

LAMPIRAN A

Perhitungan massa bahan dasar sampel BSCCO-2223 dengan $\text{CaCO}_3 = 2,10$

Tabel 2. Berat Molekul (BM) senyawa penyusun BSCCO-2223 dengan kadar $\text{CaCO}_3 = 2,10$

Bahan	Berat Molekul (BM) (gram/mol)	Fraksi	Jumlah Atom
Bi_2O_3	465,9589	2,00	2
SrCO_3	147,6292	2,00	1
CaCO_3	100,0872	2,10	1
CuO	79,5454	3,00	1

➤ Perhitungan BM-X total

$$\text{BM-X } (\text{Bi}_2\text{O}_3) = \text{BM} \times \left(\frac{1}{\text{jumlah atom}} \right) \times \text{fraksi}$$

$$= 465,9589 \times \left(\frac{1}{2} \right) \times 2,00$$

$$= 465,9589 \text{ gram/mol}$$

$$\text{BM-X } (\text{SrCO}_3) = 147,6292 \times \left(\frac{1}{1} \right) \times 2,00$$

$$= 295,2584 \text{ gram/mol}$$

$$\text{BM-X } (\text{CaCO}_3) = 100,0872 \times \left(\frac{1}{1} \right) \times 2,10$$

$$= 210,1831 \text{ gram/mol}$$

$$\text{BM-X } (\text{CuO}) = 79,5454 \times \left(\frac{1}{1} \right) \times 3,00$$

$$= 238.6362 \text{ gram/mol}$$

$$\begin{aligned} \text{BM-X Total} &= \text{BM-X } (\text{Bi}_2\text{O}_3) + \text{BM-X } (\text{SrCO}_3) + \text{BM-X } (\text{CaCO}_3) + \\ &\quad \text{BM-X } (\text{CuO}) \end{aligned}$$

$$= 465,9589 + 295,2584 + 210,1831 + 238.6362$$

$$= 1210,0366 \text{ gram/mol}$$

➤ Perhitungan untuk membuat 3 gram sampel

$$\begin{aligned}\text{BB (Bi}_2\text{O}_3) &= \frac{BM-X}{BM-X \text{ Total}} \times \sum \text{berat sampel} \\ &= \frac{465,9589}{1210,0366} \times \sum 3 \text{ gram} \\ &= 1,1553 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{BB (SrCO}_3) &= \frac{295,2584}{1210,0366} \times \sum 3 \text{ gram} \\ &= 0,7320 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{BB (CaCO}_3) &= \frac{210,1831}{1210,0366} \times \sum 3 \text{ gram} \\ &= 0,5211 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{BB (CuO)} &= \frac{238,6362}{1210,0366} \times \sum 3 \text{ gram} \\ &= 0,5916 \text{ gram}\end{aligned}$$