

13.1.3.1. Amitriptyline

Amitriptyline is a dibenzocycloheptene-derivative, an analgesic, and a Tricyclic Antidepressant (TCA).

Molecular Formula: $C_{20}H_{23}N$

IUPAC Nomenclature: 3-(5,6-dihydrodibenzo[2,1-b:2',1'-f][7]annulen-11-ylidene)-N,N-dimethylpropan-1-amine

Properties: Amitriptyline occurs as a white crystalline powder with no odour. It is easily soluble in water, alcohol, and methylene chloride; and insoluble in ether.

Uses: Amitriptyline is used for the treatment of major depressive disorder in adults, for the management of neuropathic pain in adults, for prophylactic treatment of Chronic Tension Type Headache (CTTH) and for the migraine in adults.

Storage Conditions: Amitriptyline should be stored in well-closed light-resistant containers at 20-25°C (68-77°C).

Types of Pharmaceutical Formulation: Tablets.

Brand Names: Amitid, Amitril, Elavil, Endep, and Amitone.

13.1.3.2. Nortriptyline

Nortriptyline is an anti-depressant agent and a metabolite of amitriptyline.

Molecular Formula: $C_{19}H_{21}N$

IUPAC Nomenclature: 3-(5,6-dihydrodibenzo[2,1-b:2',1'-f][7]annulen-11-ylidene)-N-methylpropan-1-amine

Properties: Nortriptyline occurs as a white coloured crystalline powder. It is sparingly soluble in water; and soluble in ethanol and methylene chloride.

Uses: Nortriptyline is a tricyclic antidepressant agent which is used for temporary treatment of depression. It is also used in major depression, dysthymia, and atypical depressions.

Stability and Storage Conditions: Nortriptyline should be stored below 40°C in well-closed and light-, air-, and moisture-proof containers.

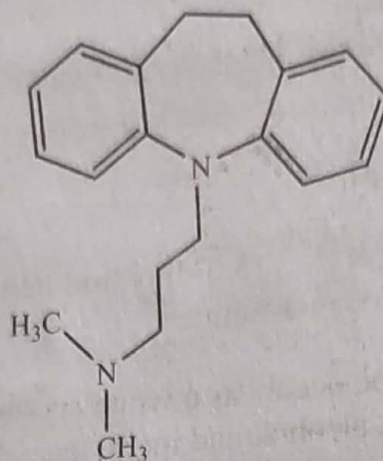
Types of Pharmaceutical Formulations: Capsules and tablets.

Brand Names: Aventyl and Pamelor.

13.1.3.3. Imipramine

Imipramine is a dibenzazepine-derivative and a tricyclic antidepressant. It has a tricyclic ring with an alkyl amine substituent on the central ring.

Chemical Structure



Imipramine

Molecular Formula: $C_{19}H_{24}N_2$

IUPAC Nomenclature: 3-(5,6-dihydrobenzo[b][1]benzazepin-11-yl)-N,N-dimethylpropan-1-amine

Properties: Imipramine occurs as a white coloured crystalline powder with a burning taste. It is readily soluble in water and alcohol; soluble in acetone; and almost insoluble in ether.

Uses: Imipramine is used for relieving the symptoms of depression and as a temporary adjunct for reducing enuresis in children of age 6 years and more. It may also be used unofficially for managing panic disorders with or without agoraphobia, as a second line agent for ADHD in children and teenagers, for managing bulimia nervosa, for temporarily managing acute depressive episodes in bipolar disorder and schizophrenia, for treating acute and post-traumatic stress disorder, and for treating the symptoms of post-herpetic neuralgia and painful diabetic neuropathy.

Stability and Storage Conditions: Imipramine should be stored in air-tight containers, away from children, at room temperature (20-25°C).

Types of Pharmaceutical Formulations: Tablets and capsule.

Brand Names: Tofranil and Tofranil PM.

13.1.3.4. Phenelzine

Phenelzine is a monoamine oxidase inhibiting antidepressant. It is effective for treating panic disorder and social anxiety disorder.

Molecular Formula: $C_8H_{12}N_2$

IUPAC Nomenclature: (2-phenylethyl)hydrazine

Properties: Phenelzine occurs as white coloured powder or pearly platelets. It is insoluble in ethanol and ether; and easily soluble in water.

Uses: Phenelzine is prescribed for treating non-endogenous, neurotic or atypical depression in patients who do not tolerate other forms of therapy.

Stability and Storage Conditions: Phenelzine should be stored in well-closed, air- and light-resistant containers.

Type of Pharmaceutical Formulation: Tablets.

Brand Names: Nardil, Nardelzine.

13.1.3.5. Tranylcypromine

Tranylcypromine is a non-hydrazine MAO inhibitor which is used for treating severe depression.

Molecular Formula: $C_9H_{11}N$

IUPAC Nomenclature: (1R,2S)-2-phenylcyclopropan-1-amine

Properties: Tranylcypromine occurs as a white coloured crystalline powder. It is slightly soluble in ethanol and ether; and soluble in water.

Uses: Tranylcypromine is used for treating major depressive episode without melancholia.

Stability and Storage Conditions: Tranylcypromine should be stored in well-closed, light-resistant containers at 20-25°C (exposable upto 15-30°C).

Type of Pharmaceutical Formulation: Tablets.

Brand Names: Parnale.