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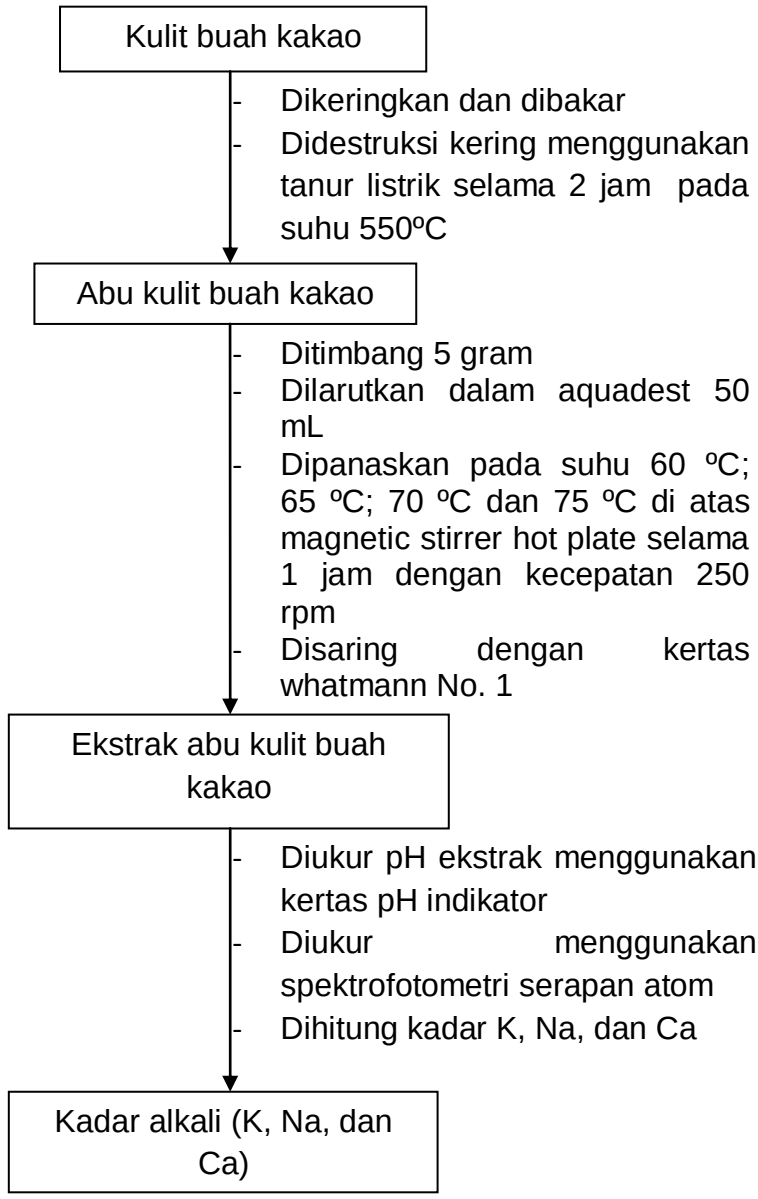
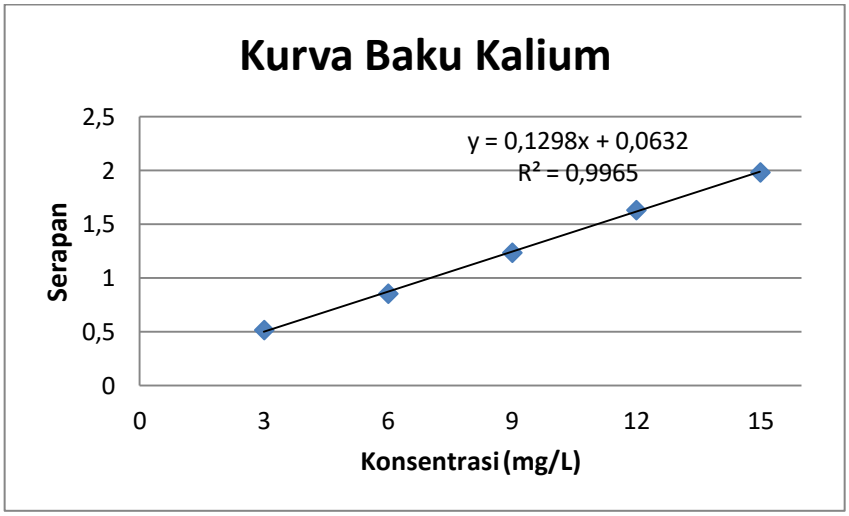
LAMPIRAN

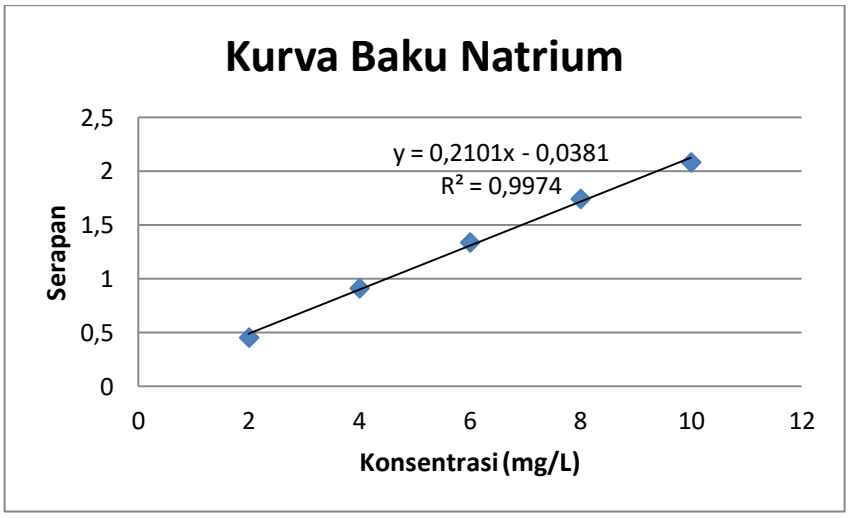
Lampiran 1. Skema Kerja Penelitian



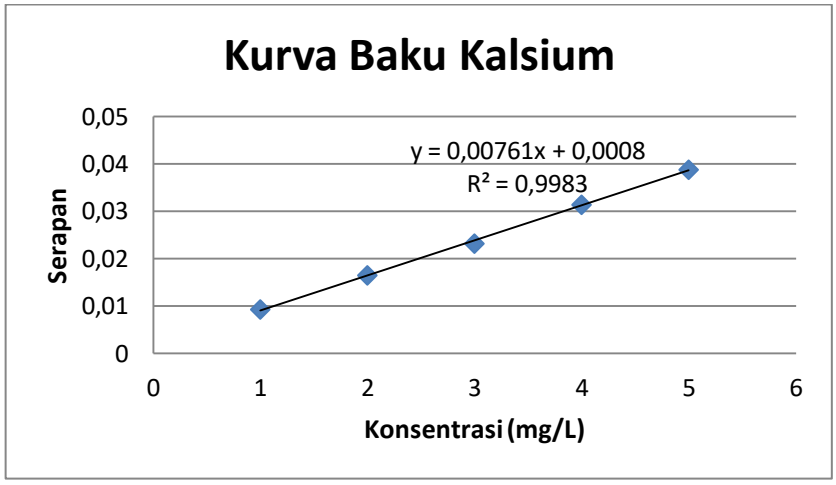
Lampiran 2. Kurva Baku



Gambar 6. Persamaan Kurva Baku Kalium



Gambar 7. Persamaan Kurva Baku Natrium

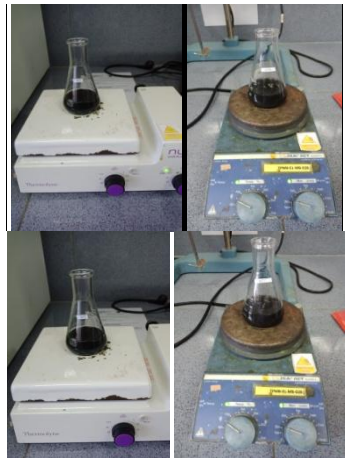


Gambar 8. Persamaan Kurva Baku Kalsium

Lampiran 3. Gambar Penelitian

Gambar 9. Proses pengabuan kulit buah kakao

Gambar 10. Proses penimbangan abu kulit buah kakao



Gambar 11. Proses ekstraksi alkali dari abu kulit buah kakao

Gambar 12. Proses penyaringan ekstrak abu kulit buah kakao

Gambar 13. Volume ekstrak dicukupkan dalam labu tentukur 50 mL

Gambar 14. Proses pengukuran pH ekstrak

Gambar 15. Analisis kadar logam alkali dalam ekstrak

Lampiran 4. Perhitungan

Kadar mineral (mg/L) = $\frac{\text{konsentrasi (mg/L) x volume (mL)x faktor pengenceran}}{\text{berat sampel (g)}}$

%kadar mineral = $\frac{\text{kadar mineral (bpj)}}{10000}$

Lampiran 4.1 Perhitungan Kadar Kalium

- Suhu 60ºC

6,6419 – 0,4821 = 6,1598

Kadar kalium (mg/L) = $\frac{6{,}1598 \text{ x } 50 \text{ x } 2000}{5{,}0007}$

Kadar kalium (mg/L) = 123178,7550

%kadar kalium = $\frac{123178{,}7550}{10000}$

%kadar kalium = 12,32%

- Suhu 65ºC

11,4756 – 0,4821 = 10,9935

Kadar kalium (mg/L) = $\frac{10{,}9935 \text{ x } 50 \text{ x } 2000}{5{,}0000}$

Kadar kalium (mg/L) = 219870

%kadar kalium = $\frac{219870}{10000}$

%kadar kalium = 21,99%

- Suhu 70ºC

10,5069 – 0,4821 = 10,0248

Kadar kalium (mg/L) = $\frac{10{,}0248 \text{ x } 50 \text{ x } 2000}{5{,}0008}$

Kadar kalium (mg/L) = 200463,9258

%kadar kalium = $\frac{200463{,}9258}{10000}$

%kadar kalium = 20,05%

- Suhu 75ºC

10,5290 – 0,4821 = 10,0469

Kadar kalium (mg/L) = $\frac{10,0469 \text{ x } 50 \text{ x } 2000}{5,0009}$

Kadar kalium (mg/L) = 200901,8377

%kadar kalium = $\frac{200901,8377}{10000}$

%kadar kalium = 20,09%

Lampiran 4.2 Perhitungan Kadar Natrium

- Suhu 60ºC

7,1729 – (-0,0006) = 7,1735

Kadar natrium (mg/L) = $\frac{7,1735 \text{ x } 50}{5,0007}$

Kadar natrium (mg/L) = 71,7250

%kadar natrium = $\frac{71,7250}{10000}$

%kadar natrium = 0,0072%

- Suhu 65ºC

7,2314 – (-0,0006) = 7,232

Kadar natrium (mg/L) = $\frac{7,232 \text{ x } 50}{5,0000}$

Kadar natrium (mg/L) = 72,3200

%kadar natrium = $\frac{72,3200}{10000}$

%kadar natrium = 0,0072%

- Suhu 70ºC

7,1464 – (-0,0006) = 7,147

Kadar natrium (mg/L) = $\frac{7,147 \text{ x } 50}{5,0008}$

Kadar natrium (mg/L) = 71,4586

%kadar natrium = $\frac{71,4586}{10000}$

%kadar natrium = 0,0071%

- Suhu 75ºC

7,2204 – (-0,0006) = 7,221

Kadar natrium (mg/L) = $\frac{7,221 \text{ x } 50}{5,0009}$

Kadar natrium (mg/L) = 72,1970

%kadar natrium = $\frac{72,1970}{10000}$

%kadar natrium = 0,0072%

Lampiran 4.3 Perhitungan Kadar Kalsium

- Suhu 60ºC

1,4201 – (0,5142) = 0,9059

Kadar kalsium (mg/L) = $\frac{0,9059 \text{ x } 50}{5,0007}$

Kadar kalsium (mg/L) = 9,0577

%kadar kalsium = $\frac{9,0577}{10000}$

%kadar kalsium = 0,0009%

- Suhu 65ºC

1,553 – (0,5142) = 1,0388

Kadar kalsium (mg/L) = $\frac{1,0388 \text{ x } 50}{5,0000}$

Kadar kalsium (mg/L) = 10,3880

%kadar kalsium $= \frac{10,3880}{10000}$

%kadar kalsium = 0,0010%

- Suhu 70ºC

1,4488 – (0,5142) = 0,9346

Kadar kalsium (mg/L) $= \frac{0,9346 \text{ x } 50}{5,0008}$

Kadar kalsium (mg/L) = 9,3445

%kadar kalsium $= \frac{9,3445}{10000}$

%kadar kalsium = 0,0009%

- Suhu 75ºC

1,4614 – (0,5142) = 0,9472

Kadar kalsium (mg/L) $= \frac{0,9472 \text{ x } 50}{5,0009}$

Kadar kalsium (mg/L) = 9,4703

%kadar kalsium $= \frac{9,4703}{10000}$

%kadar kalsium = 0,0009%

Lampiran 5. Tabel Hasil Penelitian

Lampiran 5.1 Tabel Kurva Baku

Lampiran 5.1.1 Tabel Kurva Baku Kalium

Tabel 1. Kurva Baku Kalium

Nama Sampel	Konsentrasi (bpj)	Serapan
Standard 1	3	0,5174
Standard 2	6	0,8551
Standard 3	9	1,2358
Standard 4	12	1,6317
Standard 5	15	1,9821

Lampiran 5.1.2 Tabel Kurva Baku Natrium

Tabel 2. Kurva Baku Natrium

Nama Sampel	Konsentrasi (bpj)	Serapan
Standard 1	2	0,4542
Standard 2	4	0,9127
Standard 3	6	1,3378
Standard 4	8	1,7427
Standard 5	10	2,0827

Lampiran 5.1.3 Tabel Kurva Baku Kalsium

Tabel 3. Kurva Baku Kalsium

Nama Sampel	Konsentrasi (bpj)	Serapan
Standard 1	1	0,0093
Standard 2	2	0,0165
Standard 3	3	0,0232
Standard 4	4	0,0314
Standard 5	5	0,0388

Lampiran 5.2 Tabel Hasil Pengukuran Logam Alkali dalam Sampel

Lampiran 5.2.1 Tabel Hasil Pengukuran Logam Kalium dalam Sampel

Tabel 1. Hasil Pengukuran Logam Kalium dalam Sampel

Suhu	Serapan	Konsentrasi (mg/L)	Faktor Pengenceran	Berat sampel (g)	Volume (mL)	Kadar (mg/L)	Kadar (% b/b)
60°C	0,9202	6,6419	2000	5,0007	50	123178,7550	12,32
65°C	1,5832	11,4756	2000	5	50	219870,0000	21,99
70°C	1,4504	10,5069	2000	5,0008	50	200463,9258	20,05
75°C	1,4534	10,529	2000	5,0009	50	200901,8377	20,09

Lampiran 5.2.2 Tabel Hasil Pengukuran Logam Natrium dalam Sampel

Tabel 2. Hasil Pengukuran Logam Natrium dalam Sampel

Suhu	Serapan	Konsentrasi (mg/L)	Faktor Pengenceran	Berat sampel (g)	Volume (mL)	Kadar (mg/L)	Kadar (% b/b)
60°C	1,6435	7,1729	0	5,0007	50	71,7250	0,0072
65°C	1,6569	7,2314	0	5	50	72,3200	0,0072
70°C	1,6374	7,1464	0	5,0008	50	71,4586	0,0071
75°C	1,6544	7,2204	0	5,0009	50	72,1970	0,0072

Lampiran 5.2.3 Tabel Hasil Pengukuran Logam Kalsium dalam Sampel

Tabel 3. Hasil Pengukuran Logam Kalsium dalam Sampel

Suhu	Serapan	Konsentrasi (mg/L)	Faktor Pengenceran	Berat sampel (g)	Volume (mL)	Kadar (mg/L)	Kadar (% b/b)
60°C	0,0117	1,4201	0	5,0007	50	9,0577	0,0009
65°C	0,0127	1,553	0	5	50	10,3880	0,0010
70°C	0,0119	1,4488	0	5,0008	50	9,3445	0,0009
75°C	0,012	1,4614	0	5,0009	50	9,4703	0,0009