Question 5 – Stereochemistry

NB. ‘Half a question’ (out of 12.5 marks)

Answer part (a) and EITHER part (b) OR part (c) of this question.

a) Assign (R) or (S) absolute stereochemical descriptors to all stereogenic centres in the following three molecules. Show your working.

\[ \text{Me} \text{Me} \text{CHO} \quad \text{Me} \text{Cl} \text{Cl} \text{Ph} \quad \text{OHC} \text{H} \text{Ph} \]

(6.5 marks)

b) Only one of the following molecules has a dissymmetric enantiomeric form. Draw this enantiomer.

\[ \text{Ph} \text{Ph} \text{Ph} \quad \text{Ph} \text{Ph} \text{Ph} \quad \text{Ph} \text{Ph} \text{Ph} \]

(6 marks)

c) Only one of the following molecules is a meso compound. Which is it and why?

\[ \text{CO}_2\text{Me} \text{CO}_2\text{Me} \quad \text{CO}_2\text{Me} \text{CO}_2\text{Me} \quad \text{CO}_2\text{Me} \text{CO}_2\text{Me} \]

(6 marks)