

M1.(a) 2-deoxyribose 1

(b) Base A 1
If Base B stated, allow 1 mark only for response including hydrogen bonding

Top N–H forms hydrogen bonds to lone pair on O of guanine 1

The lone pair of electrons on N bonds to H–N of guanine 1

A lone pair of electrons on O bonds to lower H–N of guanine 1
Allow all 4 marks for a correct diagram showing the hydrogen bonding
Students could also answer this question using labels on the diagram

(c) Allow either of the nitrogen atoms with a lone pair NOT involved in bonding to cytosine 1

(d) Use in very small amounts / target the application to the tumour 1

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M2. (a) $\text{Pt}(\text{NH}_3)_2\text{Cl}_2 + \text{H}_2\text{O} \rightarrow [\text{Pt}(\text{NH}_3)_2\text{Cl}(\text{H}_2\text{O})]^+ + \text{Cl}^-$

Correct product

1

Balanced equation	1
(b) (i) Hydrogen bond	1
Oxygen (or nitrogen)	
<i>Only score this mark if type of bond is correct</i>	1
(ii) Co-ordinate	1
Nitrogen (or oxygen)	
<i>Bond type must be correct to score this mark but allow M2 if bond is covalent</i>	1
(c) Killing them or causing damage (medical side effects)	
<i>Allow any correct side effect (e.g. hair loss)</i>	
<i>Allow kills healthy (or normal) cells</i>	1
May attach to DNA in normal cells	1

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