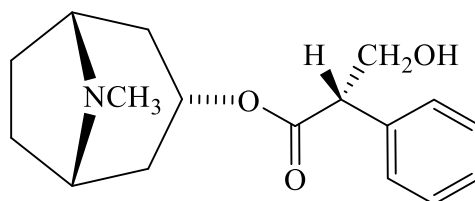
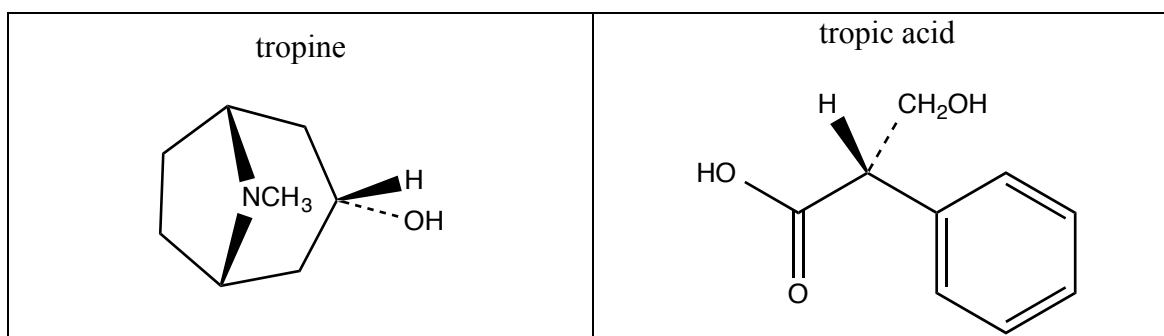


Marks
4

- The tropane alkaloid (–)-hyoscyamine is found in certain plants of the *Solanaceae* family. It is an anticholinergic agent that works by blocking the action of acetylcholine at parasympathetic sites in smooth muscle, secretory glands and the central nervous system.



Hydrolysis of (–)-hyoscyamine results in two fragments, tropine and tropic acid. Draw each of these fragments.



What is the stereochemistry at the tropic acid stereocentre? Write (*R*) or (*S*).

(S)

Is tropine optically active? Explain your answer.

Tropine is not optically active. It has no chiral centre and is identical to its mirror image.