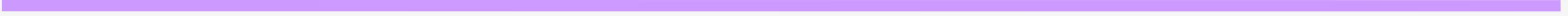




# 萜类和挥发油

terpenoids and volatile oils



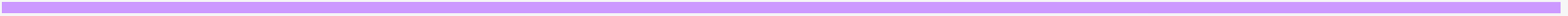


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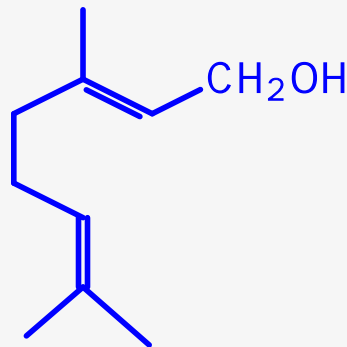
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0  $\phi$

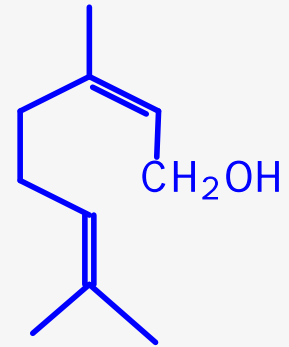
2

1

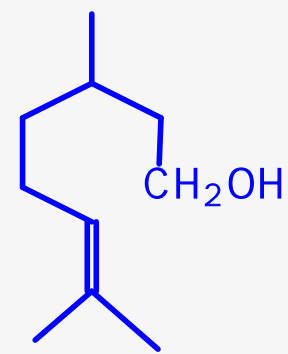
1



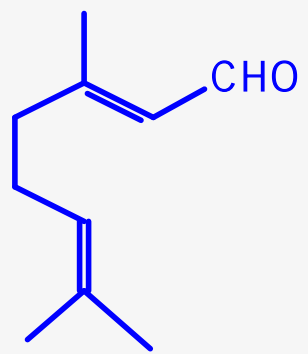
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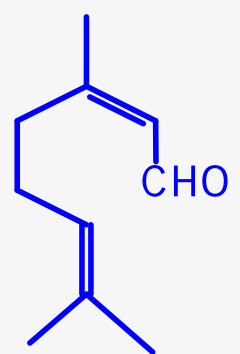
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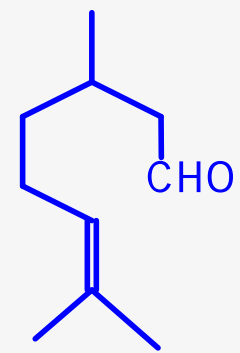
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6

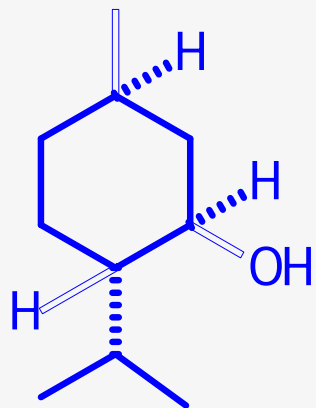


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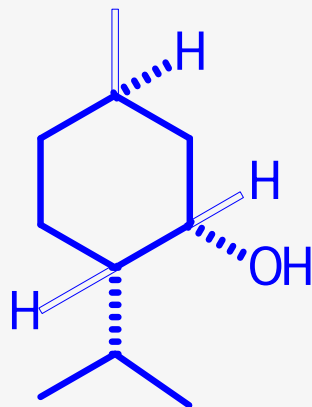


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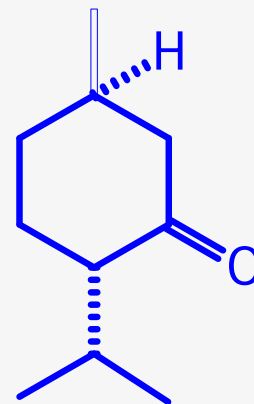
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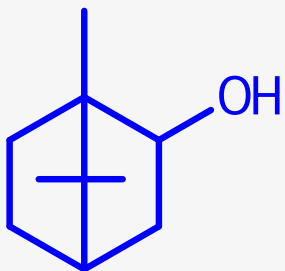
f ~~h~~



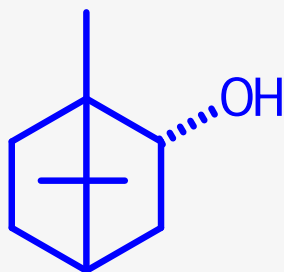
d ~~h~~



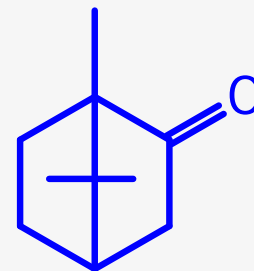
~~h~~



b



e



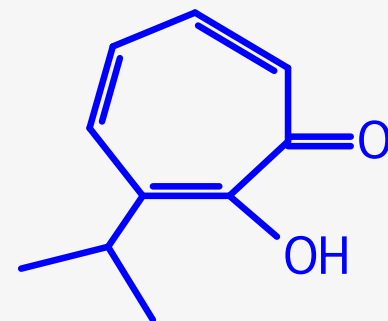
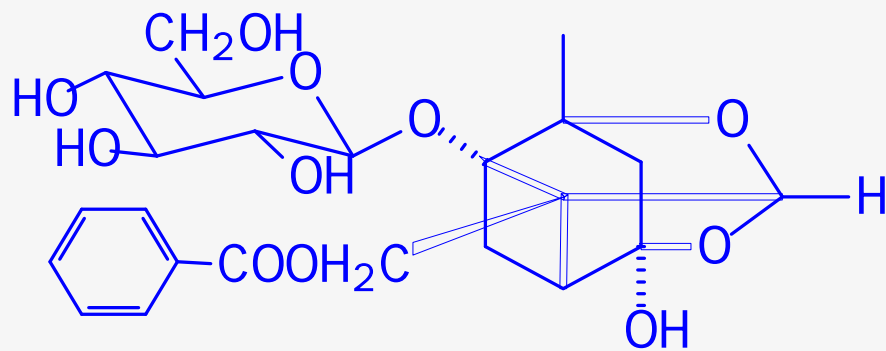
~~h~~



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**b**

**b**



**a**

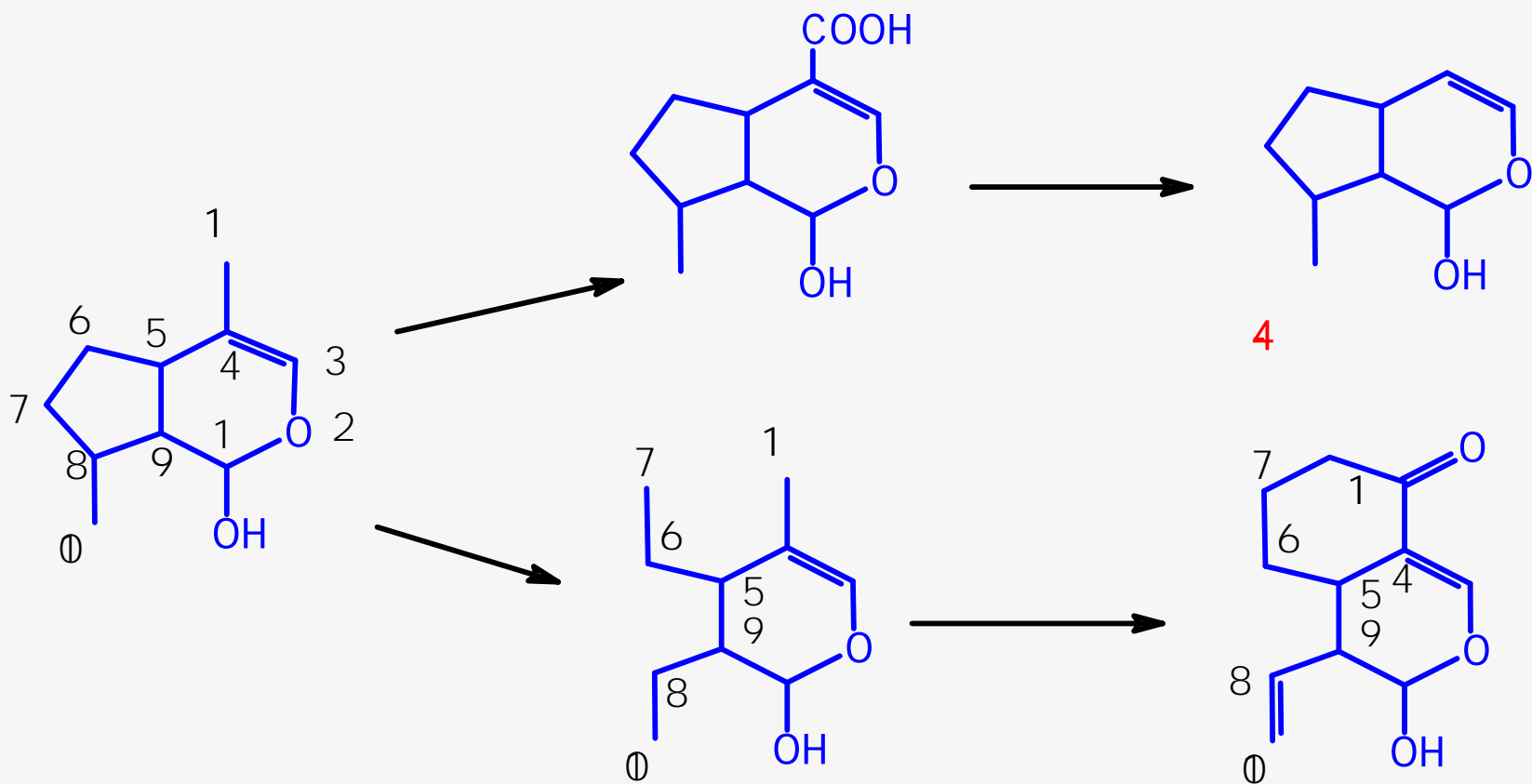
**b**

3

ii

ii

ii



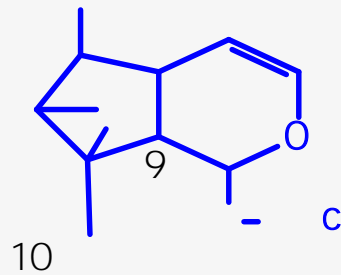
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C<sub>11</sub>

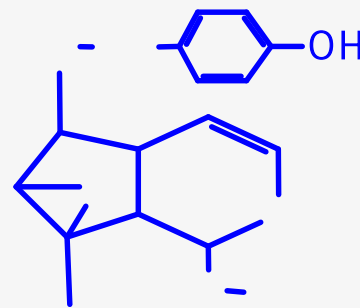
C<sub>1</sub>

**catalpol**

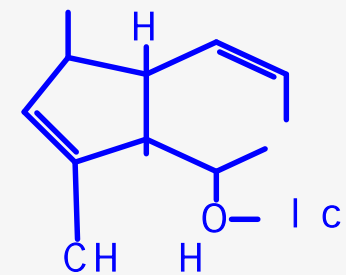
**catalposide**  
**aucubin**



catal pol



catal posi de



aucubi n

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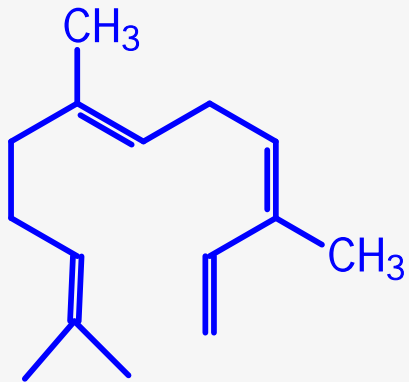
2

sesqui ter penoi ds

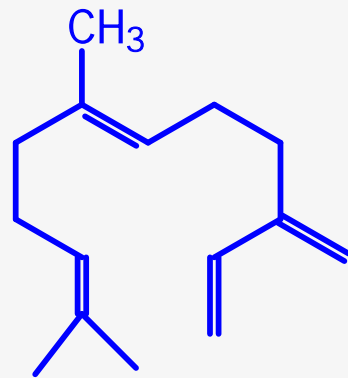
3

15

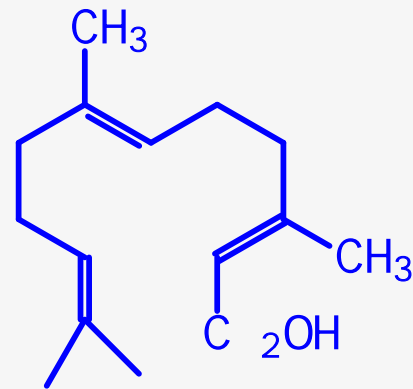
1



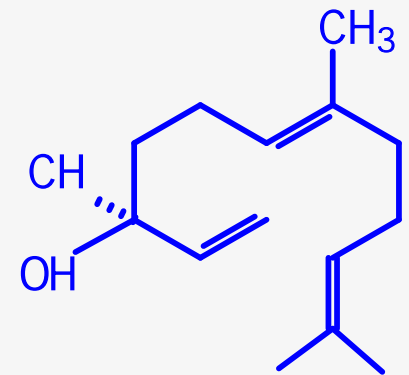
-farnesene



-farnesene



Farnesol



2

qinghaosu, artemisinin

*Artemisia annua* L.

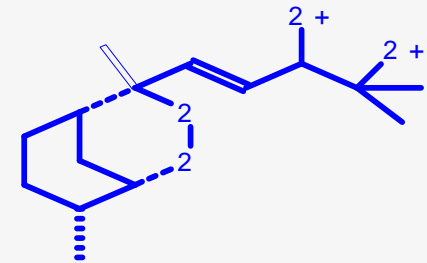
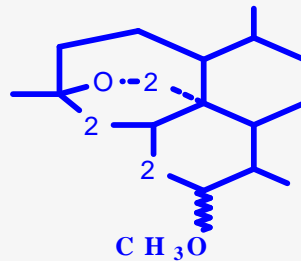
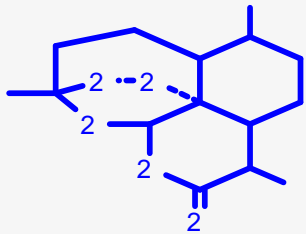
dihydroqinghaosu

artemether

artesunate

*Artemisia annua*

yingzhaosu



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3

20 di terpenoidi 4

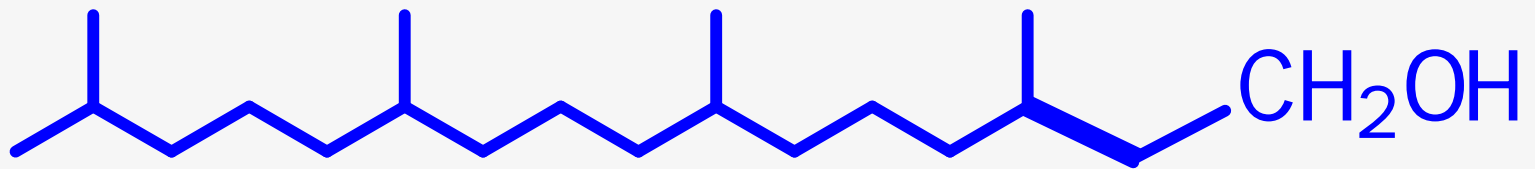
---

1

(phytol)

porphyrin

E K<sub>1</sub>



Phytol



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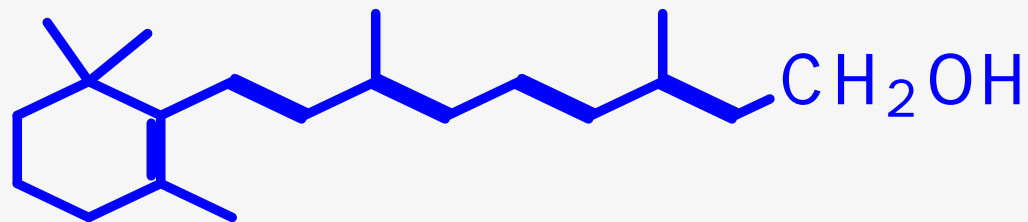
2

## A(vitamin A)

A

A

A

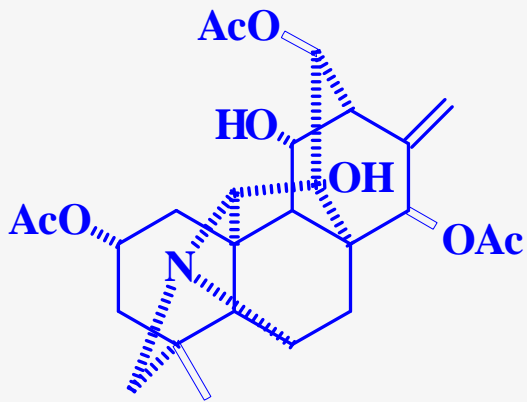


A

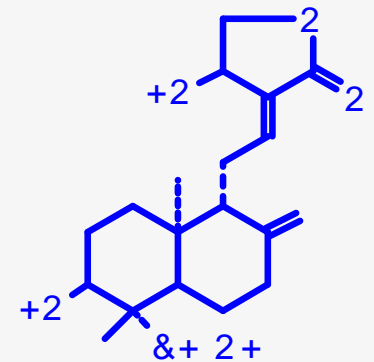
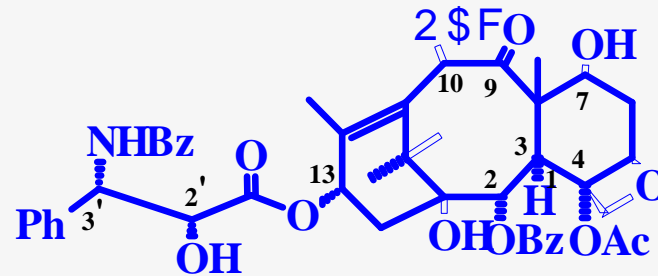
# Andrographis paniculata

## Taxus spp

III



Guan-fu base A



Andrographolide

I

3

sesterterpenoids

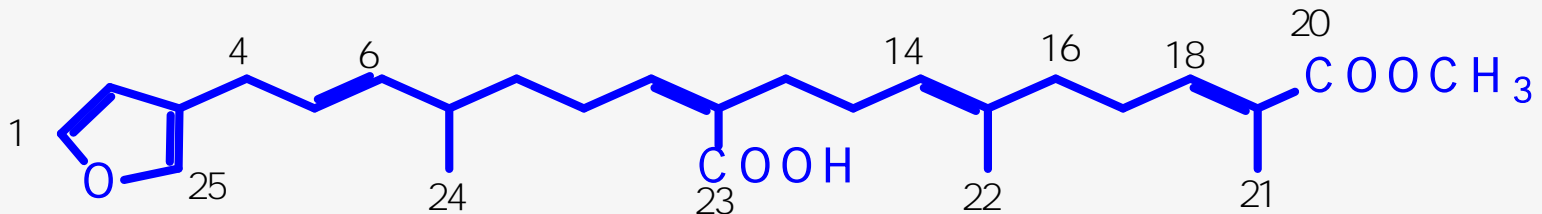
5

25

1965

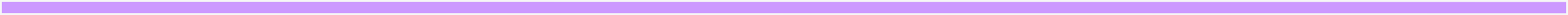
geranylfarnesyl pyrophosphate, GFPP

-3



3





1

2

**ent-kaurane**

**300**



3

4



---

**1**

**2**

**3**

200~300







1

2

3

4



---

volatile oils

essential oils

4 : 1)

2)

3)

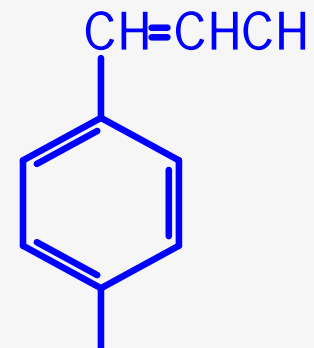
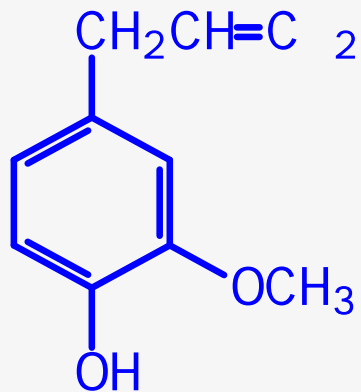
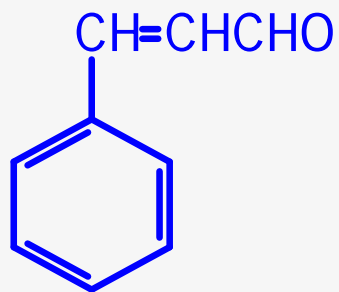
n-decane

n-nonyl alcohol

4)

mustard oil

“ ”



H<sub>2</sub>)<sub>8</sub>

n-decane

C

H

||

:

(allicin)



**1**

**2**

**3**

**30~60**

**4**

**5**

**1**

**2**

**3**

**1**

**2**

**4**