LAMPIRAN

Lampiran. 1 Nilai AUC

NO	BPJ	AUC
1	175	25356,551
2	200	25958,602
3	225	26486,108
4	250	27124,773
5	275	27444,752
6	300	28205,116

Lampiran. 2 Hasil Perhitungan Lineritas, Batas Deteksi dan Batas Kuantisasi

NO	BPJ	AUC	y'(bx+a)	y-y'	(y-y')2
1	175	25356,551	25381,025	24,474	598,976
2	200	25958,602	25933,6	25,002	625,100
3	225	26486,108	26486,175	0,067	0,004
4	250	27124,773	27038,75	86,023	7399,956
5	275	27444,752	27591,325	146,573	21483,644
6	300	28205,116	28143,9	61,216	3747,398
	237,5				33855,080

Y = bx+a

Y = 22,103x+21513

x = Konsentrasi

SY/X $\sqrt{\frac{\Sigma(y-y\prime)}{n-2}}$ $\sqrt{\frac{33855,08}{6-2}}$ = 91,998

S X O $\frac{sy/x}{slope}$ $\frac{91,998}{22,103}$ = 4,162

V X O $\frac{s\ x\ o}{x}$ $\frac{4,162}{237,5}$ x100% = 1,752

BD $\frac{3\ x\ sy/x}{slope}$ $\frac{3\ x\ 91,998}{22,103}$ = 12,486

BK $\frac{10\ x\ sy/x}{slope}$ $\frac{10\ x\ 91,998}{22,103}$ = 41,622

Lampiran. 3 Data Akurasi

Konsentrasi bpj	NilaiAUC Sampel	Nilai AUC Baku+Sampel	Konsentrasi Sampel	Konsentrasi Baku+Sampel	Rata- rata %Recovery
	31970,665	34130,643	473,133	570,857	101,218
100	31948,231	34131,752	472,118	570,907	101,269
	31761,342	34130,643	463,663	570,857	101,218
			469,638		101,235
	31961,635	35215,754	472,725	619,950	100,199
150	31958,241	35216,756	472,571	619,995	100,229
	31861,225	35217,757	463,658	620,041	100,259
			469,651		100,22
	31981,765	36272,664	473,635	667,767	98,982
200	31948,221	36291,753	472,119	668,631	99,414
	31761,232	36284,654	463,658	668,310	99,253
			469,801		99,216

Contoh perhitungan Akurasi=

X =konsentrasi sampel + Baku

Y = Rata-rata Konsentrasi sampel

R=konsentrasi bpj

% Recovery= $\frac{X-Y}{R} x100\%$

% Recovery 100 bpj = $\frac{570,857-469,638}{100} x100\% = 101,218$

`

Lampiran. 4 Data Uji Presisi Hari ke 1

Hari	Nilai AUC baku 100bpj+sampel	Konsentrasi Baku+Sampel	SD	RSD
1	35215,754	619,950		
2	35216,756	619,995		
3	35217,757	620,041	0,0840	0,01355
4	35218,865	620,091		
5	35219,656	620,126		
6	35214,774	619,906		
		620,018		

Contoh perhitungan

SD $= \sqrt{\frac{\sum (X-X)^2}{n-1}} = \sqrt{\frac{620,018}{5}} = 0,0840$

RSD Hari ke 1 $= \frac{SD}{X \text{ rata-rata}} \; x \; 100\% = \frac{0,0840}{620,018} = 0,135\%$

`

Data Lampiran Uji Presisi Hari ke 2

Hari	Nilai AUC baku 150bpj+sampel	Konsentrasi Baku+Sampel	SD	RSD
1	35216,755	619,996		
2	35217,757	620,041		
3	35218,758	620,086	0,0840	0,01355
4	35219,866	620,135		
5	35220,657	620,172		
6	35215,775	620,951		
		620,063		

Contoh perhitungan

SD $= \sqrt{\frac{\sum (X-X)^2}{n-1}} = \sqrt{\frac{620,018}{5}} = 0,0840$

RSD Hari ke 2 $= \frac{SD}{X \text{ rata-rata}} \; x \; 100\% = \frac{0,0840}{620,063} = 0,135\%$

`

Data Lampiran Uji Presisi Hari ke 3

Hari Replikasi	Nilai AUC baku 150bpj+sampel	Konsentrasi Baku+Sampel	SD	RSD
1	35216,756	620,0405		
2	35218,758	620,0859		
3	35219,75	620,1312	0,0840	0,01355
4	35220,867	620,1813		
5	35221,658	620,2171		
6	35216,776	619,9962		
		620,109		

Contoh perhitungan

SD $= \sqrt{\frac{\sum (X-X)^2}{n-1}} = \sqrt{\frac{620,018}{5}} = 0,0840$

RSD Hari ke 3$= \frac{SD}{X \text{ rata-rata}} \; x \; 100\% = \frac{0,0840}{620,109} = 0,135\%$

`

Lampiran. 5 Contoh Perhitungan Penetapan Kadar

Sampel	AUC	Konsentrasi Sampel (µg/ml)	Volume Total Klorofom (ml)	Kadar perkemasan (mg/g)
A	31.970,665	473,1333	115	54,410
B	31.948,241	472,1188	115	54,293
C	31.761,241	463,6584	115	53,320

Contoh perhitungan

Persamaan regresi y = 22,103 x + 21513

Sampel A

AUC (y) = 31.970,665

Maka X = 473,1333 µg/ ml

Kadar = Konsentrasi yang didapat $\left(\frac{\mu g}{ml}\right)$ x volume total kloroform (ml

Konsentrasi kafein sampel A = 473,1333 µg/ ml x 115 ml
=54.410 µg/ g
= 54,410 mg/g

Konsentrasi kafein sampel B = 472,1188 x 115 ml
= 54.293 µg/ g
= 54,293 mg/g

Konsentrasi kafein sampel C = 463,6584 x 115 ml
= 53.320 µg/ g
= 53,320 mg/g

`

Lampiran. 6 Gambar

	**Larutan seri**
	**Larutan Uji presisi**
	**Sampel**

`

	**Proses penyeduhan**
	**Peroses penyaringan**
	**Proses ECC**

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	**Proses fraksinasi**
	**Baku kafein**
	**Larutan Baku 1000 bpj**

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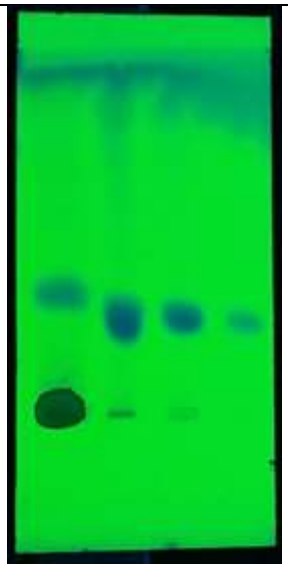
	**Plat KLT perbadingan sebelum di elusi**
	**Plat KLT perbadingan sesudah dielusi**

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	**Lampu UV**
	**Gambar camag**

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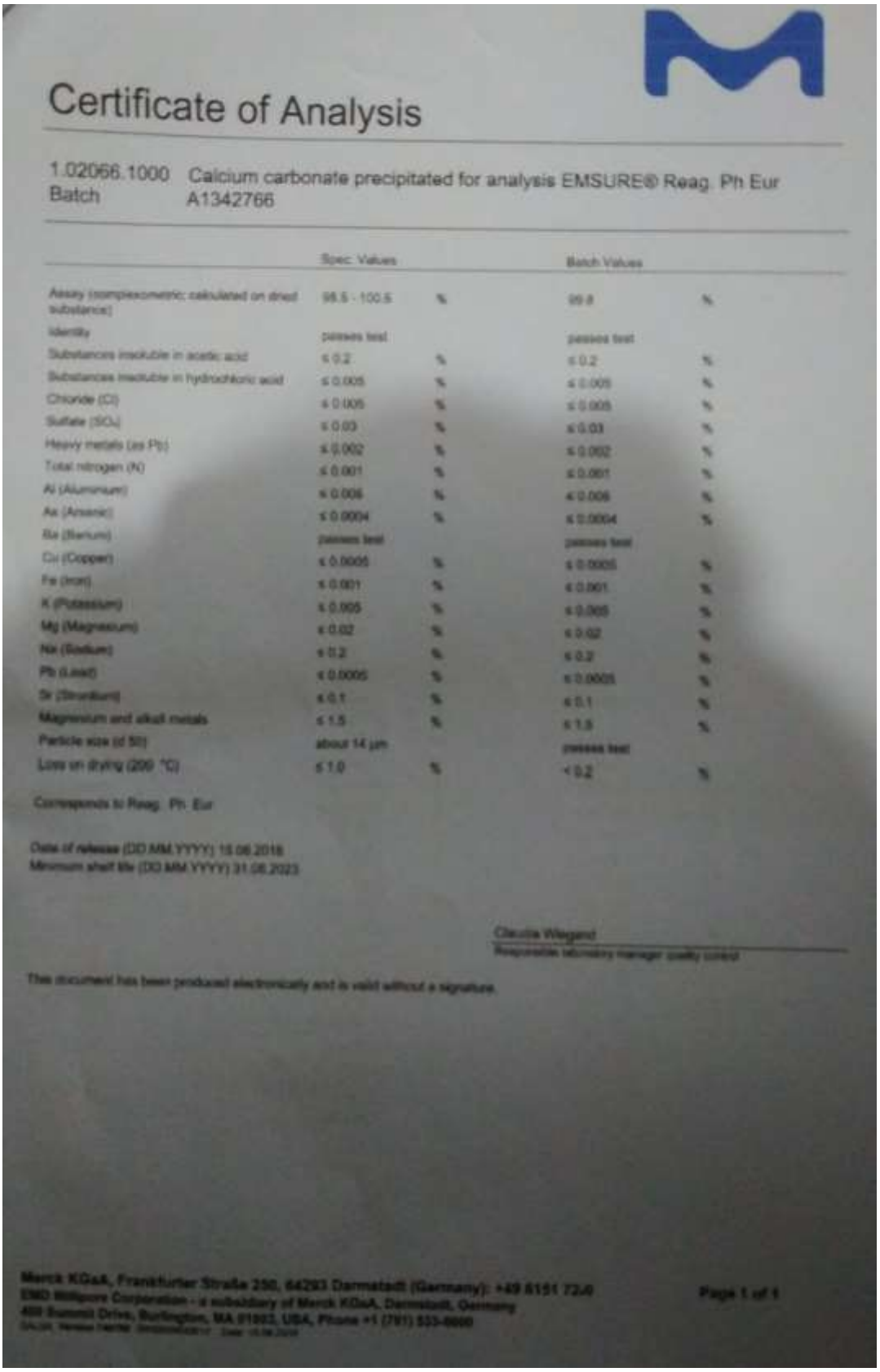
Lampiran. 7 Sertifikat COA CaCO3



Certificate of Analysis

1.02066.1000 Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur
Batch A1342766

	Spec. Values		Batch Values	
Assay (complexometric; calculated on dried substance)	98.5 - 100.5	%	99.8	%
Identity	passes test		passes test	
Substances insoluble in acetic acid	≤ 0.2	%	≤ 0.2	%
Substances insoluble in hydrochloric acid	≤ 0.005	%	≤ 0.005	%
Chloride (Cl)	≤ 0.005	%	≤ 0.005	%
Sulfate (SO_4)	≤ 0.03	%	≤ 0.03	%
Heavy metals (as Pb)	≤ 0.002	%	≤ 0.002	%
Total nitrogen (N)	≤ 0.001	%	≤ 0.001	%
Al (Aluminium)	≤ 0.006	%	≤ 0.006	%
As (Arsenic)	≤ 0.0004	%	≤ 0.0004	%
Ba (Barium)	passes test		passes test	
Cu (Copper)	≤ 0.0005	%	≤ 0.0005	%
Fe (Iron)	≤ 0.001	%	≤ 0.001	%
K (Potassium)	≤ 0.005	%	≤ 0.005	%
Mg (Magnesium)	≤ 0.02	%	≤ 0.02	%
Na (Sodium)	≤ 0.2	%	≤ 0.2	%
Pb (Lead)	≤ 0.0005	%	≤ 0.0005	%
Sr (Strontium)	≤ 0.1	%	≤ 0.1	%
Magnesium and alkali metals	≤ 1.5	%	≤ 1.5	%
Particle size (d 50)	about 14 µm		passes test	
Loss on drying (200 °C)	≤ 1.0	%	< 0.2	%

Corresponds to Reag. Ph. Eur

Date of release (DD.MM.YYYY) 15.06.2018
Minimum shelf life (DD.MM.YYYY) 31.08.2023

Claudia Wiegand
Responsible laboratory manager quality control

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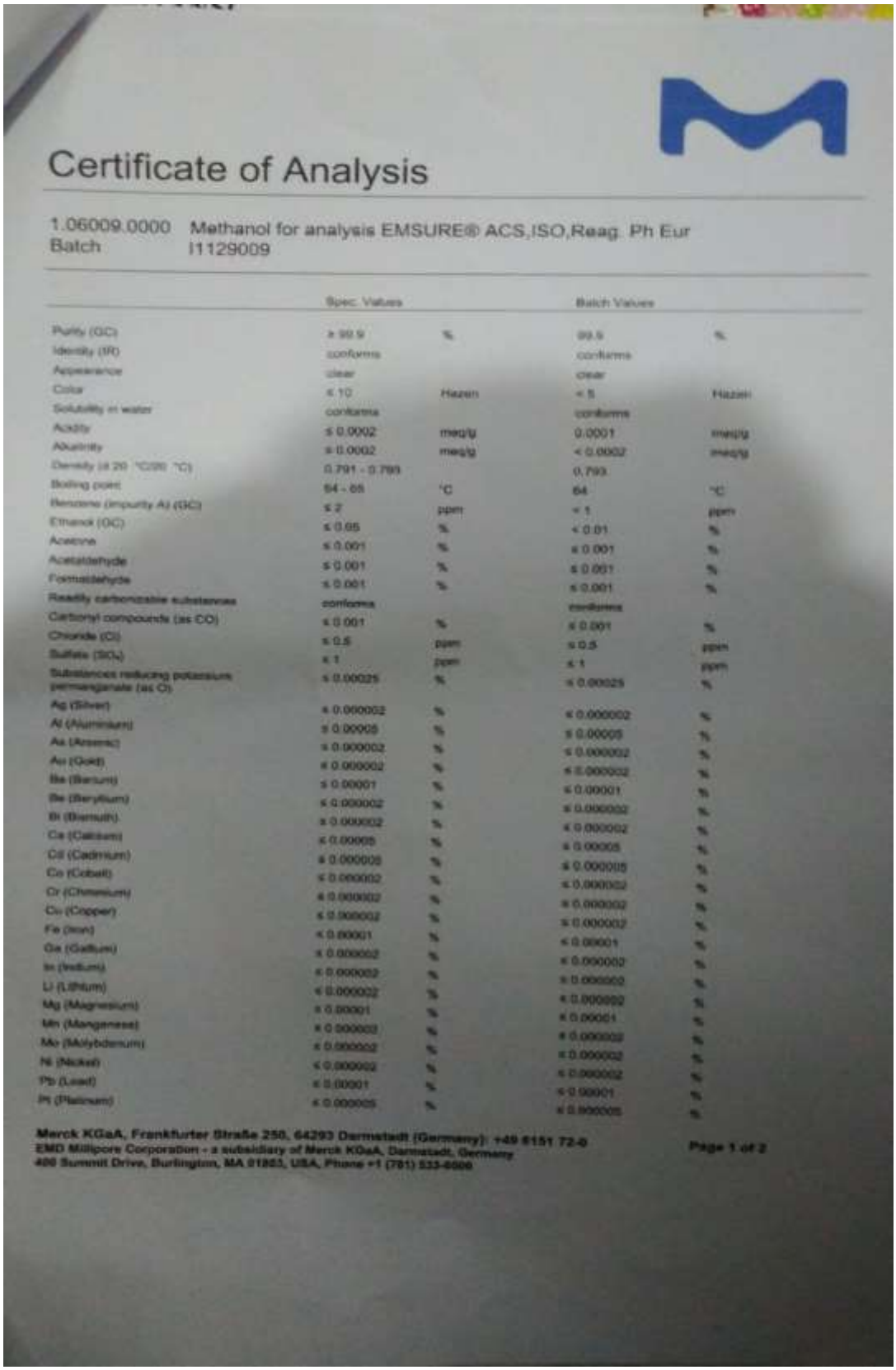
Lampiran. 8 Sertifikat COA Methanol



Certificate of Analysis

1.06009.0000 Methanol for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch I1129009

	Spec. Values		Batch Values	
Purity (GC)	≥ 99.9	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	clear		clear	
Color	≤ 10	Hazen	< 5	Hazen
Solubility in water	conforms		conforms	
Acidity	≤ 0.0002	meq/g	0.0001	meq/g
Alkalinity	≤ 0.0002	meq/g	< 0.0002	meq/g
Density (d 20 °C/20 °C)	0.791 - 0.793		0.793	
Boiling point	64 - 65	°C	64	°C
Benzene (impurity A) (GC)	≤ 2	ppm	< 1	ppm
Ethanol (GC)	≤ 0.05	%	< 0.01	%
Acetone	≤ 0.001	%	≤ 0.001	%
Acetaldehyde	≤ 0.001	%	≤ 0.001	%
Formaldehyde	≤ 0.001	%	≤ 0.001	%
Readily carbonizable substances	conforms		conforms	
Carbonyl compounds (as CO)	≤ 0.001	%	≤ 0.001	%
Chloride (Cl)	≤ 0.5	ppm	≤ 0.5	ppm
Sulfate (SO_4)	≤ 1	ppm	≤ 1	ppm
Substances reducing potassium permanganate (as O)	≤ 0.00025	%	≤ 0.00025	%
Ag (Silver)	≤ 0.000002	%	≤ 0.000002	%
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
As (Arsenic)	≤ 0.000002	%	≤ 0.000002	%
Au (Gold)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Be (Beryllium)	≤ 0.000002	%	≤ 0.000002	%
Bi (Bismuth)	≤ 0.000002	%	≤ 0.000002	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%
Cd (Cadmium)	≤ 0.000005	%	≤ 0.000005	%
Co (Cobalt)	≤ 0.000002	%	≤ 0.000002	%
Cr (Chromium)	≤ 0.000002	%	≤ 0.000002	%
Cu (Copper)	≤ 0.000002	%	≤ 0.000002	%
Fe (Iron)	≤ 0.00001	%	≤ 0.00001	%
Ga (Gallium)	≤ 0.000002	%	≤ 0.000002	%
In (Indium)	≤ 0.000002	%	≤ 0.000002	%
Li (Lithium)	≤ 0.000002	%	≤ 0.000002	%
Mg (Magnesium)	≤ 0.00001	%	≤ 0.00001	%
Mn (Manganese)	≤ 0.000002	%	≤ 0.000002	%
Mo (Molybdenum)	≤ 0.000002	%	≤ 0.000002	%
Ni (Nickel)	≤ 0.000002	%	≤ 0.000002	%
Pb (Lead)	≤ 0.00001	%	≤ 0.00001	%
Pt (Platinum)	≤ 0.000005	%	≤ 0.000005	%

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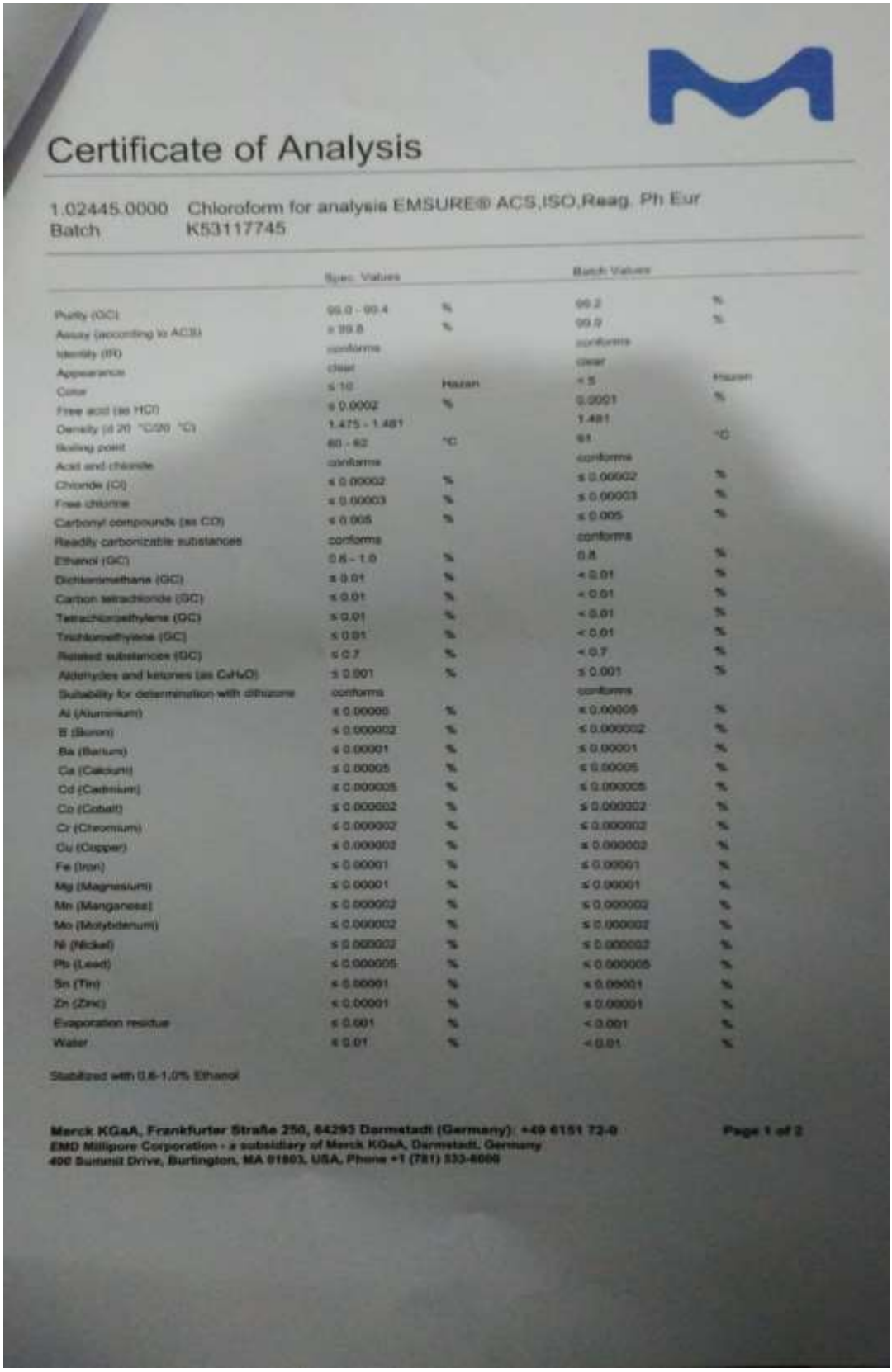
Lampiran. 9 Sertifikat COA Kloroform



Certificate of Analysis

1.02445.0000 Chloroform for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch K53117745

	Spec. Values		Batch Values	
Purity (GC)	99.0 - 99.4	%	99.2	%
Assay (according to ACS)	≥ 99.8	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	clear		clear	
Color	≤ 10	Hazen	< 5	Hazen
Free acid (as HCl)	≤ 0.0002	%	0.0001	%
Density (d 20 °C/20 °C)	1.475 - 1.481		1.481	
Boiling point	60 - 62	°C	61	°C
Acid and chloride	conforms		conforms	
Chloride (Cl)	≤ 0.00002	%	≤ 0.00002	%
Free chlorine	≤ 0.00003	%	≤ 0.00003	%
Carbonyl compounds (as CO)	≤ 0.005	%	≤ 0.005	%
Readily carbonizable substances	conforms		conforms	
Ethanol (GC)	0.6 - 1.0	%	0.8	%
Dichloromethane (GC)	≤ 0.01	%	< 0.01	%
Carbon tetrachloride (GC)	≤ 0.01	%	< 0.01	%
Tetrachloroethylene (GC)	≤ 0.01	%	< 0.01	%
Trichloroethylene (GC)	≤ 0.01	%	< 0.01	%
Related substances (GC)	≤ 0.7	%	< 0.7	%
Aldehydes and ketones (as C_4H_8O)	≤ 0.001	%	≤ 0.001	%
Suitability for determination with dithizone	conforms		conforms	
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
B (Boron)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%
Cd (Cadmium)	≤ 0.000005	%	≤ 0.000005	%
Co (Cobalt)	≤ 0.000002	%	≤ 0.000002	%
Cr (Chromium)	≤ 0.000002	%	≤ 0.000002	%
Cu (Copper)	≤ 0.000002	%	≤ 0.000002	%
Fe (Iron)	≤ 0.00001	%	≤ 0.00001	%
Mg (Magnesium)	≤ 0.00001	%	≤ 0.00001	%
Mn (Manganese)	≤ 0.000002	%	≤ 0.000002	%
Mo (Molybdenum)	≤ 0.000002	%	≤ 0.000002	%
Ni (Nickel)	≤ 0.000002	%	≤ 0.000002	%
Pb (Lead)	≤ 0.000005	%	≤ 0.000005	%
Sn (Tin)	≤ 0.00001	%	≤ 0.00001	%
Zn (Zinc)	≤ 0.00001	%	≤ 0.00001	%
Evaporation residue	≤ 0.001	%	< 0.001	%
Water	≤ 0.01	%	< 0.01	%

Stabilized with 0.6-1.0% Ethanol

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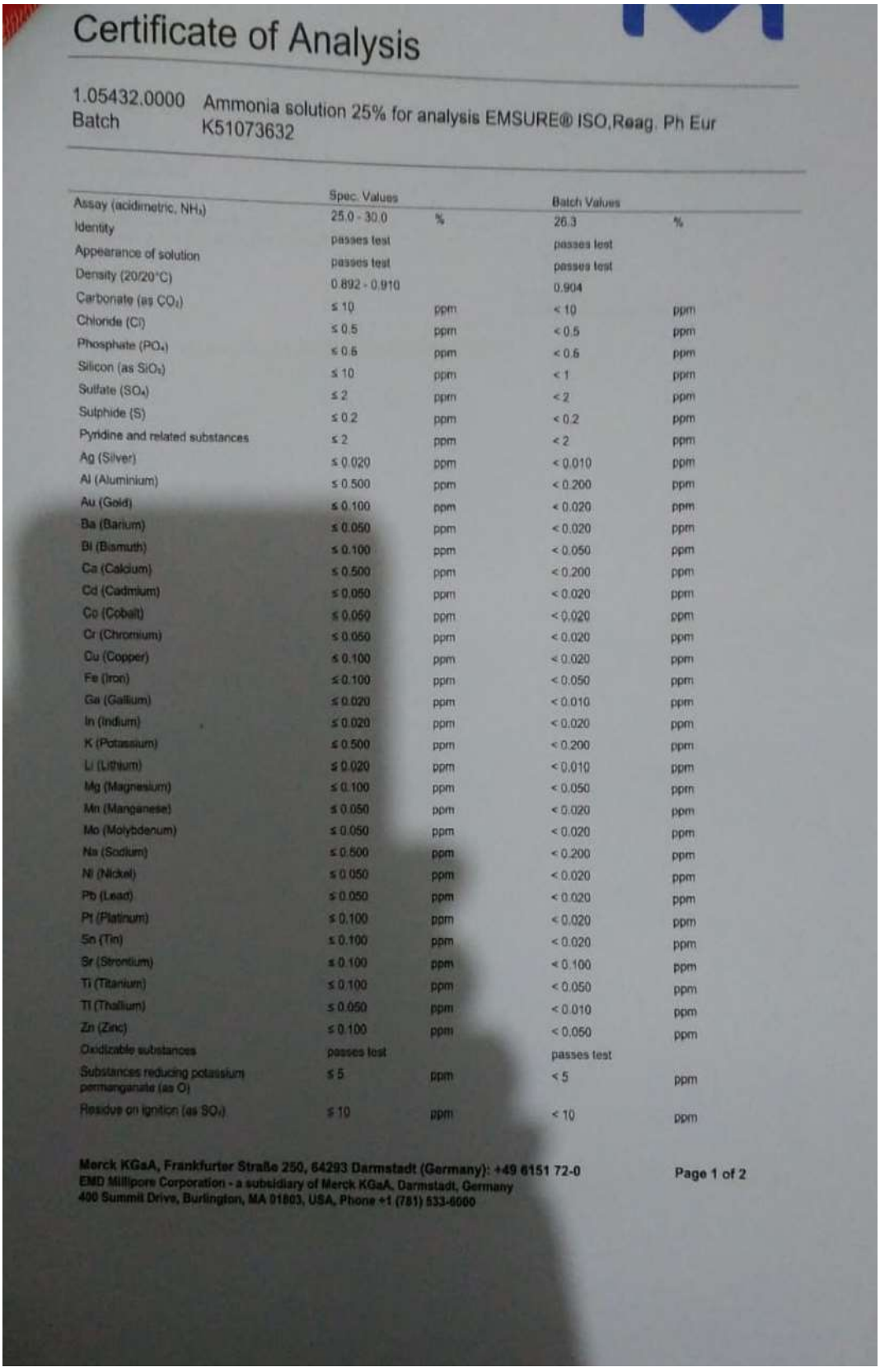
Lampiran. 10 Sertifikat COA Ammonia



Certificate of Analysis

1.05432.0000 Ammonia solution 25% for analysis EMSURE® ISO,Reag. Ph Eur
Batch K51073632

	Spec. Values		Batch Values	
Assay (acidimetric, NH_3)	25.0 - 30.0	%	26.3	%
Identity	passes test		passes test	
Appearance of solution	passes test		passes test	
Density (20/20°C)	0.892 - 0.910		0.904	
Carbonate (as CO_3)	≤ 10	ppm	< 10	ppm
Chloride (Cl)	≤ 0.5	ppm	< 0.5	ppm
Phosphate (PO_4)	≤ 0.6	ppm	< 0.6	ppm
Silicon (as SiO_3)	≤ 10	ppm	< 1	ppm
Sulfate (SO_4)	≤ 2	ppm	< 2	ppm
Sulphide (S)	≤ 0.2	ppm	< 0.2	ppm
Pyridine and related substances	≤ 2	ppm	< 2	ppm
Ag (Silver)	≤ 0.020	ppm	< 0.010	ppm
Al (Aluminium)	≤ 0.500	ppm	< 0.200	ppm
Au (Gold)	≤ 0.100	ppm	< 0.020	ppm
Ba (Barium)	≤ 0.050	ppm	< 0.020	ppm
Bi (Bismuth)	≤ 0.100	ppm	< 0.050	ppm
Ca (Calcium)	≤ 0.500	ppm	< 0.200	ppm
Cd (Cadmium)	≤ 0.050	ppm	< 0.020	ppm
Co (Cobalt)	≤ 0.050	ppm	< 0.020	ppm
Cr (Chromium)	≤ 0.050	ppm	< 0.020	ppm
Cu (Copper)	≤ 0.100	ppm	< 0.020	ppm
Fe (Iron)	≤ 0.100	ppm	< 0.050	ppm
Ga (Gallium)	≤ 0.020	ppm	< 0.010	ppm
In (Indium)	≤ 0.020	ppm	< 0.020	ppm
K (Potassium)	≤ 0.500	ppm	< 0.200	ppm
Li (Lithium)	≤ 0.020	ppm	< 0.010	ppm
Mg (Magnesium)	≤ 0.100	ppm	< 0.050	ppm
Mn (Manganese)	≤ 0.050	ppm	< 0.020	ppm
Mo (Molybdenum)	≤ 0.050	ppm	< 0.020	ppm
Na (Sodium)	≤ 0.500	ppm	< 0.200	ppm
Ni (Nickel)	≤ 0.050	ppm	< 0.020	ppm
Pb (Lead)	≤ 0.050	ppm	< 0.020	ppm
Pt (Platinum)	≤ 0.100	ppm	< 0.020	ppm
Sn (Tin)	≤ 0.100	ppm	< 0.020	ppm
Sr (Strontium)	≤ 0.100	ppm	< 0.100	ppm
Ti (Titanium)	≤ 0.100	ppm	< 0.050	ppm
Tl (Thallium)	≤ 0.050	ppm	< 0.010	ppm
Zn (Zinc)	≤ 0.100	ppm	< 0.050	ppm
Oxidizable substances	passes test		passes test	
Substances reducing potassium permanganate (as O)	≤ 5	ppm	< 5	ppm
Residue on ignition (as SO_4)	≤ 10	ppm	< 10	ppm

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Lampiran 11: Format Surat Pernyataan Bebas Plagiasi

SURAT PERNYATAAN

Yang bertanda tangan dibawah ini,

Nama : Iwan Setiawan

NPM : 11181022

Adalah mahasiswa Fakultas Farmasi, Universitas Bhakti Kencana, menyatakan dengan sesungguhnya bahwa Naskah Tugas Akhir/Skripsi yang saya tulis dengan judul:

PENETAPAN KADAR KAFEIN PADA KOPI BUBUK ROBUSTA INSTAN DI KAB.BANDUNG MENGGUNAKAN METODE KLT VIDEO DENSITOMETRI

adalah benar-benar merupakan hasil karya saya sendiri. Apabila di kemudian hari diketahui bahwa isi Naskah Skripsi ini merupakan hasil plagiasi, maka saya bersedia menerima sanksi berupa pembatalan kelulusan dan atau pencabutan gelar yang saya peroleh.

Demikian surat pernyataan ini saya buat untuk dapat dipergunakab sebagaimana mestinya.

Bandung, 27 Agustus 2022

Yang membuat pertanyaan,

Iwan Setiawan

NPM 11181022

`

Lampiran 12: Format Surat Persetujuan untuk dipublikasikan dimedia online

SURAT PERNYATAAN

Yang bertanda tangan dibawah ini,

Nama : Iwan Setiawan

NPM : 11181022

Menyatakan bahwa demi kepentingan perkembangan ilmu pengetahuan, saya menyetujui abstrak Skripsi yang saya tulis dengan judul:

PENETAPAN KADAR KAFEIN PADA KOPI BUBUK ROBUSTA INSTAN DI KAB.BANDUNG MENGGUNAKAN METODE KLT VIDEO DENSITOMETRI

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Bandung, 27 Agustus 2022

Yang membuat pertanyaan,

Iwan Setiawan

NPM 11181022

`

Lampiran 13: Bukti Cek Plagiasi

IWAN SETIAWAN

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