Answer on Question #47940 – Chemistry – Other

Question:

A pure gold ring contains 0.0116mmol(millimol) Au.

How many gold atoms does it contain?.

Answer:

According to the definition of mole: 1 mole of substance consists of 6.022×10^{23} elementary entities of that substance;

$$\textbf{1 mole} = \textbf{6.022}\times\textbf{10}^{\textbf{23}}$$

it means that in $\textbf{0.0166}\times\textbf{10}^{\textbf{-3}}$ **moles** of Au will be **x** elementary entities of that substance (**atoms**) of Au.

From this proportion $x = 0.0166\times10^{-3}\times6.022\times10^{23}/1 = 0.0999652\times10^{20} \approx \textbf{0.1}\times\textbf{10}^{\textbf{20}}$ atoms of Au.

Answer: $\textbf{0.1}\times\textbf{10}^{\textbf{20}}$ **atoms of Au**