

LAMPIRAN 2 PERHITUNGAN

1. Kadar Air

a. Sampel 1

$$m_1 = 43$$

$$m_2 = 48$$

$$m_3 = 47,57$$

$$(\%) = \frac{m_2 - m_3}{m_2 - m_1} \times 100 \%$$

$$\begin{aligned}(\%) &= \frac{48 - 47,57}{48 - 43} \times 100 \% \\ &= 0,90 \%\end{aligned}$$

b. Sampel 2

$$m_1 = 36,90$$

$$m_2 = 41,91$$

$$m_3 = 41,64$$

$$(\%) = \frac{m_2 - m_3}{m_2 - m_1} \times 100 \%$$

$$\begin{aligned}(\%) &= \frac{41,91 - 41,64}{41,91 - 36,90} \times 100 \% \\ &= 0,64 \%\end{aligned}$$

c. Sampel 3

$$m_1 = 30,29$$

$$m_2 = 35,29$$

$$m_3 = 34,83$$

$$(\%) = \frac{m_2 - m_3}{m_2 - m_1} \times 100 \%$$

$$\begin{aligned}(\%) &= \frac{35,29 - 34,83}{35,29 - 30,29} \times 100 \% \\ &= 0,64 \%\end{aligned}$$

$$= 1,32 \%$$

d. Sampel 4

$$m_1 = 43$$

$$m_2 = 48,01$$

$$m_3 = 47,05$$

$$(\%) = \frac{m_2 - m_3}{m_2 - m_1} \times 100 \%$$

$$(\%) = \frac{48,01 - 47,05}{48,01 - 43} \times 100 \%$$

$$= 1,99 \%$$

e. Sampel 5

$$m_1 = 27,76$$

$$m_2 = 32,76$$

$$m_3 = 31,75$$

$$(\%) = \frac{m_2 - m_3}{m_2 - m_1} \times 100 \%$$

$$(\%) = \frac{32,76 - 31,75}{31,75 - 27,76} \times 100 \%$$

$$= 3,08 \%$$

Keterangan :

m_1 = massa botol timbang dan tutup (gram)

m_2 = massa botol timbang + tutup + sampel sebelum pemanasan (gram)

m_3 = massa botol timbang + tutup + sampel setelah pemanasan (gram)

2. Kadar Abu

a. Sampel 1

$$m_1 = 44,98$$

$$m_2 = 27,98$$

$$m_3 = 22,86$$

$$(\%) = \frac{m_3 - m_1}{m_2 - m_1} \times 100\%$$

$$\begin{aligned}(\%) &= \frac{22,86 - 44,98}{27,98 - 44,98} \times 100\% \\ &= 8,98 \%\end{aligned}$$

b. Sampel 2

$$m_1 = 27,75$$

$$m_2 = 28,75$$

$$m_3 = 27,83$$

$$(\%) = \frac{m_3 - m_1}{m_2 - m_1} \times 100\%$$

$$\begin{aligned}(\%) &= \frac{27,83 - 27,75}{28,75 - 27,75} \times 100\% \\ &= 7,91 \%\end{aligned}$$

c. Sampel 3

$$m_1 = 22,86$$

$$m_2 = 23,91$$

$$m_3 = 22,94$$

$$(\%) = \frac{m_3 - m_1}{m_2 - m_1} \times 100\%$$

$$\begin{aligned}(\%) &= \frac{22,91 - 22,86}{23,91 - 22,86} \times 100\% \\ &= 7,59 \%\end{aligned}$$

d. Sampel 4

$$m_1 = 21,78$$

$$m_2 = 22,80$$

$$m_3 = 13,95$$

$$\begin{aligned}
 (\%) &= \frac{m_3 - m_1}{m_2 - m_1} \times 100\% \\
 (\%) &= \frac{13,95 - 21,78}{22,80 - 21,78} \times 100\% \\
 &= 6,97 \%
 \end{aligned}$$

e. Sampel 5

$$m_1 = 13,88$$

$$m_2 = 14,97$$

$$m_3 = 13,95$$

$$\begin{aligned}
 (\%) &= \frac{m_3 - m_1}{m_2 - m_1} \times 100\% \\
 (\%) &= \frac{13,95 - 13,88}{14,97 - 13,88} \times 100\% \\
 &= 5,98 \%
 \end{aligned}$$

Keterangan:

m_1 = berat cawan kosong (gram)

m_2 = berat cawan dengan sampel (gram)

m_3 = berat cawan ditambah abu (gram)

3. Nilai Karbon Tetap

a. Sampel 1

$$IM = 0,89$$

$$AC = 8,98$$

$$VM = 32,37$$

$$\begin{aligned}
 FC &= 100\% - (IM + AC + VM) \\
 &= 100\% - (0,89 + 8,98 + 32,37) \\
 &= 57,74 \%
 \end{aligned}$$

b. Sampel 2

$$IM = 0,63$$

$$AC = 7,91$$

$$VM = 32,03$$

$$\begin{aligned} FC &= 100\% - (IM + AC + VM) \\ &= 100\% - (0,63 + 7,91 + 32,03) \\ &= 59,41\% \end{aligned}$$

c. Sampel 3

$$IM = 1,32$$

$$AC = 7,50$$

$$VM = 33,25$$

$$\begin{aligned} FC &= 100\% - (IM + AC + VM) \\ &= 100\% - (1,32 + 7,50 + 33,25) \\ &= 57,92\% \end{aligned}$$

d. Sampel 4

$$IM = 1,98$$

$$AC = 6,97$$

$$VM = 38,53$$

$$\begin{aligned} FC &= 100\% - (IM + AC + VM) \\ &= 100\% - (1,98 + 6,97 + 38,53) \\ &= 52,50\% \end{aligned}$$

e. Sampel 5

$$IM = 3,07$$

$$AC = 5,98$$

$$VM = 38,87$$

$$\begin{aligned} FC &= 100\% - (IM + AC + VM) \\ &= 100\% - (3,07 + 5,98 + 38,87) \\ &= 52,07\% \end{aligned}$$

Keterangan :

FC = kadar karbon padat

IM = kadar air lembab

AC = kadar abu

VM = kadar zat terbang