

LAMPIRAN

Lampiran 1. Perhitungan Hasil Analisa

- **Rendemen**

Rumus massa minyak = densitas minyak x volume minyak

$$\text{Variabel 1} = 0,966 \text{ gr/ml} \times 60 \text{ ml} = 57,96 \text{ gram}$$

$$\text{Variabel 2} = 0,960 \text{ gr/ml} \times 73 \text{ ml} = 70,08 \text{ gram}$$

$$\text{Variabel 3} = 0,958 \text{ gr/ml} \times 77 \text{ ml} = 73,76 \text{ gram}$$

$$\text{Variabel 4} = 0,956 \text{ gr/ml} \times 90 \text{ ml} = 86,04 \text{ gram}$$

$$\% \text{ Rendemen} = \frac{\text{massa minyak yang terekstrak (gr)}}{\text{massa sampel (gr)}} \times 100\%$$

$$\text{Variabel 1} = \frac{57,96 \text{ gr}}{300 \text{ gr}} \times 100\% = 19,32 \%$$

$$\text{Variabel 2} = \frac{70,08 \text{ gr}}{300 \text{ gr}} \times 100\% = 23,36 \%$$

$$\text{Variabel 3} = \frac{73,76 \text{ gr}}{300 \text{ gr}} \times 100\% = 24,58 \%$$

$$\text{Variabel 4} = \frac{86,04 \text{ gr}}{300 \text{ gr}} \times 100\% = 28,68 \%$$

- **Densitas Minyak Biji Mete**

$$\rho = \frac{(\text{massa pikno isi minyak} - \text{massa pikno kosong}) \text{ gr}}{\text{volume pikno yang digunakan (ml)}}$$

$$\text{Variabel 1} = \frac{(19,57 - 9,91) \text{ gr}}{10 \text{ ml}} = 0,966 \text{ gr/ml}$$

$$\text{Variabel 2} = \frac{(19,49 - 9,91) \text{ gr}}{10 \text{ ml}} = 0,958 \text{ gr/ml}$$

$$\text{Variabel 3} = \frac{(19,51 - 9,91) \text{ gr}}{10 \text{ ml}} = 0,960 \text{ gr/ml}$$

$$\text{Variabel 4} = \frac{(19,47 - 9,91) \text{ gr}}{10 \text{ ml}} = 0,956 \text{ gr/ml}$$

6.3.3 Viskositas Minyak Biji Mete

$$i_x = \frac{t_x d_x}{t_0 d_0} \cdot i_0$$

$$\text{Variabel 1} = \frac{21,6 \text{ s} \times 0,966 \text{ gr/ml}}{1,1 \text{ s} \times 1 \text{ gr/ml}} \cdot 1,004 \text{ cP} = 19,04 \text{ cp}$$

$$\text{Variabel 2} = \frac{21,5 \text{ s} \times 0,958 \text{ gr/ml}}{1,1 \text{ s} \times 1 \text{ gr/ml}} \cdot 1,004 \text{ cP} = 18,79 \text{ cp}$$

$$\text{Variabel 3} = \frac{21,7 \text{ s} \times 0,960 \text{ gr/ml}}{1,1 \text{ s} \times 1 \text{ gr/ml}} \cdot 1,004 \text{ cP} = 19,01 \text{ cp}$$

$$\text{Variabel 4} = \frac{21,4 \text{ s} \times 0,956 \text{ gr/ml}}{1,1 \text{ s} \times 1 \text{ gr/ml}} \cdot 1,004 \text{ cP} = 18,67 \text{ cp}$$

6.3.4 Angka Asam Minyak Biji Mete

$$\text{Rumus} = \frac{56,1 \times \text{ml KOH yang dibutuhkan} \times \text{normalitas KOH}}{\text{massa sampel (gr)}}$$

Massa sampel = densitas x volume minyak yang digunakan

$$\text{Variabel 1} = \frac{56,1 \times 2,5 \text{ ml} \times 0,1 \text{ N}}{5 \text{ gr}} = 2,81$$

$$\text{Variabel 2} = \frac{56,1 \times 2,7 \text{ ml} \times 0,1 \text{ N}}{5 \text{ gr}} = 3,03$$

$$\text{Variabel 3} = \frac{56,1 \times 2,9 \text{ ml} \times 0,1 \text{ N}}{5 \text{ gr}} = 2,25$$

$$\text{Variabel 4} = \frac{56,1 \times 2,6 \text{ ml} \times 0,1 \text{ N}}{5 \text{ gr}} = 2,92$$

6.3.5 Angka Penyabunan Minyak Biji Mete

$$\text{Rumus} = \frac{(\text{titrasi blanko} - \text{titrasi sampel}) \text{ ml} \times \text{N HCl} \times 56,1}{\text{massa sampel (gr)}}$$

$$\text{Variabel 1} = \frac{(36,7 - 13,6) \text{ ml} \times 1 \text{ N} \times 56,1}{9,28 \text{ gr}} = 139,64$$

$$\text{Variabel 2} = \frac{(36,7 - 13,8) \text{ ml} \times 1 \text{ N} \times 56,1}{9,28 \text{ gr}} = 138,43$$

$$\text{Variabel 3} = \frac{(36,7 - 14) \text{ ml} \times 1 \text{ N} \times 56,1}{9,28 \text{ gr}} = 137,22$$

$$\text{Variabel 4} = \frac{(36,7 - 14,1) \text{ ml} \times 1 \text{ N} \times 56,1}{9,28 \text{ gr}} = 136,62$$

- **Bilangan Peroksida Minyak Biji Mete**

$$\text{Rumus} = \frac{(\text{ml Tio}) \times N \text{ Tio} \times 0,008 \times 100}{\text{massa sampel (gr)}}$$

ml Tio = titrasi sampel – titrasi blanko

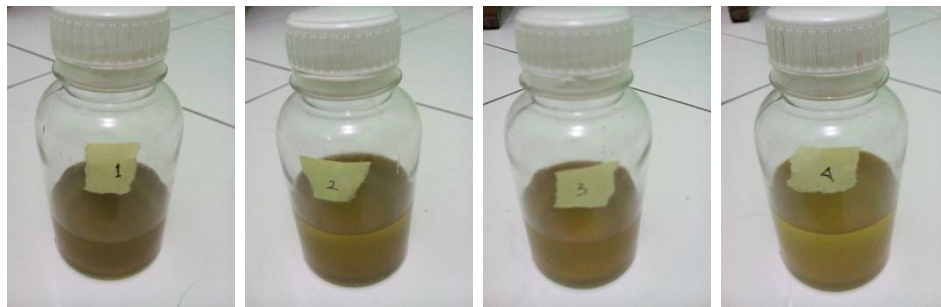
$$\text{Variabel 1} = \frac{(11,7 \text{ ml} - 0,4 \text{ ml}) \times 0,1N \times 0,008 \times 100}{5 \text{ gr}} = 0,181 \text{ mEk/gr}$$

$$\text{Variabel 2} = \frac{(11,9 \text{ ml} - 0,4 \text{ ml}) \times 0,1N \times 0,008 \times 100}{5 \text{ gr}} = 0,184 \text{ mEk/gr}$$

$$\text{Variabel 3} = \frac{(12,5 \text{ ml} - 0,4 \text{ ml}) \times 0,1N \times 0,008 \times 100}{5 \text{ gr}} = 0,193 \text{ mEk/gr}$$

$$\text{Variabel 4} = \frac{(12,8 \text{ ml} - 0,4 \text{ ml}) \times 0,1N \times 0,008 \times 100}{5 \text{ gr}} = 0,198 \text{ mEk/gr}$$

Lampiran 2. Foto Hasil Pengamatan



Gambar 12. Hasil minyak kacang Mete



Gambar 13. Angka asam sebelum titrasi



Gambar 14. Angka asam sesudah titrasi



Gambar 15. Blanko sebelum dan sesudah titrasi



Gambar 16. Angka penyabunan sebelum titrasi



Gambar 17. Angka penyabunan setelah titrasi



Gambar 18. Angka peroksida sebelum titrasi



Gambar 19. Angka peroksida sesudah titrasi