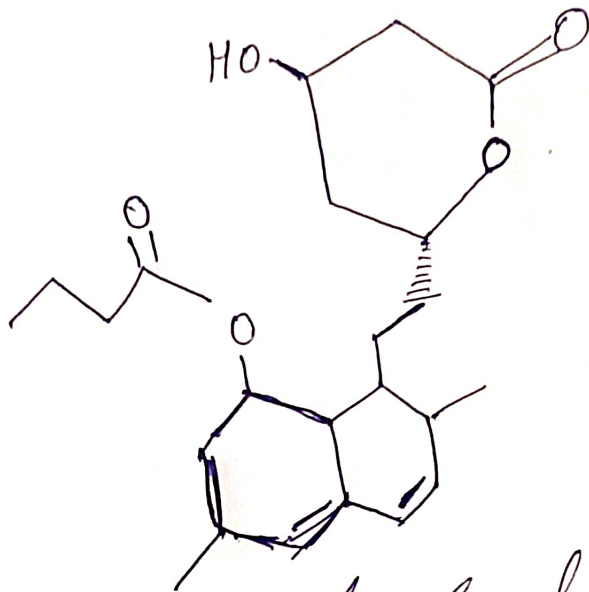


Ans 2: Note on Lovastatin:

Structure of Lovastatin:



Lovastatin sold under brand name Mevacor.

- it's a statin medication
- to treat high blood cholesterol and reduce the risk of cardiovascular disease.
- taken by mouth.

side effect

- diarrhea, headache, muscle pain, and trouble in sleeping

Medicinal use:

The primary use of lovastatin is for the treatment of dyslipidemia and the prevention of cardiovascular disease. It is recommended to be used only after other means such as diet, exercise, and weight reduction.

## Mechanism of action:

Lovastatin is an inhibitor of 3-hydroxy-3-methylglutaryl-coenzyme A reductase (HMG-CoA reductase) an enzyme that catalyzes the conversion of HMG-CoA to Mevalonate.

Mevalonate is a required building block for cholesterol biosynthesis and Lovastatin interferes with production by acting as a reversible competitive inhibitor for HMG-CoA which binds to the HMG-CoA reductase.

⇒ Natural source.

Lovastatin is a naturally occurring compound in low concentration in food such as oyster mushrooms, real yeast slice.

## Biosynthesis

The biosynthesis of Lovastatin occurs via an iterative type I polypeptide synthase (PKS) pathway.

The six genes that encode enzymes that are essential for bio-synthesis of Lovastatin

- lovB, lovA, lovD, lovC, lovG and lovF.