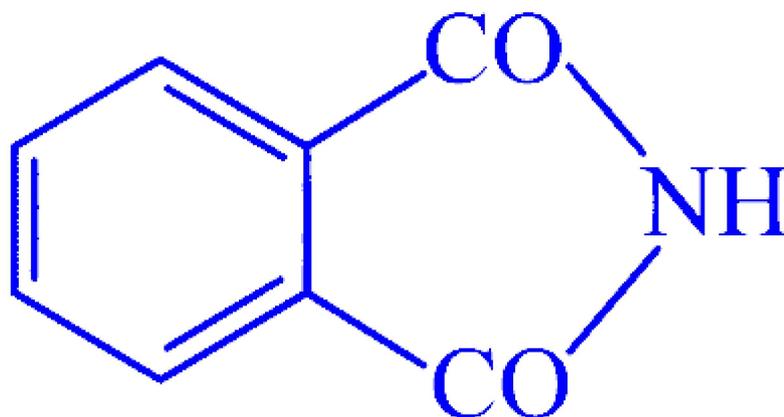


Chemistry in Everyday Life

Question1

The compound



is

KCET 2024

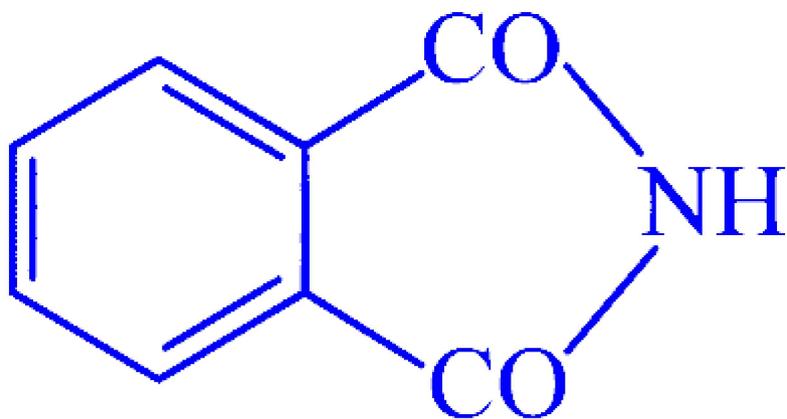
Options:

- A. sucralose
- B. aspartame
- C. saccharin
- D. alitame

Answer: C

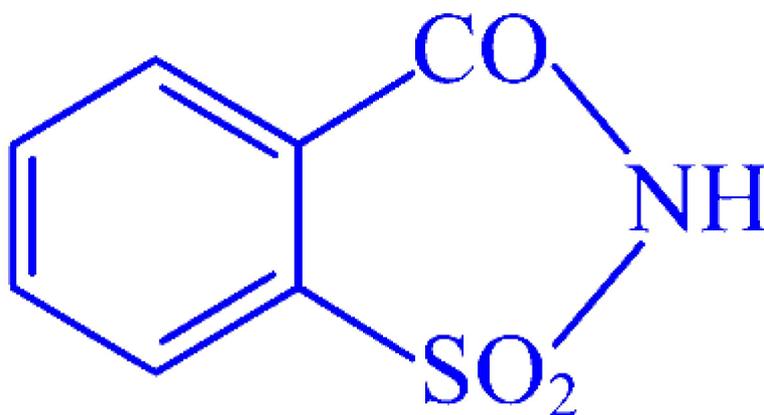
Solution:





The given structure is a phthalimide but no option of phthalimide is given.

However, among the given options it is similar to saccharin. The structure of saccharin is



Question2

Which one of the following is a cationic detergent?

KCET 2024

Options:

- A. Cetyltrimethylammonium bromide
- B. Sodium dodecylbenzene sulphonate
- C. Dodecylbenzene sulphonic acid
- D. Dodecylbenzene

Answer: A



Solution:

Cationic detergents are quaternary ammonium salts of amines with acetates, chlorides or bromides as anions. Among the given options cetyltrimethyl ammonium bromide is a popular cationic detergent. It is used in hair conditioners.

Question3

Which one of the following is a non-narcotic analgesic?

KCET 2023

Options:

A. Heroin

B. Codeine

C. Aspirin

D. Morphine

Answer: C

Solution:

Among the options provided, **Option C: Aspirin** is the correct one that is classified as a non-narcotic analgesic. Let's look at each substance listed to understand why Aspirin is the non-narcotic analgesic among them:

- **Heroin (Option A)** is an opioid, like morphine, and it is a narcotic analgesic. It's known for its high potential for addiction and abuse, and it's not used medically in many countries.
- **Codeine (Option B)** is also an opioid and is considered to be a narcotic analgesic. It is used for its analgesic, antitussive (cough suppressant), and antidiarrheal properties. It has a lower potential for addiction than heroin but is still classified as a narcotic.
- **Aspirin (Option C)** is the only non-narcotic analgesic listed here. Aspirin belongs to a class of drugs known as nonsteroidal anti-inflammatory drugs (NSAIDs). It works by inhibiting the production of prostaglandins, substances in the body that play a role in pain and inflammation. Aspirin is used not only for pain relief but also for its anti-inflammatory and antipyretic (fever-reducing) effects. It can also be used for its antiplatelet effects, which can reduce the risk of a stroke or heart attack.
- **Morphine (Option D)** is a potent opioid analgesic drug that is used to treat severe pain. It is definitely classified as a narcotic, and like heroin, it also has a high potential for addiction and abuse.



Therefore, Aspirin falls under the category of non-narcotic analgesics, primarily because it does not bind to opioid receptors, does not produce euphoria or significant addiction risk when used appropriately, and is widely used as an over-the-counter medication for various pain and inflammatory conditions.

Question4

Which one of the following gases converts haemoglobin into carboxy haemoglobin?

KCET 2023

Options:

- A. CO
- B. O₂
- C. NO
- D. CO₂

Answer: A

Solution:

Carbon monoxide (CO) converts haemoglobin to carboxyhaemoglobin. When CO is inhaled, it binds with haemoglobin in red blood cells with a much higher affinity compared to oxygen.

This binding forms carboxyhaemoglobin which prevents the normal binding of oxygen to haemoglobin, leading to a decreased oxygen-carrying capacity of the blood.

Question5

Which institute has approved the emergency use of 2-deoxy-D-glucose as additive therapy for COVID-19 patients?

KCET 2022



Options:

- A. World Health Organisation
- B. Ministry of Health and Family Welfare
- C. Drug Controller General of India
- D. India Council of Medical Research

Answer: C

Solution:

The institute that has approved the emergency use of 2-deoxy-D-glucose as an adjunct therapy for COVID-19 patients is Option C, the Drug Controller General of India (DCGI). The DCGI is responsible for the regulation of pharmaceuticals and medical devices in India, which includes the approval of drugs for use in the country based on evidence of their safety and efficacy. The DCGI gave emergency use authorization for 2-deoxy-D-glucose, which is developed by the Institute of Nuclear Medicine and Allied Sciences (INMAS), a lab of the Defence Research and Development Organisation (DRDO), in collaboration with Dr. Reddy's Laboratories in Hyderabad.

Question6

Prolonged exposure of chloroform in humans may cause damage to liver. It is due to the formation of the following compound.

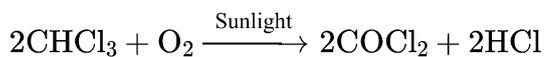
KCET 2020**Options:**

- A. CCl_4
- B. COCl_2
- C. CH_2Cl_2
- D. Cl_2

Answer: B

Solution:

The prolonged exposure of chloroform in humans may cause damage to liver. It is because of the formation of phosgene COCl_2 .



Question7

A food additive that acts as an antioxidant is

KCET 2020

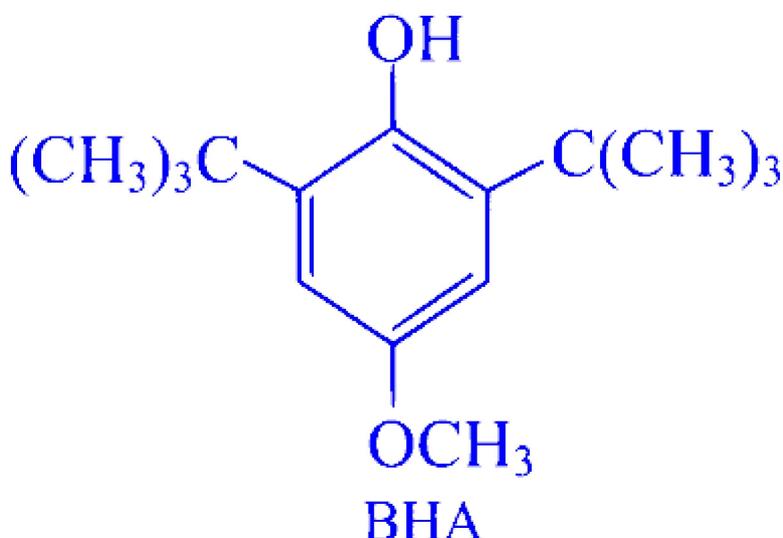
Options:

- A. BHA
- B. saccharin
- C. sugar syrup
- D. salt

Answer: A

Solution:

BHA-Butylated hydroxy anisole acts as a food additive, which works as antioxidant. While saccharin is a sugar substitute and sugar syrup and salt can be used a normal preservatives.



Question8

Which of the following is not related to drug-enzyme interaction?

KCET 2020

Options:

- A. Allosteric site
- B. Antagonist
- C. Co-enzymes
- D. Enzyme inhibitor

Answer: B

Solution:

Antagonist is not related to drug enzyme interaction as antagonist is a substance which interferes with or inhibits the physiological action of another substance. LSD is a serotonin antagonist.

While allosteric site, Co-enzymes and enzymes inhibitors are all related to drug enzyme interaction.

Question9

Anti-histamine among the following is

KCET 2019

Options:

- A. bromopheneramine
- B. morphine
- C. amoxycillin



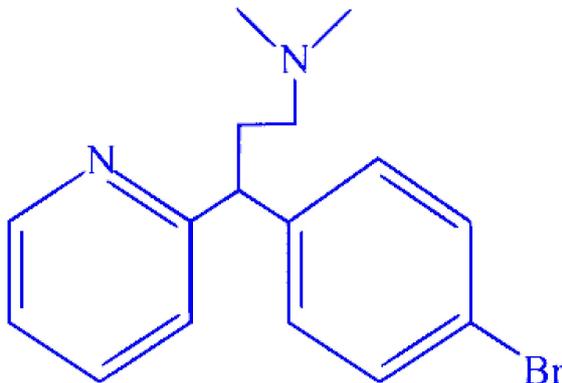
D. chloroxylenol

Answer: A

Solution:

Brompheniramine act as an anti-histamine. This drug interfere with the natural action of histamine by competing with histamine for binding sites of receptor where histamine exerts its effects.

Structure of brompheniramine



Morphine is a narcotic analgesic. Chloroxylenol is an antiseptic and amoxycillin is an antibiotic.

Question10

Bactericidal antibiotics among the following is

KCET 2017

Options:

- A. tetracycline
- B. erythromycin
- C. ofloxacin
- D. chloramphenicol

Answer: C

Solution:

Bactericidal antibiotics kill bacteria directly, the suffix 'cidal' means kill, like in the words homicide or suicide. Thus, ofloxacin is a bactericidal antibiotics.

