

4 A coral reef is an underwater ecosystem.

The photograph shows a coral reef in the Caribbean.



(Source: © Belize / Alamy Stock Photo)

A photosynthetic bacterium found on these coral reefs produces a chemical called curacin A.

This chemical has been found to be effective against some colon and kidney cancers.

(a) Large quantities of this organism need to be grown in a culture medium in order to extract enough curacin A.

The culture is kept at the optimum temperature for the growth of this bacterium.

Suggest **two** other conditions that would be needed for maximum growth of this bacterium.

(2)

1

2

(b) Scientists conduct experiments to determine the effectiveness and safety of new drugs.

(i) Which of the following scientists tested the effectiveness of digitalis soup?

(1)

- A Adolf Fick
- B Matthew Meselson and Franklin Stahl
- C Godfrey Hardy and Wilhelm Weinberg
- D William Withering