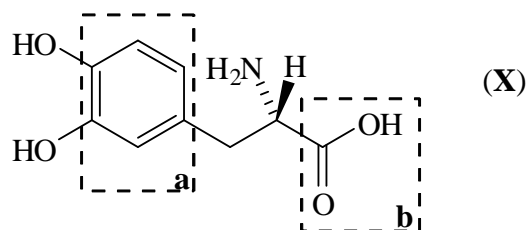


- Dopa is a non-proteinogenic amino acid used to treat Parkinson's disease. Only the enantiomer (**X**) is effective in restoring nerve function. The other enantiomer is highly toxic.



What is the molecular formula of (**X**)?



List the substituents attached to the stereogenic centre in descending order of priority according to the sequence rules.

highest priority			lowest priority
—NH ₂	—COOH	—CH ₂ —	—H

What is the absolute stereochemistry of (**X**)? Write (*R*) or (*S*).

(**S**)

Name the functional groups, highlighted by the boxes **a** and **b**, present in (**X**).

a = arene (aromatic ring)

b = carboxylic acid

Give the constitutional formula of the product obtained when (**X**) is treated with NaHCO₃.

