

In Carius method of estimation of halogens, 250 mg of an organic compound gave 141 mg of AgBr. The percentage of bromine in the compound is: (at. Mass Ag = 108; Br = 80)

A 48

B 60

C 36

D 24

Explanation

Mass of substance = 250 mg = 0.250 g

Mass of $AgBr$ = 141 mg = 0.141 g

1 mole of $AgBr$ = 1 g atom of Br

188 g of $AgBr$ = 80 g of Br

188 g of $AgBr$ contain bromine = 80 g

0.141 g of $AgBr$ contain bromine = $\frac{80}{188} \times 0.141$

This much amount of bromine present in 0.250 g of organic compound

\therefore % of bromine = $\frac{80}{188} \times \frac{0.141}{0.250} \times 100 = 24\%$