

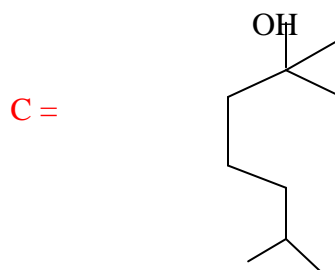
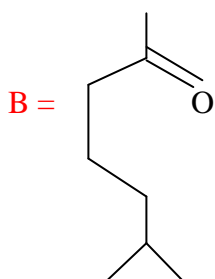
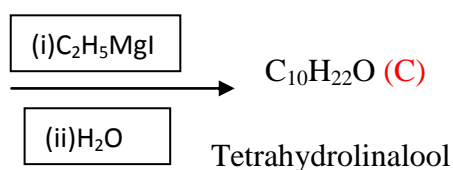
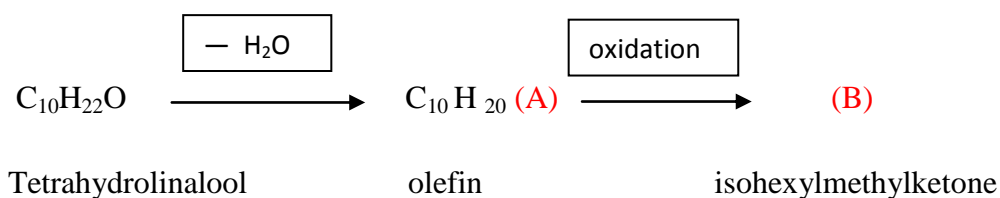
Linalool

- Isomer of geraniol and nerol but differ in the type of alcoholic group i.e. tertiary alcoholic group
- Optically active liquid compound
- B.pt. 198-199⁰C
- Acyclic oxygenated monoterpenoids

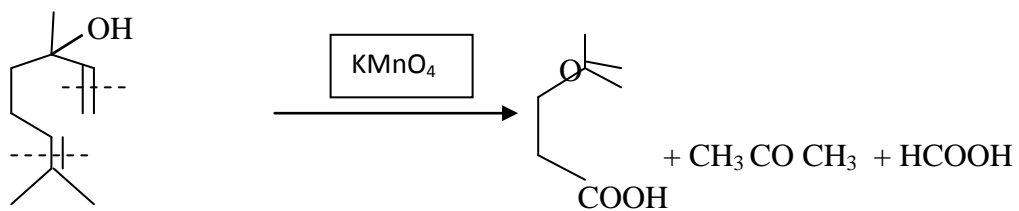
➤ Constitution

- Molecular formula C₁₀H₁₈O
- On catalytic hydrogenation it forms tetrahydroderivative representing two double bonds

$$\text{C}_{10}\text{H}_{18}\text{O} + 2\text{H}_2 \longrightarrow \text{C}_{10}\text{H}_{22}\text{O}$$
- By usual reaction, shown one tertiary alcoholic group in it
- Tetrahydrolinalool on dehydration gives olefin compound, C₁₀H₂₀ (A)
- A on oxidation forms methyl isohexyl ketone which on treatment with ethyl magnesium bromide yields tetrahydrolinalool and so one can say it has a tertiary alcoholic group.

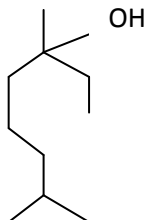


- The basic skeleton of linalool has been elucidated now the only problem is to find out the position of two double bonds.
- Linalool on oxidation with potassium permanganate undergoes dissociation to form acetone, laevulinic acid and formic acid.

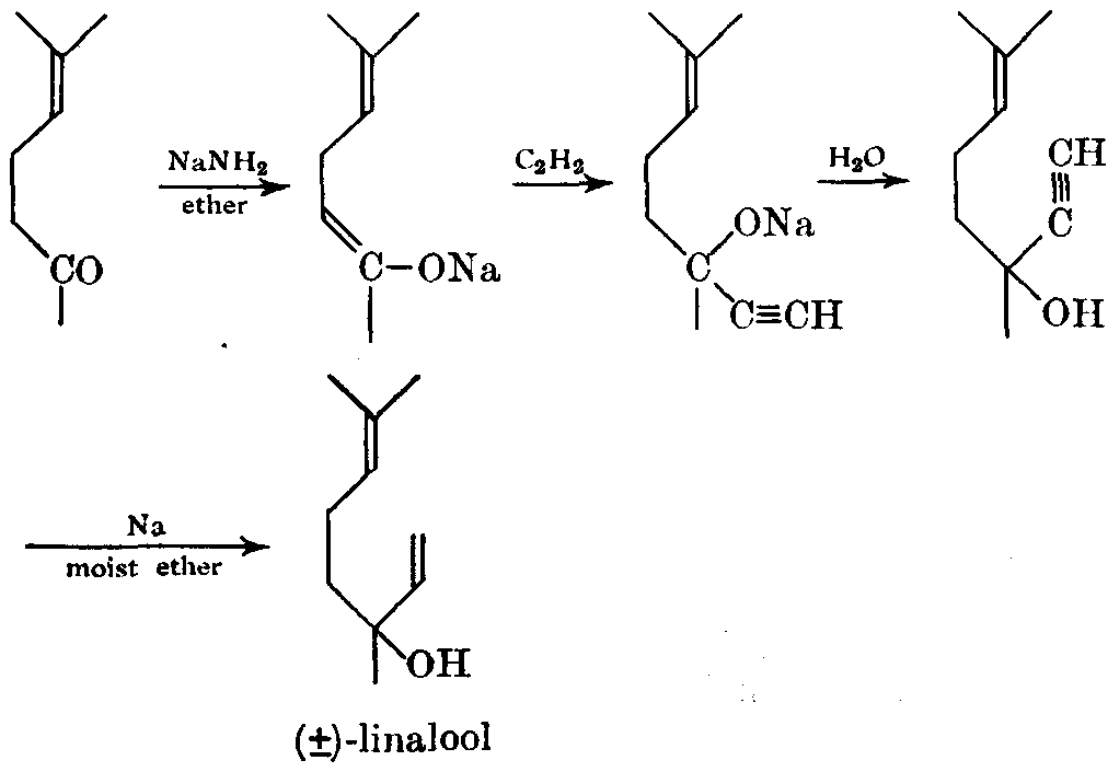


Linalool

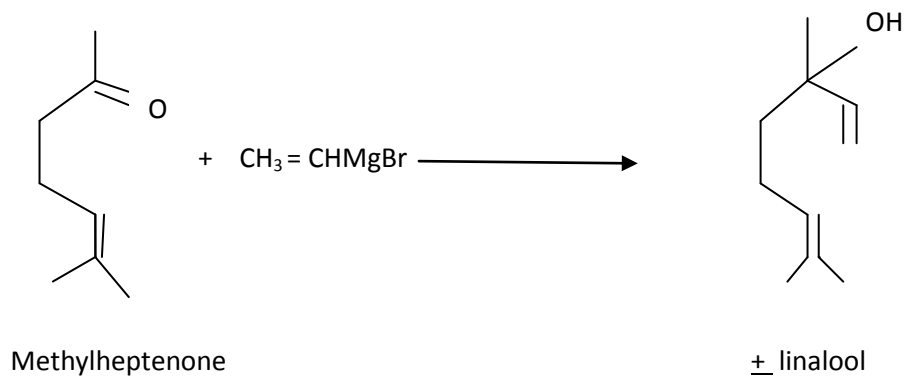
- So the structure of linalool can be written as shown in the above chemical reaction. Now we can show the structure of A as



- The structure elucidated by its decomposition, further confirmed by its synthesis:
- Ruzicka et.al. (1919)



- Normant (1955)



Presented by

Dr. Madhu Kumari Gupta
Assistant Professor
Dept. of Chemistry
Magadh Mahila College
Patna University