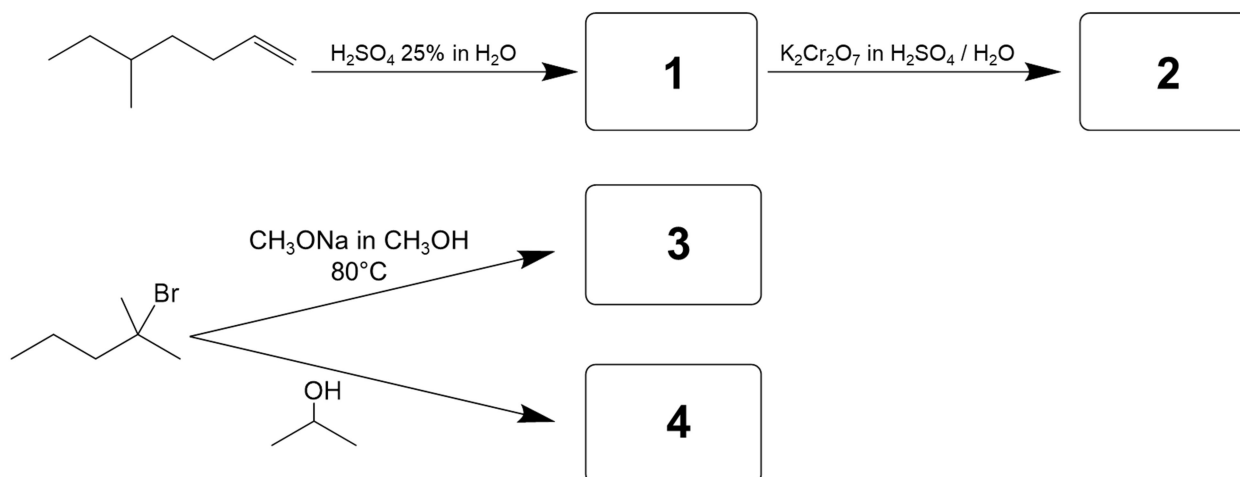
Exercise n°1

Identify the functional groups present in the following molecules. If the molecule has a chiral centre, draw the enantiomers and assign the absolute configuration.

 <p>Limonene</p>	 <p>Vanillin</p>	 <p>Aspirin</p>
 <p>Ibuprofen</p>	 <p>Thalidomide</p>	 <p>3,4-methylenedioxy-methamphetamine (MDMA)</p>

Exercise n°2

Complete the following reactions with the main products expected in each step.



Write the reaction mechanism of the reactions involved in the obtainment of compounds 1 and 3 and draw the correspondent diagram of energy vs reaction coordinate.

Exercise n° 3

Show how you might obtain 1-bromobutane from:

- a) 2-butanol
- b) 1-butanol
- c) 1-butene
- d) 1-butyne

More than one step could be required!