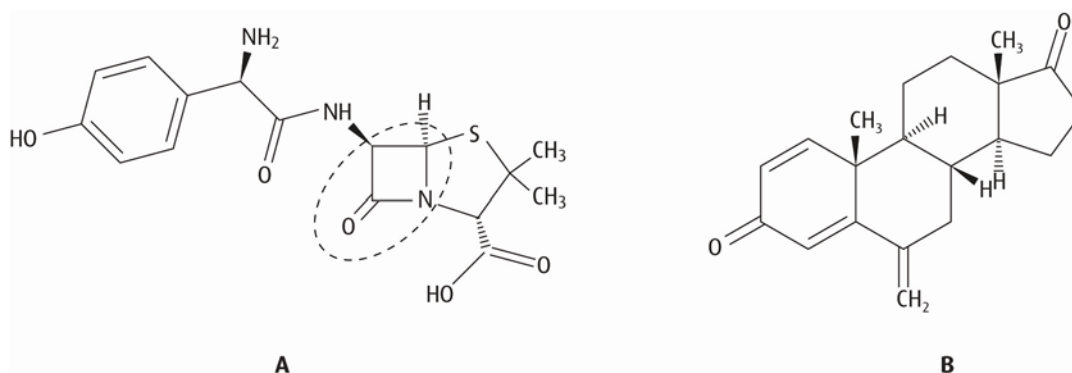
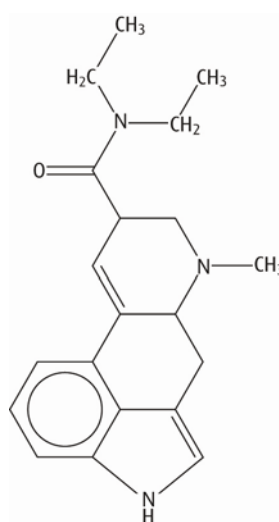


AHL Worksheet – Option D

- 1 **a** Draw the structures of the two isomers of $\text{Pt}(\text{NH}_3)_2\text{Cl}_2$. [2]
 b Explain which isomer is effective as an anti-cancer drug. [2]
 c State the oxidation number of Pt in $\text{Pt}(\text{NH}_3)_2\text{Cl}_2$. [1]
- 2 The structures of two drug molecules are shown below.

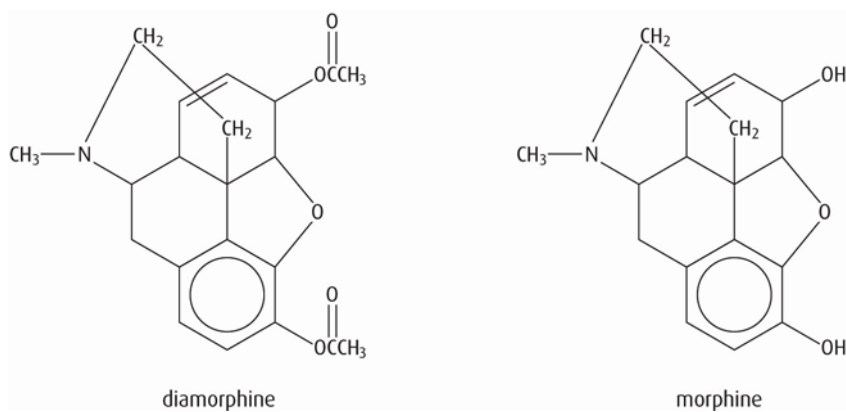


- a** State how many chiral centres are present in molecule A. [1]
 b State the name of the structural feature circled in molecule A. [1]
 c State the names of the functional groups present in molecule B. [2]
- 3 The structure of LSD is shown below.



- a** Circle and label the indole ring in the molecule. [1]
 b Circle and label an amide group in the molecule. [1]

- 4 The structures of diamorphine (heroin) and morphine are shown below.



- a State the name of a functional group that is present in diamorphine but not in morphine. [1]
- b Explain the increased potency of diamorphine as an analgesic compared to morphine. [2]