

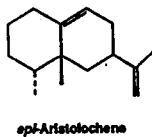
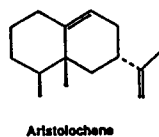
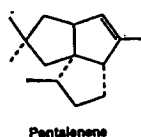
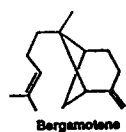
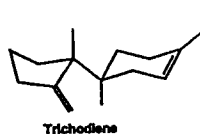
ADVANCES IN BIOSYNTHETIC
METHODOLOGY

1. Stable Isotope NMR
2. Cell-Free Systems
3. Molecular Genetics

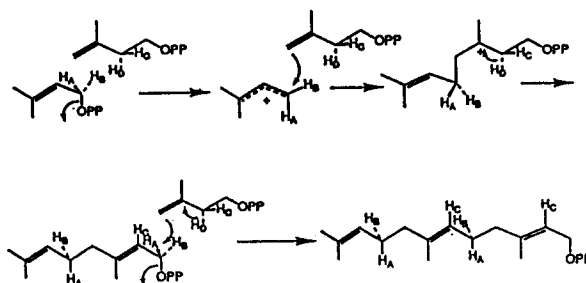
Terpenoid Synthases

ex Fungi, higher plants, *Streptomyces*

- Operationally soluble, lipophilic
- M_r 35-100K, monomers and dimers
- k_{cat} 0.02 - 0.5 s^{-1}
- K_M GPP or FPP 0.5-5 μM
- Requirement for divalent metal cation, usually Mg^{+2}
- No other inorganic or organic cofactors



Trichodene Synthase

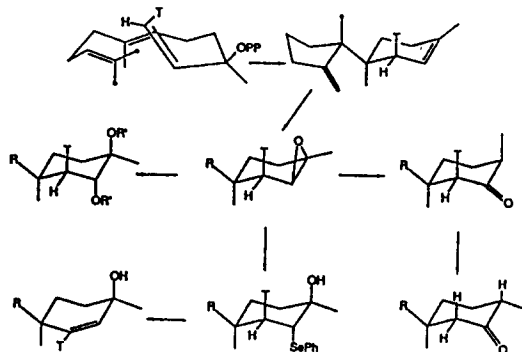


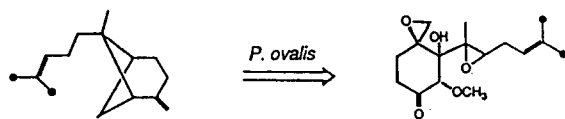
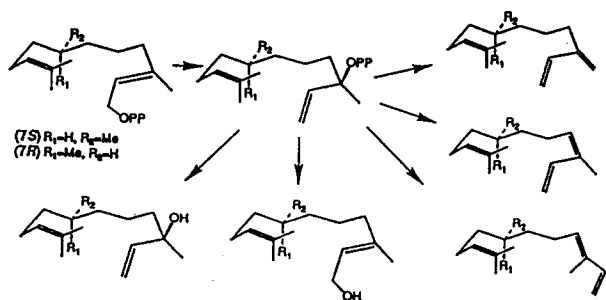
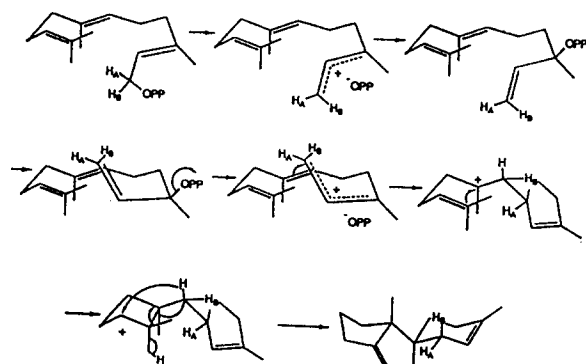
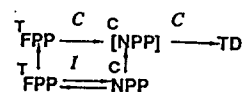
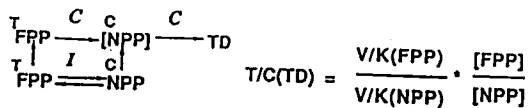
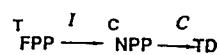
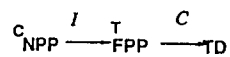
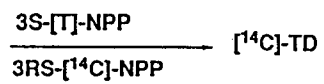
ex *Trichothecium roseum*

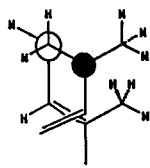
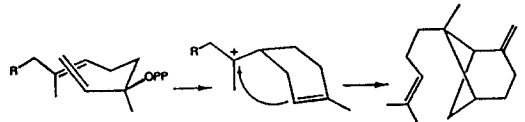
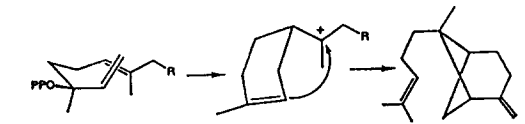
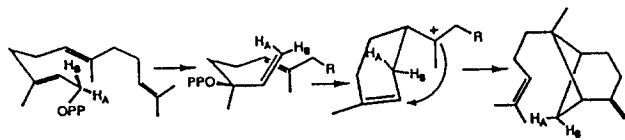
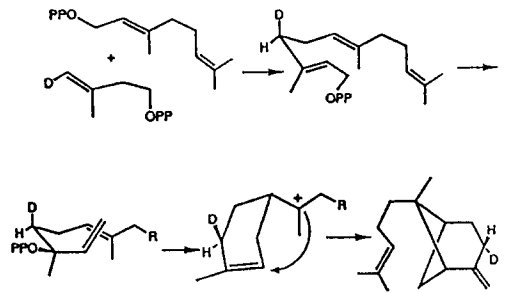
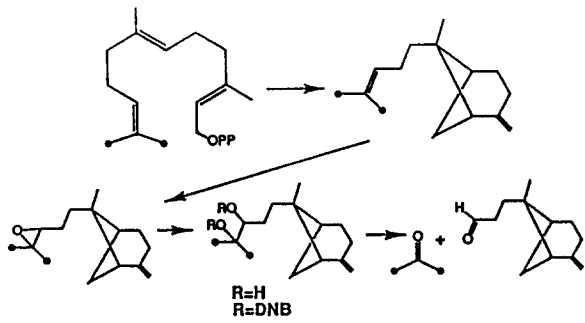
ex *Fusarium sporotrichoides*

- M_r 2 X 45K
- Cloned (Ag111)
- Sequenced: 1182 nt ORF containing 60 nt intron
- Expressed in *E. coli* (pDR540)
- k_{cat} 0.14 s^{-1}

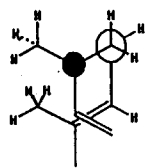
-T. Hohn







3R-LPP



3S-LPP

