

NARCOTIC ANALGESICS (OPIOIDS)

PHARMACEUTICAL CHEMISTRY I

PHA385

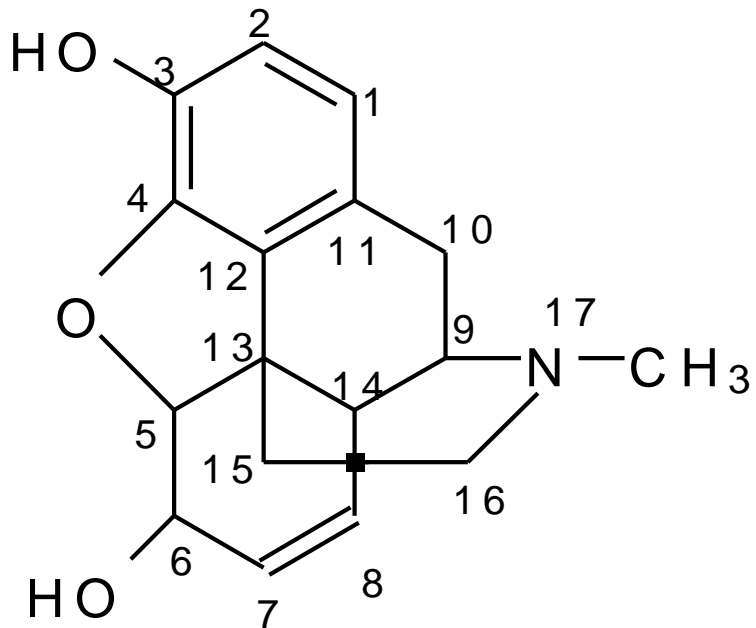
2017-2018

- **Narcotic analgesics** are drugs that can relieve pain without causing narcosis (loss of consciousness)

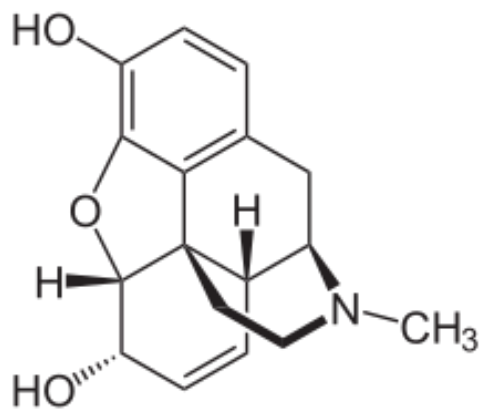
CLASSIFICATION

1. Morphine and derivatives
2. Oripavine derivatives
3. Morphinan derivatives
4. Meperidine (Pethidine)
5. Benzomorphan derivatives
6. Methadon and derivatives

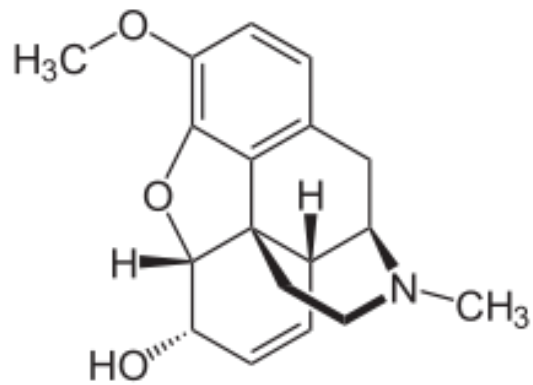
1. MORPHINE AND DERIVATIVES



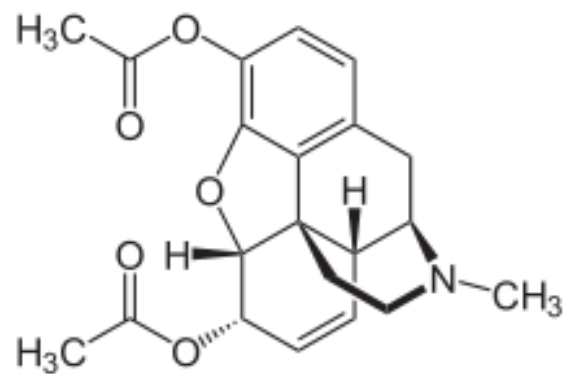
7,8-Didehydro-4,5-epoxy-17-methyl-morphinan-3,6-diol



Morphine



Codeine

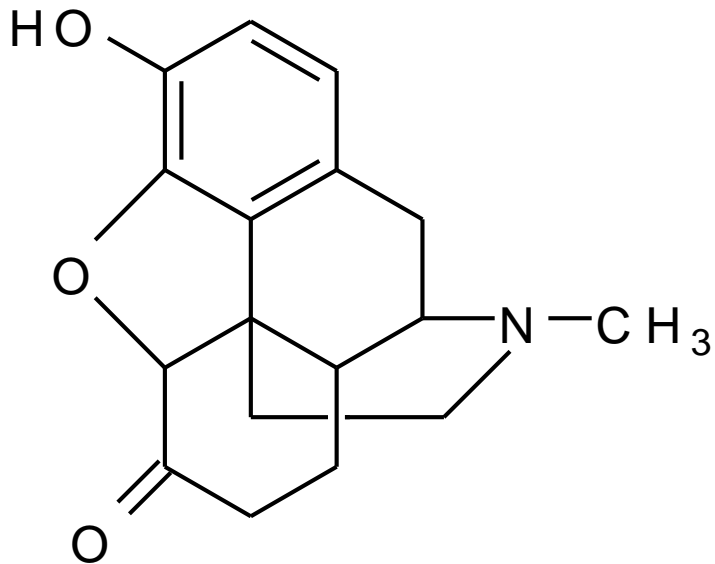


Heroin

SEMI-SYNTHETIC MORPHINE DERIVATIVES

DIHYDROMORPHINON (HYDROMORPHON)

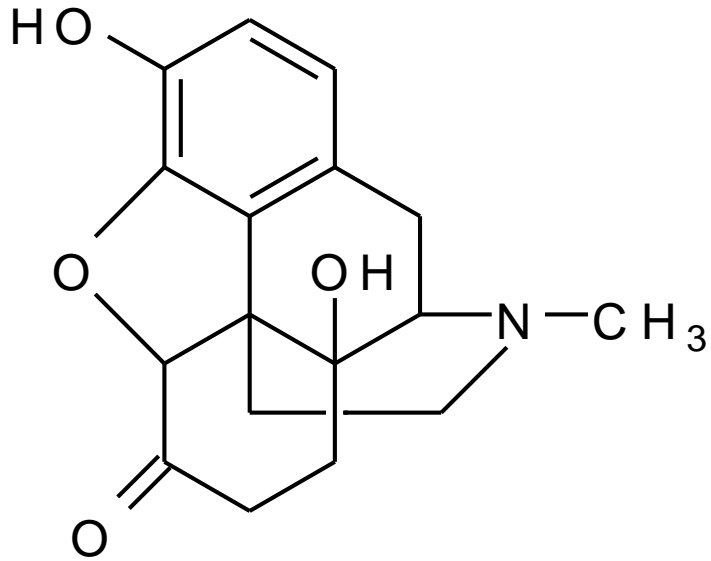
DILAUDID®



4,5-Epoxy-3-hydroxy-17-methyl-morphinan-6-one

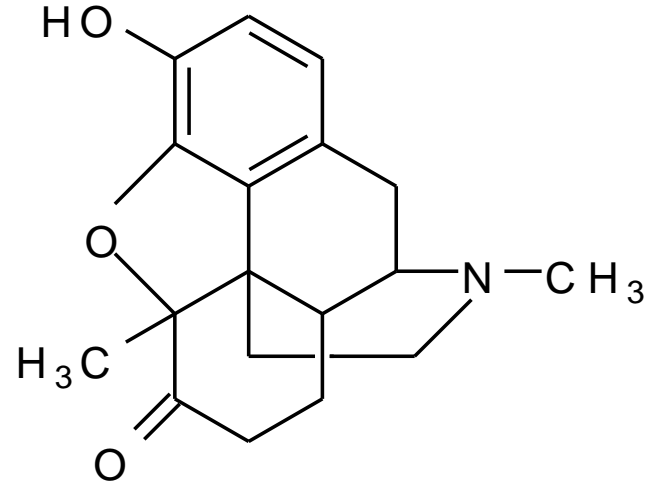
OXYMORPHONE

NUMORPHAN®



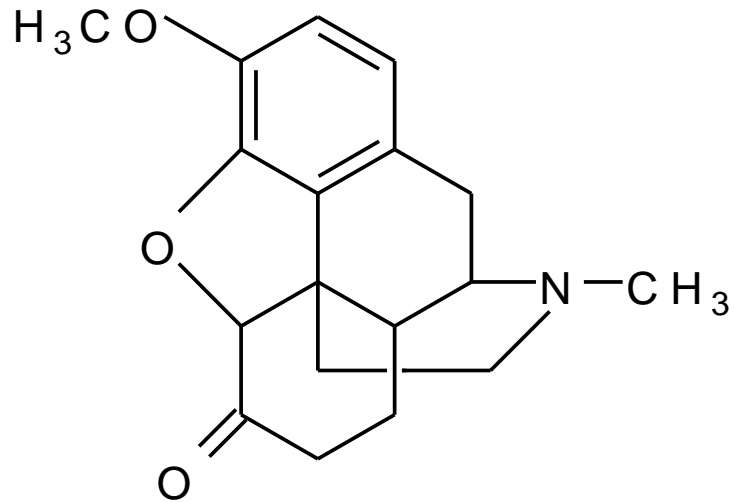
5-METHYLDIHYDROMORPHINON

METOPAN®

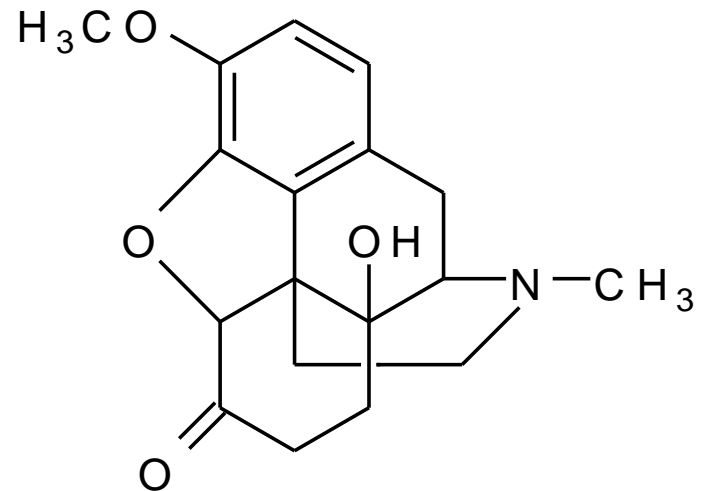


**DIHYDROCODEINONE
(HYDROCODONE)**

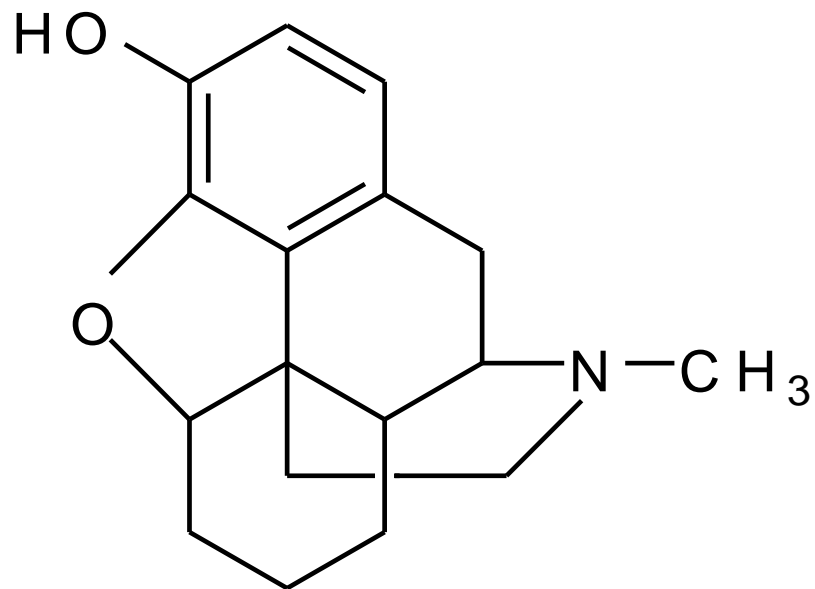
DICODID®



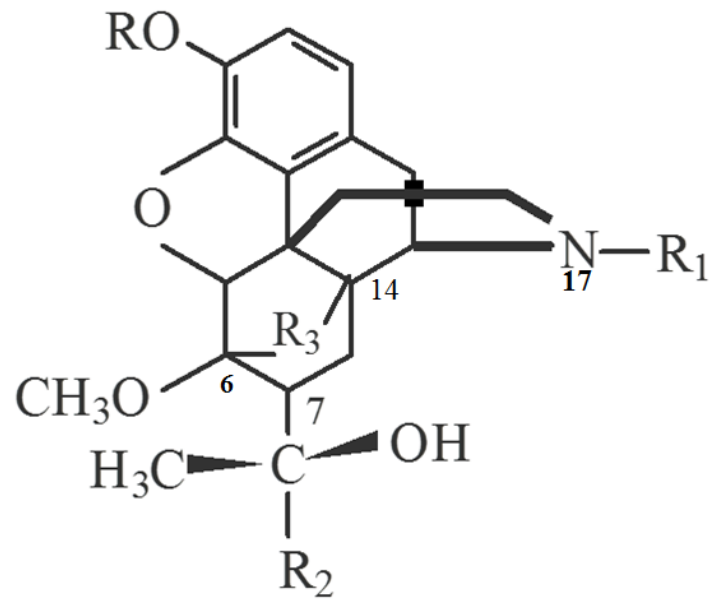
**DIHYDROHYDROXYCODEINONE
(OXYCODONE) EUCODAL®**



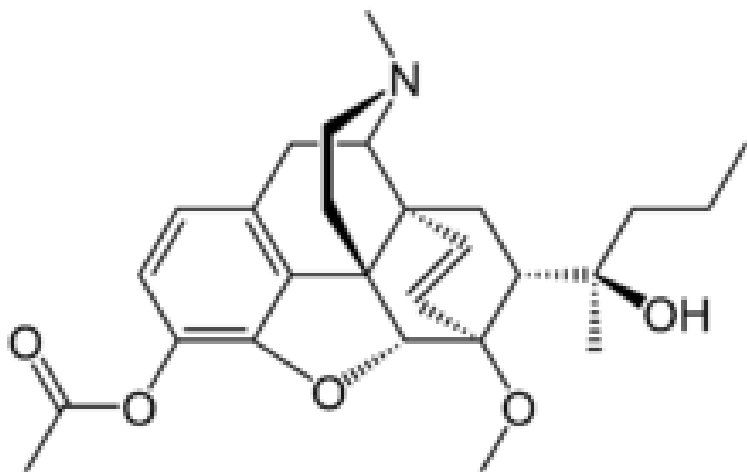
DIHYDRODEOXYMORPHINE
DESOMORPHINE®



2. Oripavine Derivatives

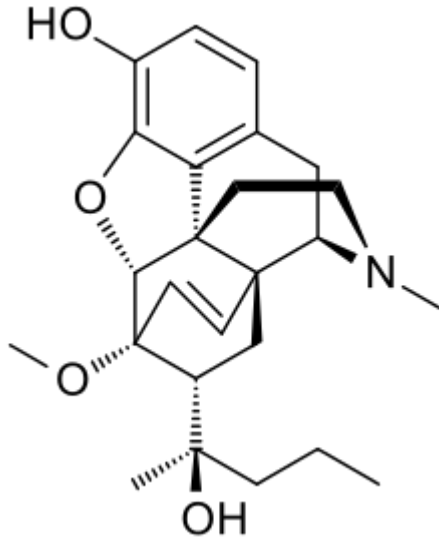


Acetorphine



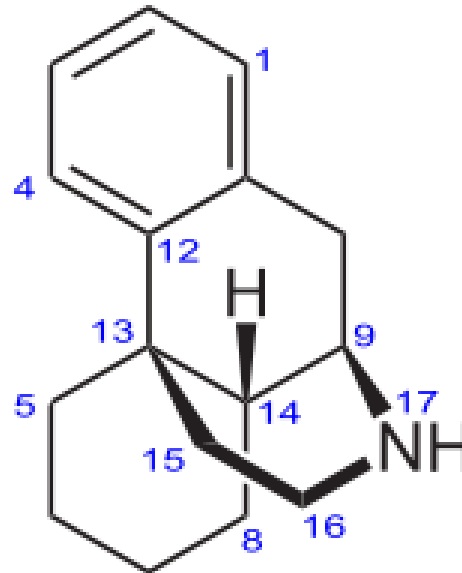
4,5 α -epoxy-7 α -(1-hydroxy-1-methylbutyl)-
6-methoxy-17-methyl-6,14-endo-ethenom
orphinan-3-yl acetate

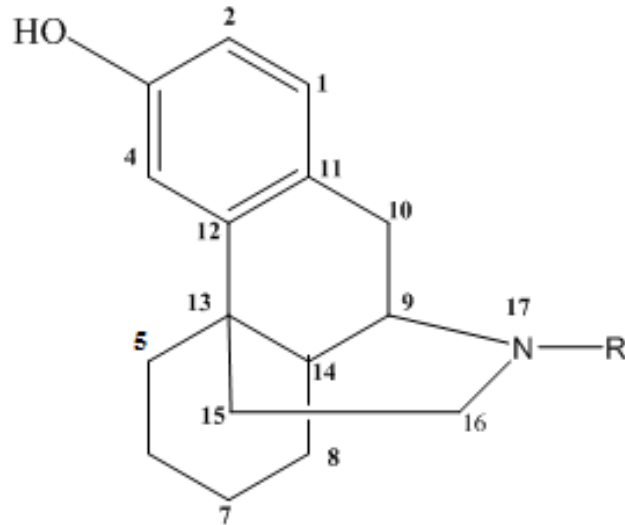
Etorphine




(5 α ,6 β ,14 β ,18R)-18-[(2R)-2-Hydroxy-2-pentanyl]-6-methoxy-17-methyl-7,8-didehydro-18,19-dihydro-4,5-epoxy-6,14-ethenomorphinan-3-ol

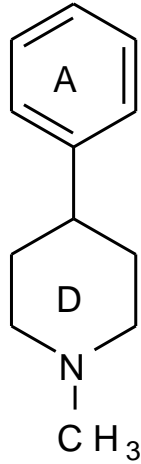
3. Morphinan derivatives



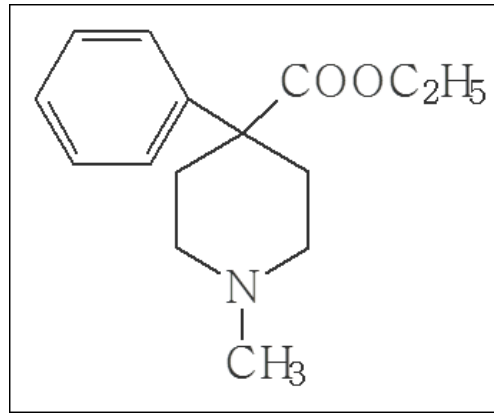


	R
Cyclorphan 3-Hydroxy-N-cyclopropyl methyl morphinan	-CH ₂ - 
Levorphanol 3-Hydroxy-N-methylmorphinan	-CH ₃

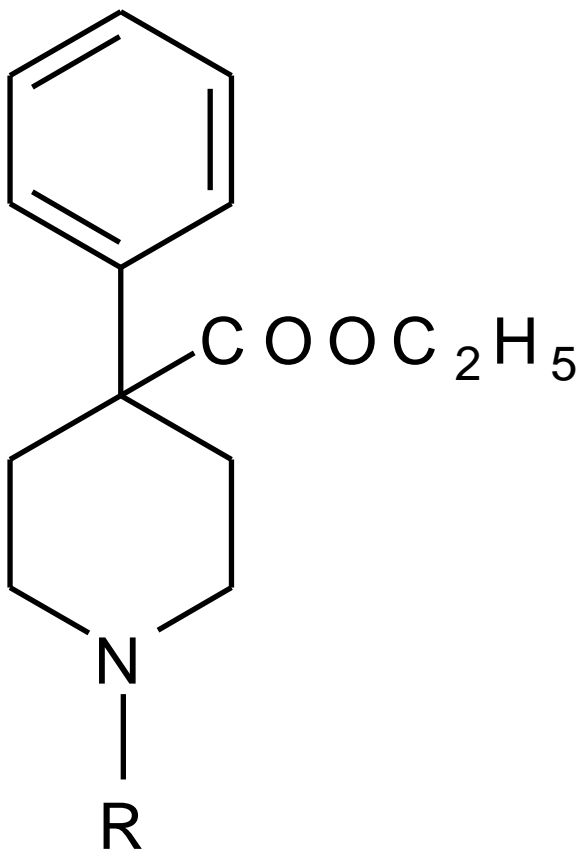
4. Meperidine (Pethidine) Derivatives



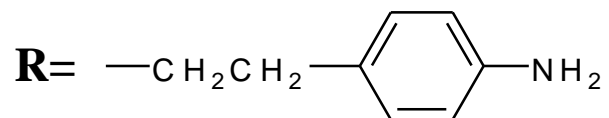
Meperidine- Aldolan^R



- 1-Methyl-4-phenyl-4-piperidine carboxylic acid ethyl ester

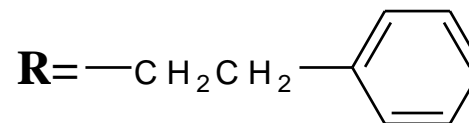


ANILERIDINE



Ethyl 1-[2-(4-aminophenyl)ethyl]-4-phenyl piperidine-4-carboxylate

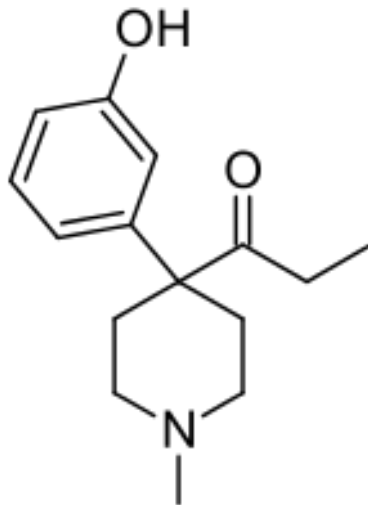
PHENERIDINE



Ethyl 1-(2-phenylethyl)-4-phenylpiperidine-4-carboxylate

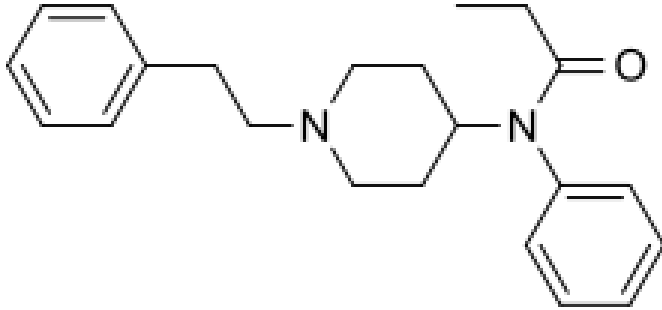
OTHER MEPERIDINE DERIVATIVES

Ketobemidone 1-[4-(3-Hydroxyphenyl)-1-methyl-4-piperidyl]propan-1-one



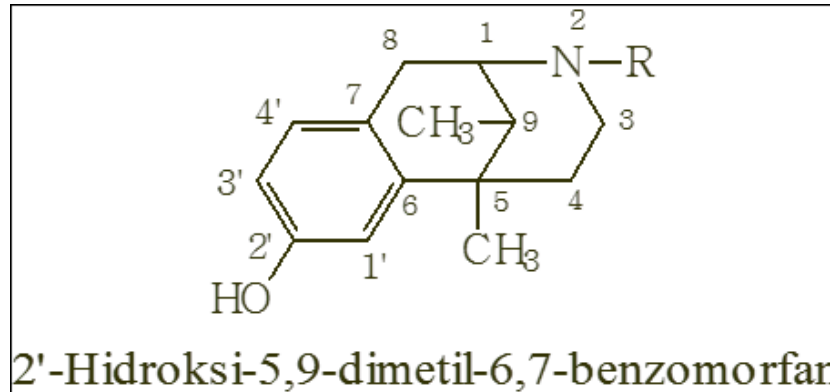
Fentanyl also known as **Fentanil**

Durogesic^R, Fentanyl citrate^R



N-(1-(2-Phenylethyl)-4-piperidinyl)-*N*-phenylpropanamide

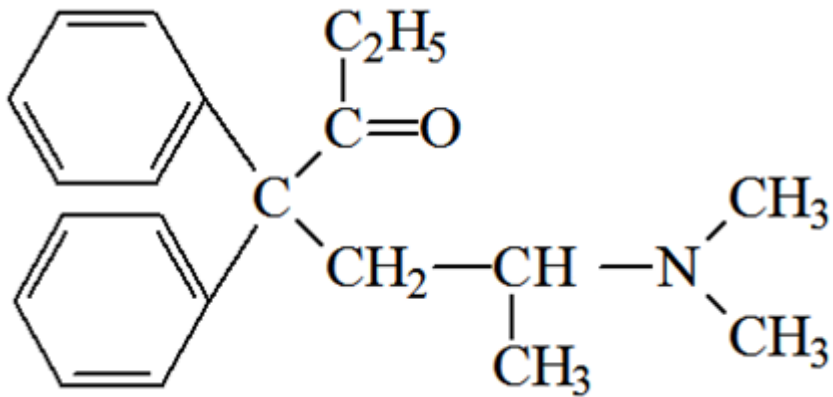
5. BENZOMORPHAN DERIVATIVES



metazocine; R=-CH₃

N-phenethyl derivative (phenazocine)

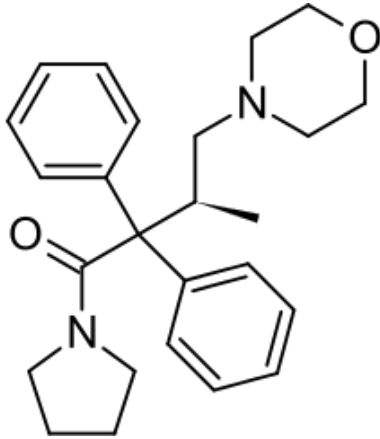
6. METHADONE AND DERIVATIVES



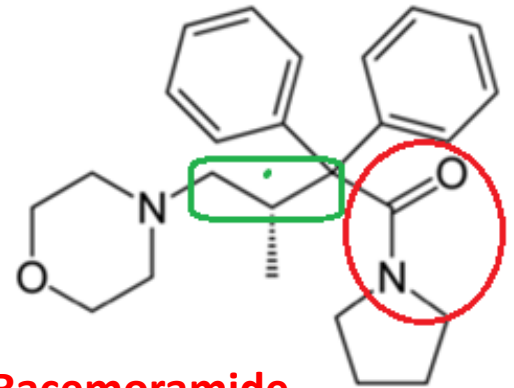
METHADONE

6-(Dimethylamino)-4,4-diphenylheptane-3-one

Dextromoramide



(+) 3-methyl-4-morpholin-4-yl-2,2-diphenyl-1-pyrrolidin-1-yl-butan-1-one

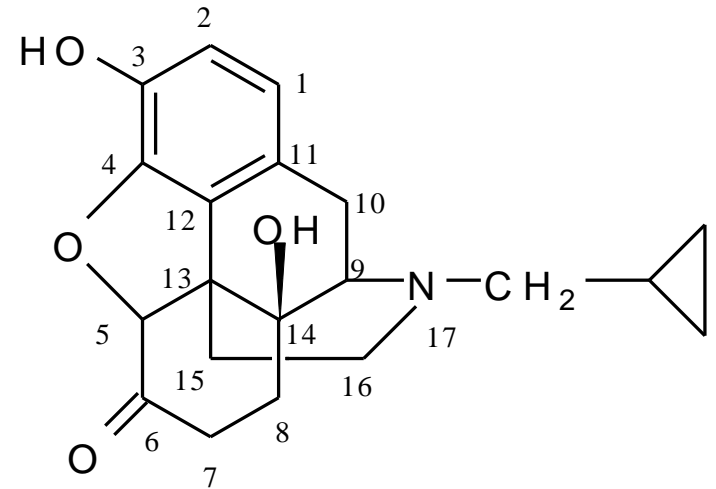
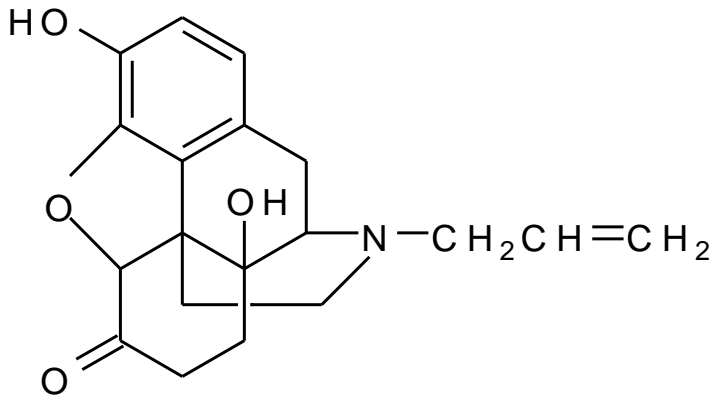
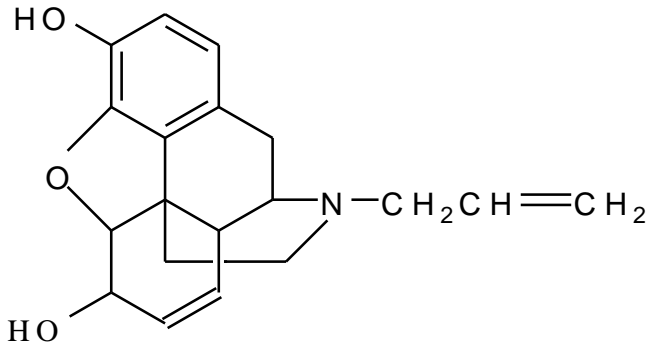


Racemoramide

3-methyl-4-morpholin-4-yl-2,2-diphenyl-1-pyrrolidin-1-yl-butan-1-one

NARCOTIC ANALGESIC ANTAGONISTS

Nalorphine (*N*-allylnormorphine)



Naltrexone

17-(cyclopropylmethyl)-4,5-epoxy-3,14-dihydroxymorphinan-6-one

Naloxone (*N*-Allylnoroxymorphine)