Answer on Question #48491 – Chemistry – Organic Chemistry

Fungal laccase, a blue protein found in wood-rotting fungi, is 0.390% Cu by mass. If a fungal laccase molecule contains 4 copper atoms, what is the molar mass of fungal laccase? Please provide the correct number of significant figures!

Solution:

\[
W(Cu) = \frac{m(Cu)}{m(molecule)} = \frac{nM(Cu)}{M(molecule)};
\]

\(n\) – the number of atoms Cu in 1 molecule;

\(M\) – the molar mass (g/mol);

\(M(Cu) = 63.546\) g/mol;

\(n = 4;\)

\(M(molecule) = \frac{nM(Cu)}{W(Cu)};
\)

\(M(molecule) = 65175.4\) g/mol = 65.2*10^3 g/mol;

**Answer**: 65.2*10^3 g/mol.