

11. Which of the following pairs of molecules can form peptide bonds with each other?

(i)	$ \begin{array}{cccc} \text{H} & \text{H} & \text{H} & \text{H} \\ & & & \\ \text{HO}-\text{C} & -\text{C}- & \text{C}- & \text{C}-\text{OH} \\ & & & \\ \text{H} & \text{H} & \text{H} & \text{H} \end{array} $ <p>butan-1,4-diol</p>	$ \begin{array}{cccc} \text{H} & \text{H} & \text{H} & \text{H} \\ & & & \\ \text{H}_2\text{N}-\text{C} & -\text{C}- & \text{C}- & \text{C}-\text{NH}_2 \\ & & & \\ \text{H} & \text{H} & \text{H} & \text{H} \end{array} $ <p>butan-1,4-diamine</p>
(ii)	$ \begin{array}{c} \text{CH}_2-\text{C}_6\text{H}_4-\text{OH} \\ \\ \text{H}_2\text{N}-\text{CH}-\text{COOH} \end{array} $ <p>tyrosine</p>	$ \begin{array}{c} \text{CH}_2-\text{C}_6\text{H}_4-\text{OH} \\ \\ \text{H}_2\text{N}-\text{CH}-\text{COOH} \end{array} $ <p>tyrosine</p>
(iii)	$ \begin{array}{c} \text{CH}_3-\text{CH}-\text{CH}_3 \\ \\ \text{H}_2\text{N}-\text{CH}-\text{COOH} \end{array} $ <p>valine</p>	$ \begin{array}{c} \text{CH}_2-\text{C}_6\text{H}_5 \\ \\ \text{H}_2\text{N}-\text{CH}-\text{COOH} \end{array} $ <p>phenylalanine</p>
(iv)	$ \begin{array}{ccc} \text{H} & \text{H} & \\ & & \\ \text{H}-\text{C} & -\text{C}- & \text{O}-\text{H} \\ & & \\ \text{H} & \text{H} & \end{array} $ <p>ethanol</p>	$ \begin{array}{ccc} \text{H} & \text{H} & \text{O} \\ & & // \\ \text{H}-\text{C} & -\text{C}- & \text{C} \\ & & \backslash \\ \text{H} & \text{H} & \text{O}-\text{H} \end{array} $ <p>butanoic acid</p>

- (a) i and iv only
- (b) ii and iii only
- (c) i, ii and iii only
- (d) i, ii, iii and iv