• 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.

Marks 7

$$\begin{array}{c|c} HO & & & \\ & & & \\ HO & & & \\ & & & \\ HO & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ \end{array}$$

What is the molecular formula of (X)?

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

$$a = b =$$