

Marks
6

- Write down an equation representing the decay mechanism of ^{14}C .

The half-life of ^{14}C is 5730 years. What is the activity of precisely 1 g of this isotope, given that each atom weighs 14.00 amu? Give your answer in Bq.

Answer:

Carbon-14 is used as a radioactive tracer in the urea breath test, a diagnostic test for *Helicobacter pylori*. Name an instrument which can be used to detect radioactive carbon dioxide in the breath of a patient.

A patient ingests 1.00 g of urea with a total activity of 1.00 μCi . What is the percentage, by weight, of carbon-14 in this sample?

Answer: