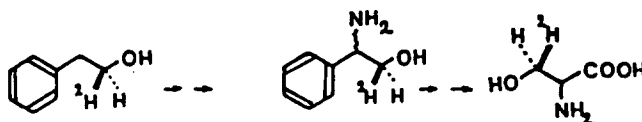


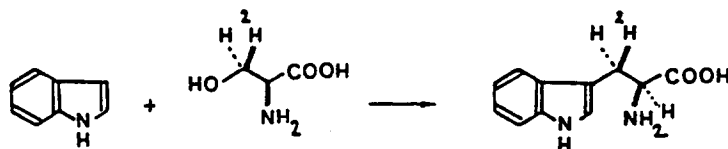
Willis anomala Hansen

J.C.S.Chem.Comm.,1973,862



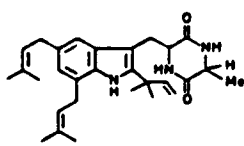
Chimica & Industria (Milano),1974,424

J.C.S.Chem.Comm.,1974,726

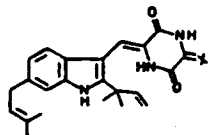


EC 4.2.1.20

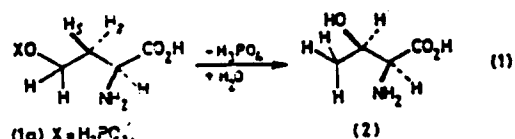
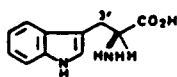
Chimica & Industria (Milano),1974,424



Echinuline



Cryptoechinuline A (X = CH₂)



(1a) X = H₂PO₂

H₂ = ²H, H₃ = ¹H

(1b) X = H₂PO₃

H₂ = ¹H, H₃ = ²H

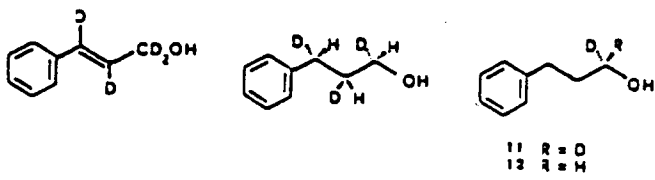
(2)

Stereochemistry of the Hydrogen Removal at Position 3 in the Enzymic Synthesis of L-Threonine from O-Phospho-L-Homoserine

C.Fuganti, J.C.S.Chem.Comm.,1979,337

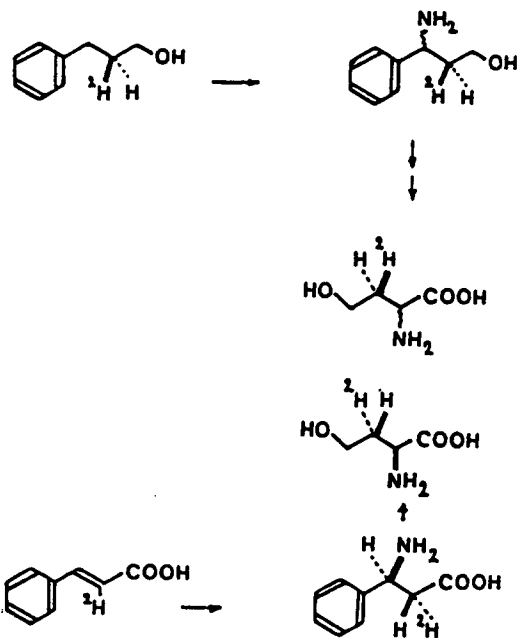
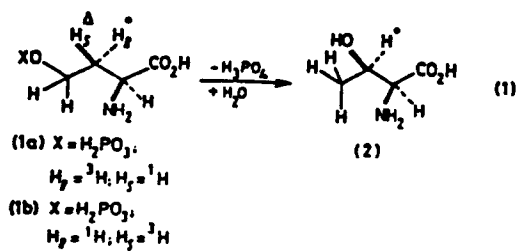
formal cis loss of hydrogen from the side chain of L-tryptophan during the biosynthesis of Cryptoechinuline A

J.C.S.Chem.Comm.,1975,778

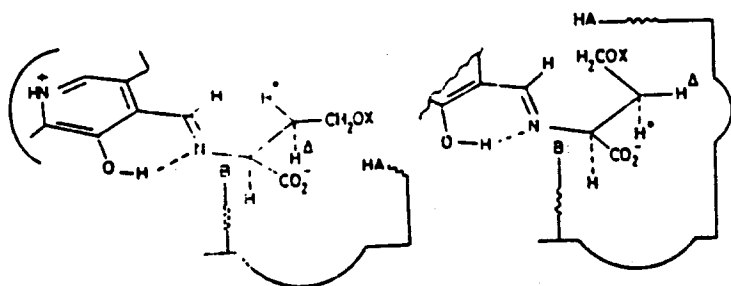


Stereochemistry of the conversion of cinnamaldehyde into 3-phenylpropanol in fermenting baker's yeast

J.C.S.Chem.Comm., 1975, 846

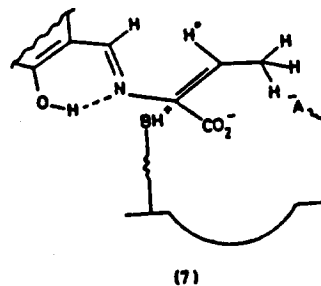
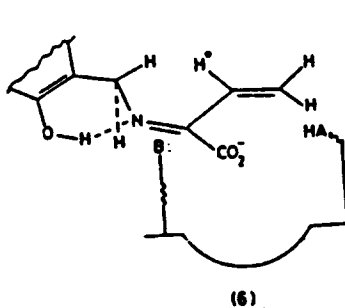
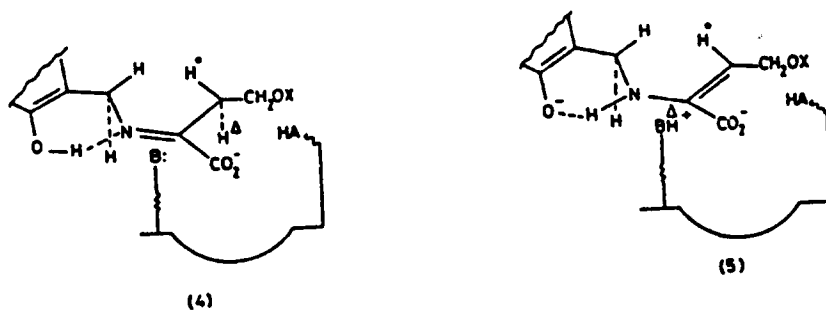


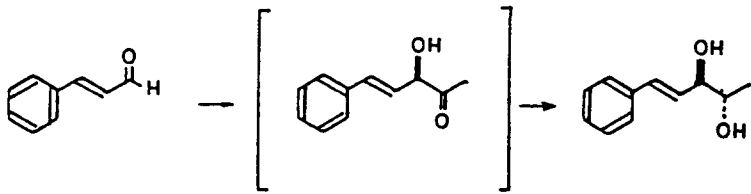
J.C.S.Chem.Comm., 1979, 337



Synthesis of Homoserine Samples Stereospecifically Labeled with Isotopic Hydrogen in Position 3

J.C.S.Chem.Comm., 1976, 143

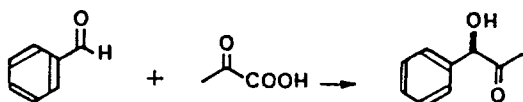




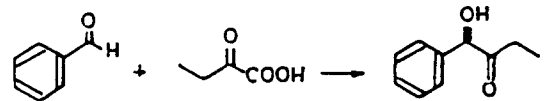
FERMENTING BAKER'S YEAST (ON D-GLUCOSE)

25-30% YIELD

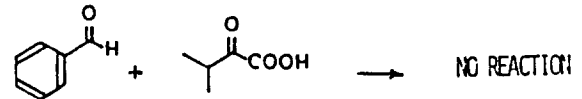
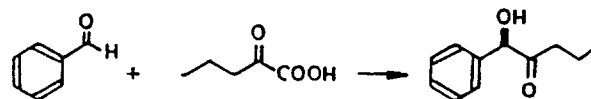
Chem & Ind (London), 1977,923



C. Neuberg, J. Hirsch Biochem. Z., 1921, 115, 282

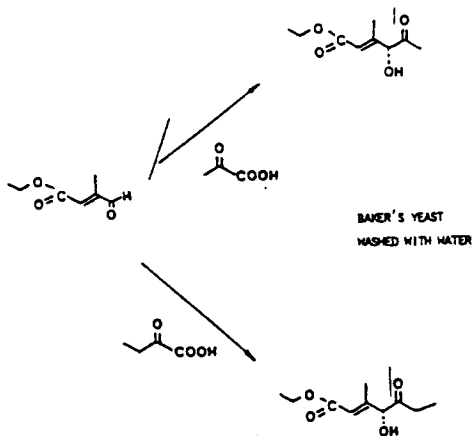


BAKER'S YEAST
WASHED WITH WATER

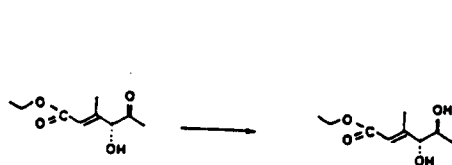


FUGANTI, GRASSELLI & SERVI, 1988

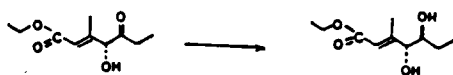
J.C.S. Chem. Commun., in press



Fuganti, Grasselli, Servi 1988



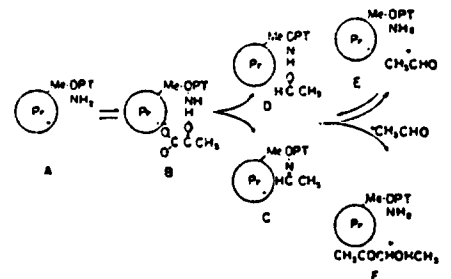
BAKER'S YEAST +
D-GLUCOSE



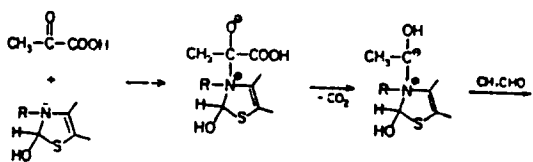
25-30% OVERALL YIELD

FUGANTI, GRASSELLI & SERVI, 1988

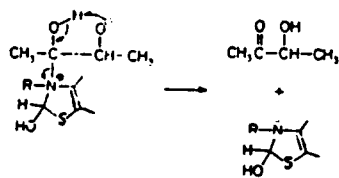
INTERMEDIATE STEPS IN THE ACTION OF 3-CARBOXYLASE



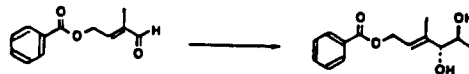
T.P. SINGER, J. FENSKY BBA, 9, 314 (1952)



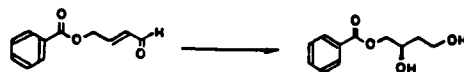
30-351



(8-47)



10a



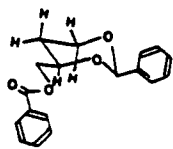
25a

Baker's yeast fermenting on D-glucose

pH 5-5.2

Fronza, Puganti, Grasselli, Servi 1988

moderate retention of deuterium in random configuration at position 2



Fronza, Puganti, Grasselli, Servi 1988

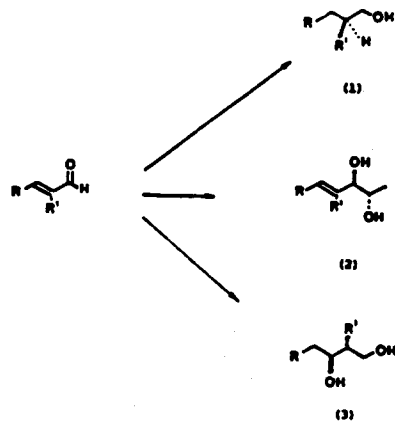
Stereochemistry of the water addition identical to the one of enoyl-CoA hydratase (E.C. 4.2.1.17)



ACINETOBACTER (HOFF) (AJIHOTO 1983)



FINDIS & WHITESIDES, J.Org.Chem., 1967, 52, 3338



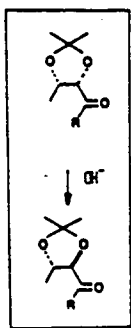
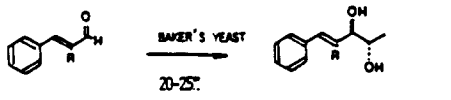
PRODUCTS ACCESSIBLE AS EXCLUSIVE OR PREDOMINANT PRODUCTS FROM α, β -UNSATURATED ALDEHYDES AND FERMENTING BAKER'S YEAST

With R = Ar or CO_2Et and R' = H, products (1) and (2) are preferred.

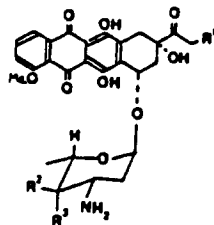
With R = COOC_2H_5 and R' = H, products (1) and (3) are isolated

absolute configuration corresponding to that of the 6-deoxy sugars of the L-series (L-rhamnose)

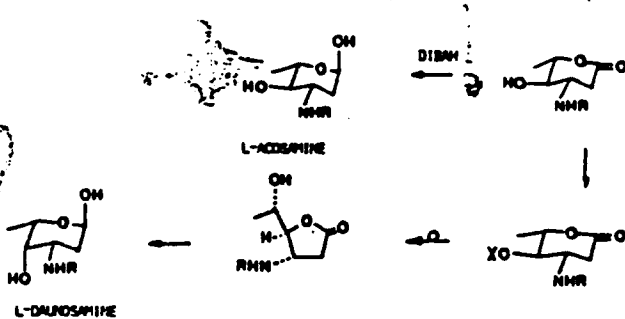
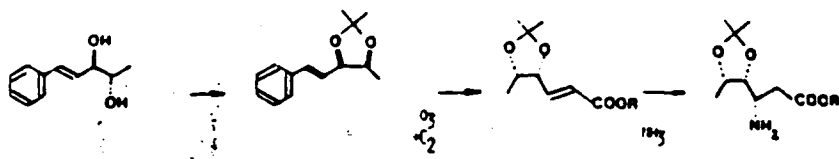
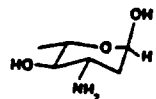
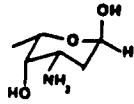




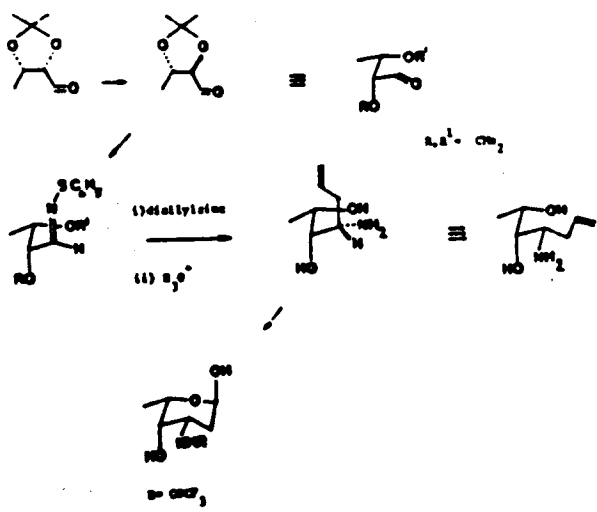
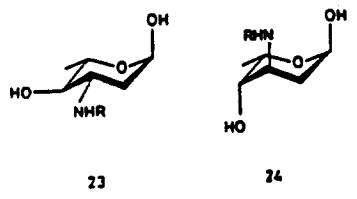
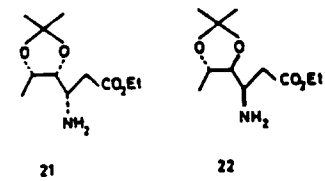
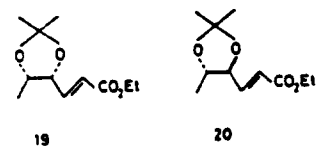
R = H, Me



$R^1 = \text{H}$ daunosamine $R^2 = \text{OH}$
 $R^2 = \text{H}$ adriamycin $R^2 = \text{H}$
 $R^1 = \text{H}$ 4'-epi-daunosamine $R^2 = \text{OH}$
 $R^1 = \text{H}$ 4'-epi-adriamycin $R^2 = \text{H}$

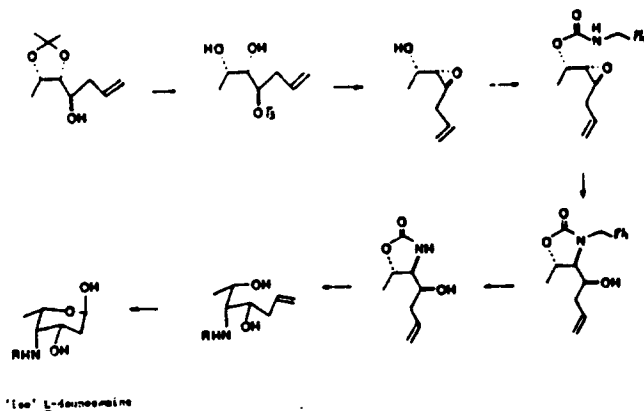
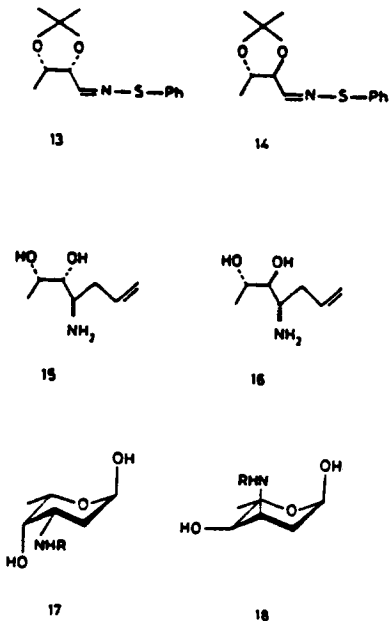


J.C.S. CHEM. COMMUN. 1980, 492

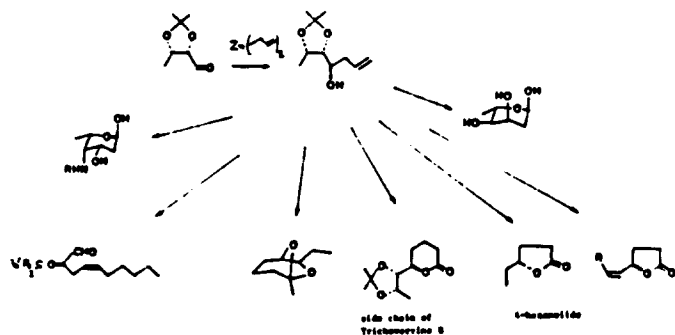
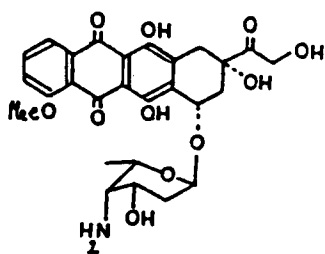


D-epi-daunosamine-4-O-acetate

J. Org. Chem., 1981, 468

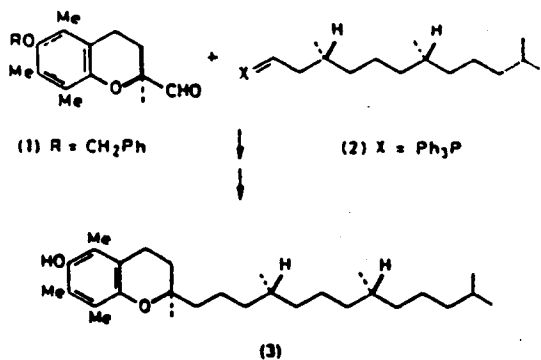


Carbohydrate Res., 1985, 136, 115

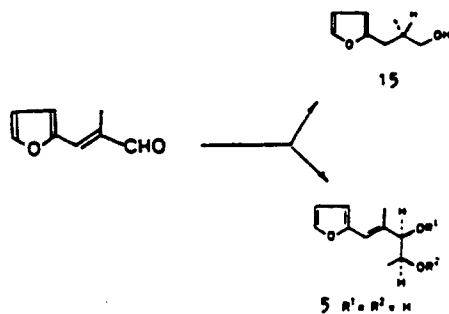


BRIT. APPL. 8 508 079 (3.28.1965) (TO FARMITALIA-C.ERBA)

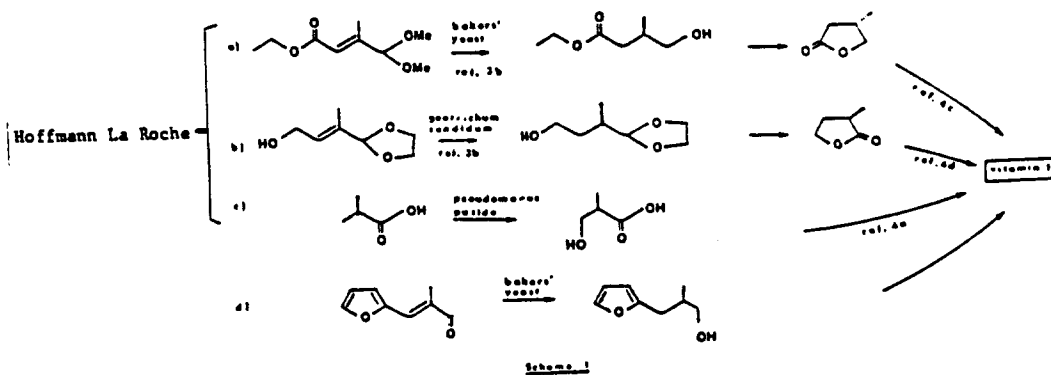
Chiral Products Obtained from the Methyl diol Prepared in Fermenting Baker's Yeast and Cinnamaldehyde, via the C₁ Optically Active Aldehyde Extruded by Ozonolysis of the Isopropylidene Derivative and Addition of Diallylzinc



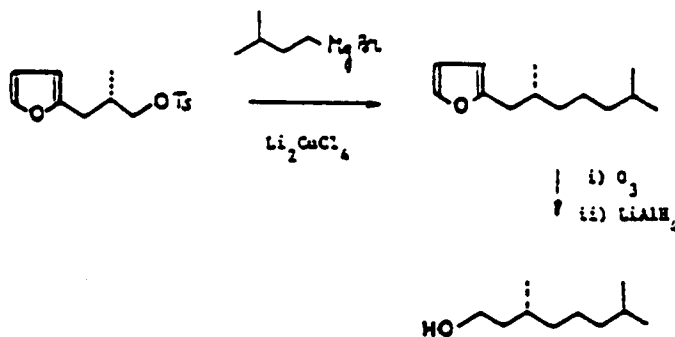
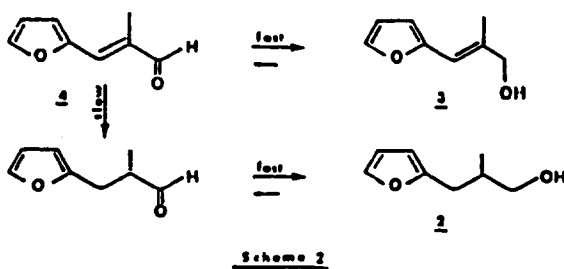
Natural α -Tocopherol



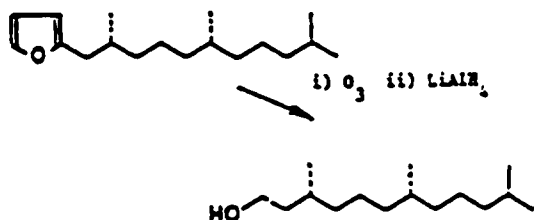
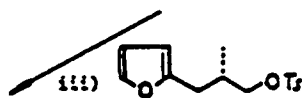
* Typically, 60 g of *o*-methyl-8-(2-furyl)acrolein in 30 l of tap water, containing 2.5 kg of commercial baker's yeast, 0.1 kg of *D*-glucose, and 0.1 kg of Na₂HPO₄, under stirring at room temperature gave within 6-8 h, after extraction with ethyl acetate and SiO₂ column chromatography, 40-45 g of (15), containing some *o*-methyl-8-(2-furyl)prop-2-en-1-ol, and ca. 10 g of (5).



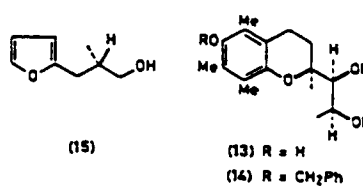
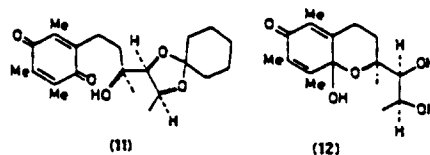
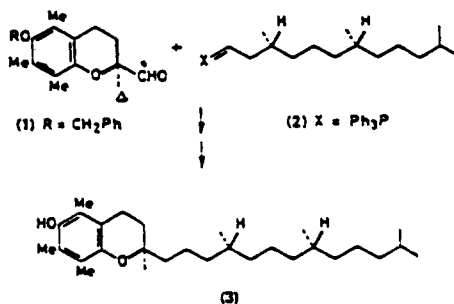
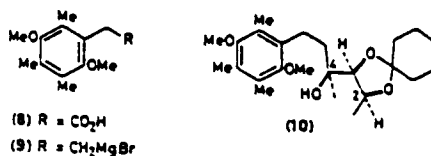
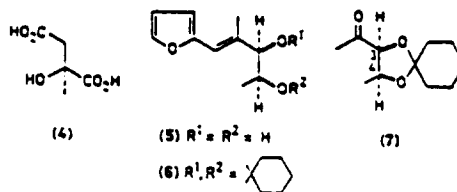
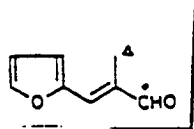
MICROBIALY-AIDED SYNTHESIS OF THE SIDE CHAIN OF VITAMIN E
 J.C.S.Chem.Comm., 1979, 923
 J.C.S.Perkin I, in press



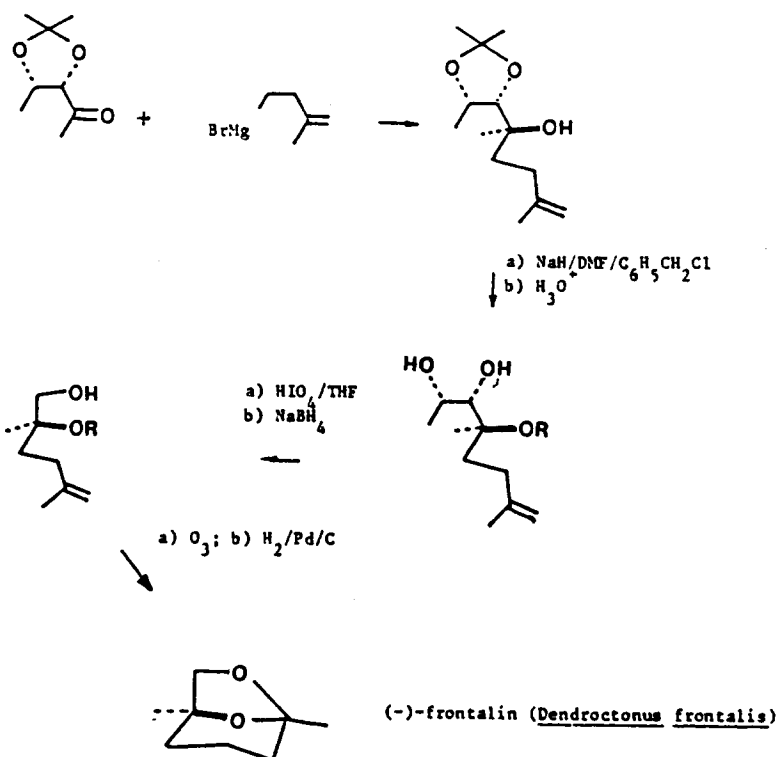
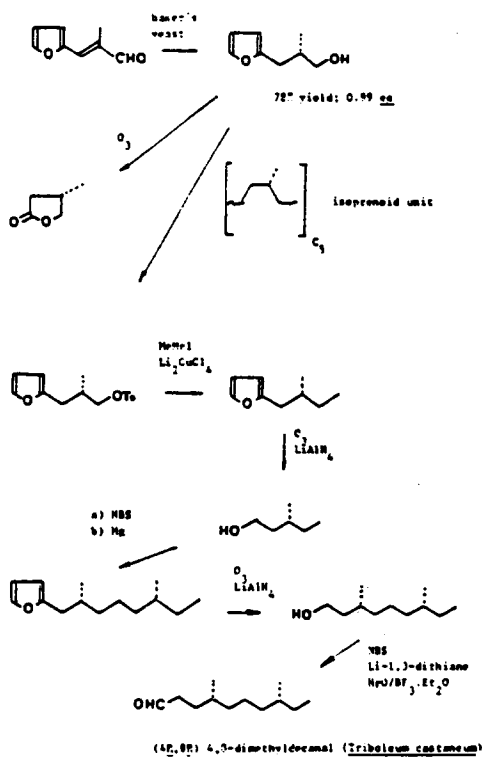
i) $\text{Mg}/\text{Ph}_3\text{P}$
 ii) $\text{Mg}/\text{Li}_2\text{CuCl}_4$



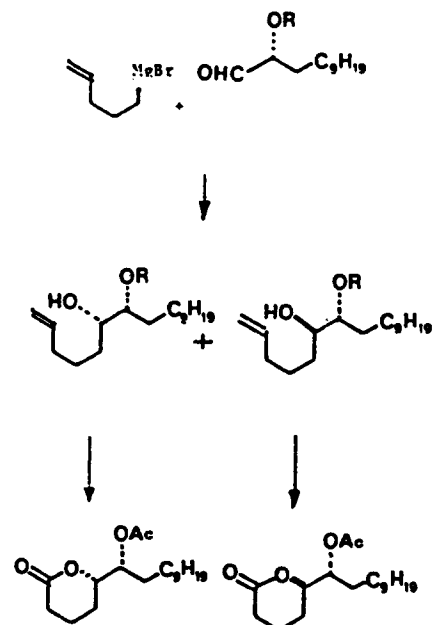
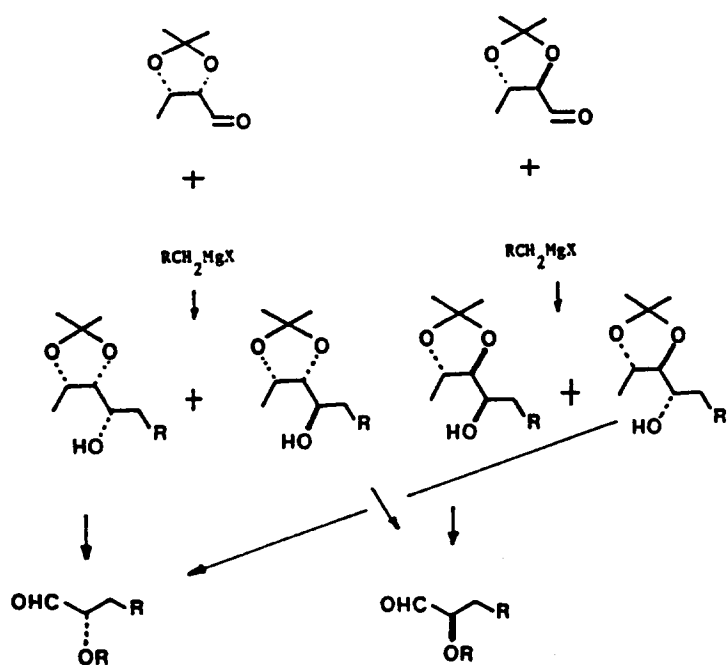
Synthesis of the C_{15} chiral terpenoid chain of Vitamin E from the alcohol obtained in fermenting baker's yeast from *o*-methyl-1-(2-furyl)acrolein



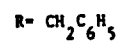
J.C.S.Chem.Comm., 1982, 205



J.Chem.Soc.Perkin 1,1983,241

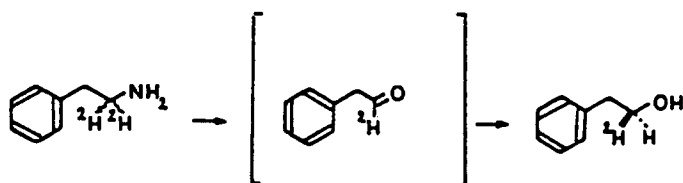


threo



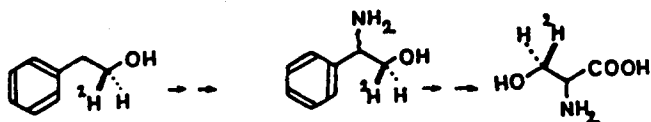
erythro 6-acetoxy-5-hexadecanolide
(Culex pipiens fatigans)

J.C.S.Chem.Comm., 1982, 1285



Villia anomala Hansen

J.C.S.Chem.Comm., 1973, 862



Chimica & Industria (Milano), 1974, 424

J.C.S.Chem.Comm., 1974, 726