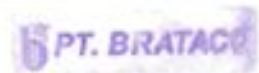


LAMPIRAN

Lampiran 1. COA kafein murni PT Brataco Yogyakarta




SERTIFIKAT ANALISIS



Nama Bahan : Caffein anhydrous
 No Batch : J 0705/18 (1031708788)
 Ex : CSPC Innovation Pharmaceutical Co.,Ltd. (China)
 ED : 07/2021
 Grade : Farma

Parameter	Unit	Spesifikasi	Hasil	Metode Tes
Pemerian	-	Serbuk putih, rasa pahit, Biasanya menggumpal, tidak berbau	Sesuai	FI IV
Kelarutan	-	Agak sukar larut dalam air, dalam etanol, mudah larut dalam kloroform, sukar larut dalam eter	Sesuai	FI IV
Identifikasi	-	Larutkan 2 mg dalam 1 ml air tambahkan larutan AgNO ₃ ; tidak terbentuk endapan	Sesuai	FI IV
Kadar Air	%	≤0.5%	0,12 %	FI IV
Titik Lebur	° C	235° C – 237.5° C	236 °C	CoA Ori
Kadar	%	98% - 101,0%	100,24 %	FI.III

Kesimpulan : *Memenuhi Syarat*

Pemeriksa

 Matia Noviyanti E.
 QC Staff

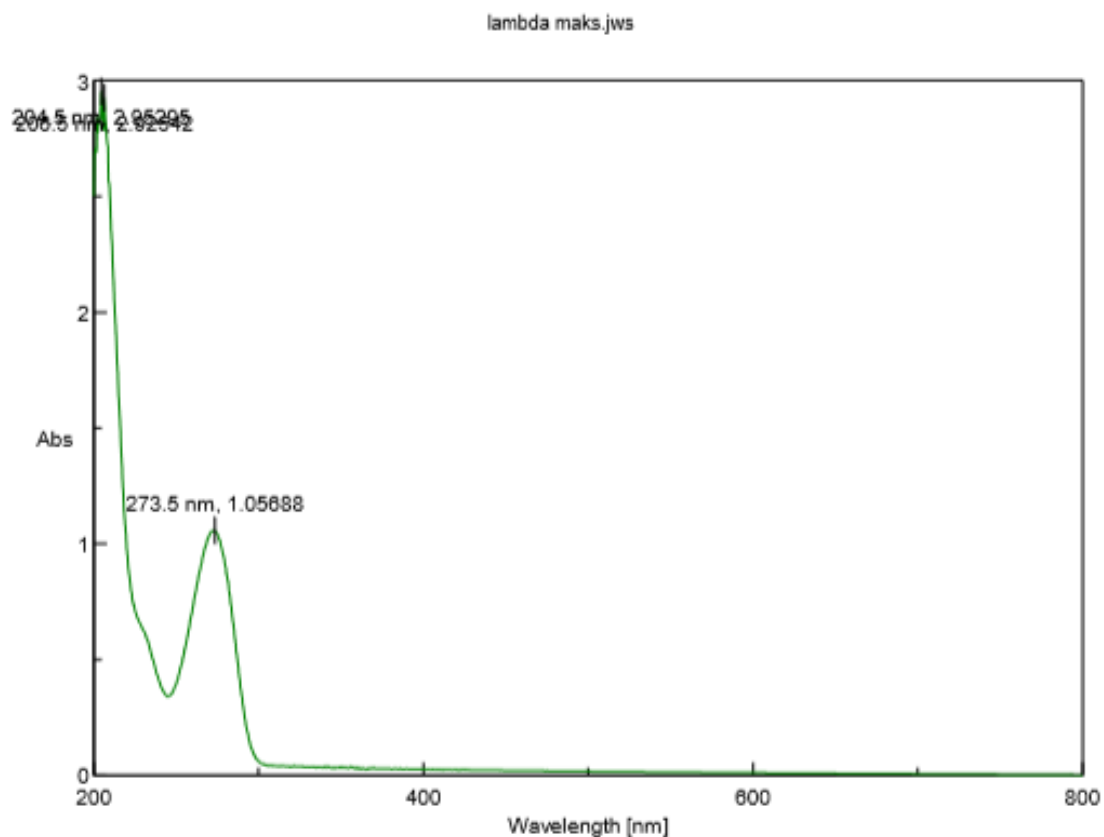
Cikarang, 10 – 10 – 2018

Penanggung Jawab



Dra. Tri Hartati
 Apoteker
 SIK. 3836/B

Lampiran 2. Hasil spektra gelombang maksimum



[Comments]

Sample name

Comment

User

Division

Company UMY

— lambda maks.jws

[Detailed Information]

Creation date 13/08/2019 10:57

Data array type Linear data array

Horizontal axis Wavelength [nm]

Vertical axis Abs

Start 800 nm

End 200 nm

Data interval 0.5 nm

Data points 1201

[Measurement Information]

Instrument name Spectrofotometer UV-VIS

Model name V-730

Serial No. A098661798

Measurement date 13/08/2019 10:57

Photometric mode Abs

Measurement range 800 - 200 nm

Data interval 0.5 nm

Bandwidth 1.0 nm

Response 0.015 sec

Scan speed 1000 nm/min

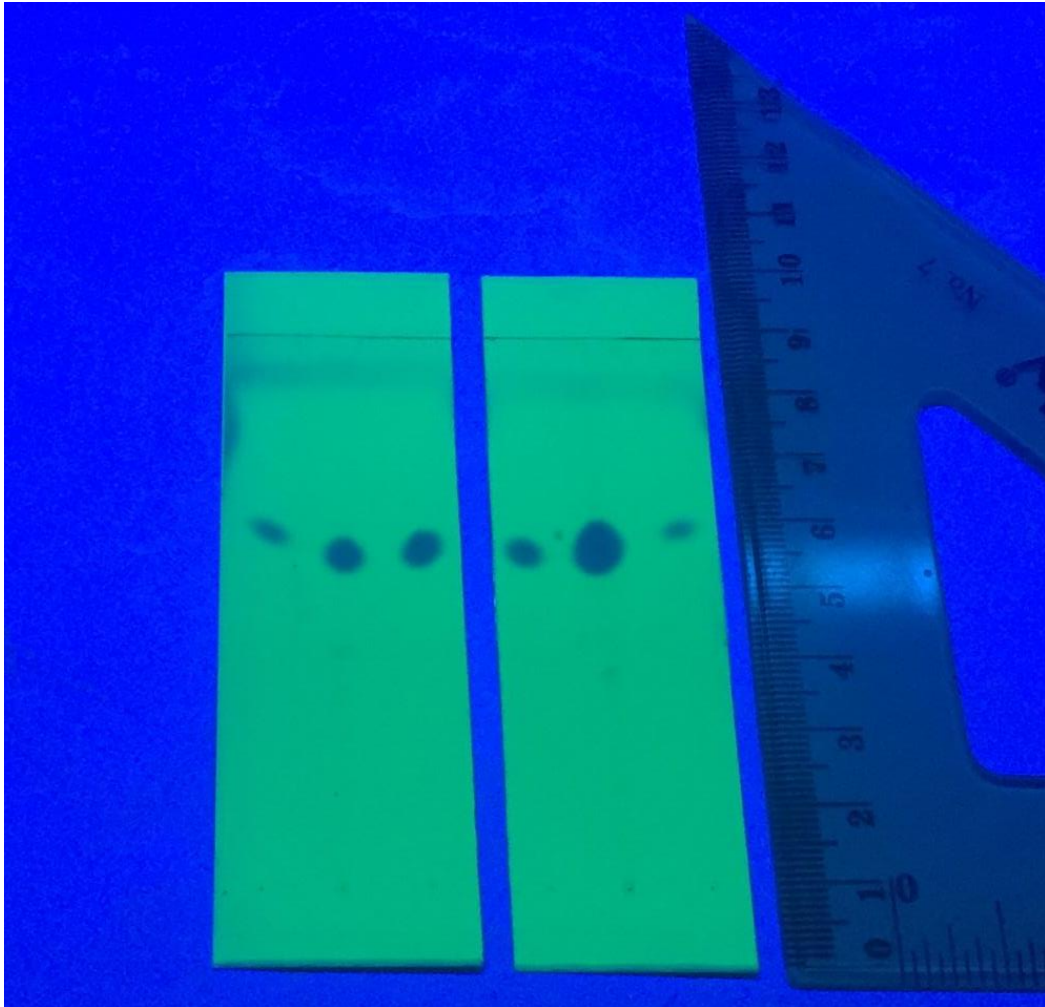
Change source at 340 nm

Light source D2/WI

Filter exchange Step

Correction Baseline

Lampiran 3. Hasil Identifikasi Kromatografi Lapis Tipis pada sampel



Lampiran 4. Perhitungan konsentrasi (Analisis KLT – Densitometri)

a. Sampel 1 (HHE)

$$y = 22,271x + 586,75$$

$$25921,4 = 22,271x + 586,75$$

$$25921,4 - 586,75 = 22,271x$$

$$x = 1137,56 \text{ ppm}$$

b. Sampel 2 (CSHD)

$$y = 22,271x + 586,75$$

$$26158,6 = 22,271x + 586,75$$

$$26158,6 - 586,75 = 22,271x$$

$$x = 1148,21 \text{ ppm}$$

c. Sampel 3 (UR)

$$y = 22,271x + 586,75$$

$$15906,5 = 22,271x + 586,75$$

$$15906,5 - 586,75 = 22,271x$$

$$x = 687,87 \text{ ppm}$$

d. Sampel 4 (HHNG)

$$y = 22,271x + 586,75$$

$$40258,3 = 22,271x + 586,75$$

$$40258,3 - 586,75 = 22,271x$$

$$x = 1781,30 \text{ ppm}$$

e. Sampel 5 (FBL – C)

$$y = 22,271x + 586,75$$

$$8961,2 = 22,271x + 586,75$$

$$8961,2 - 586,75 = 22,271x$$

$$x = 376,02 \text{ ppm}$$

Lampiran 5. Perhitungan konsentrasi (Analisis Spektrofotometri UV – Vis)

a. Sampel 1 (HHE)

$$y = 0,0475x + 0,0034$$

$$0,2947 = 0,0475x + 0,0034$$

$$0,2947 - 0,0034 = 0,0475x$$

$$x = 6,374 \text{ ppm}$$

b. Sampel 2 (CSHD)

$$y = 22,271x + 586,75$$

$$26158,6 = 22,271x + 586,75$$

$$26158,6 - 586,75 = 22,271x$$

$$x = 1148,21 \text{ ppm}$$

c. Sampel 3 (UR)

$$y = 22,271x + 586,75$$

$$15906,5 = 22,271x + 586,75$$

$$15906,5 - 586,75 = 22,271x$$

$$x = 687,87 \text{ ppm}$$

d. Sampel 4 (HHNG)

$$y = 22,271x + 586,75$$

$$40258,3 = 22,271x + 586,75$$

$$40258,3 - 586,75 = 22,271x$$

$$x = 1781,30 \text{ ppm}$$

e. Sampel 5 (FBL – C)

$$y = 22,271x + 586,75$$

$$8961,2 = 22,271x + 586,75$$

$$8961,2 - 586,75 = 22,271x$$

$$x = 376,02 \text{ ppm}$$

Lampiran 6. Perhitungan penetapan kadar kafein

a. Sampel 1 (HHE)

$$\text{Kadar kafein (mg/g)} = \frac{\text{Konsentrasi (mg/L)} \times \text{Volume (L)} \times \text{Fp}}{\text{Berat Sampel (g)}}$$

$$\rightarrow x \text{ mg/g} = \frac{6,443 \text{ (mg/L)} \times 0,1 \text{ (L)} \times 10}{2 \text{ (g)}}$$

$$\rightarrow 3,22 \text{ mg/g}$$

b. Sampel 2 (CSHD)

$$\text{Kadar kafein (mg/g)} = \frac{\text{Konsentrasi (mg/L)} \times \text{Volume (L)} \times \text{Fp}}{\text{Berat Sampel (g)}}$$

$$\rightarrow x \text{ mg/g} = \frac{9,139 \text{ (mg/L)} \times 0,1 \text{ (L)} \times 10}{2 \text{ (g)}}$$

$$\rightarrow 4,56 \text{ mg/g}$$

c. Sampel 3 (UR)

$$\text{Kadar kafein (mg/g)} = \frac{\text{Konsentrasi (mg/L)} \times \text{Volume (L)} \times \text{Fp}}{\text{Berat Sampel (g)}}$$

$$\rightarrow x \text{ mg/g} = \frac{4,472 \text{ (mg/L)} \times 0,1 \text{ (L)} \times 10}{2 \text{ (g)}}$$

$$\rightarrow 2,23 \text{ mg/g}$$

d. Sampel 4 (HHNG)

$$\text{Kadar kafein (mg/g)} = \frac{\text{Konsentrasi (mg/L)} \times \text{Volume (L)} \times \text{Fp}}{\text{Berat Sampel (g)}}$$

$$\rightarrow x \text{ mg/g} = \frac{4,491 \text{ (mg/L)} \times 0,1 \text{ (L)} \times 50}{2 \text{ (g)}}$$

$$\rightarrow 11,22 \text{ mg/g}$$

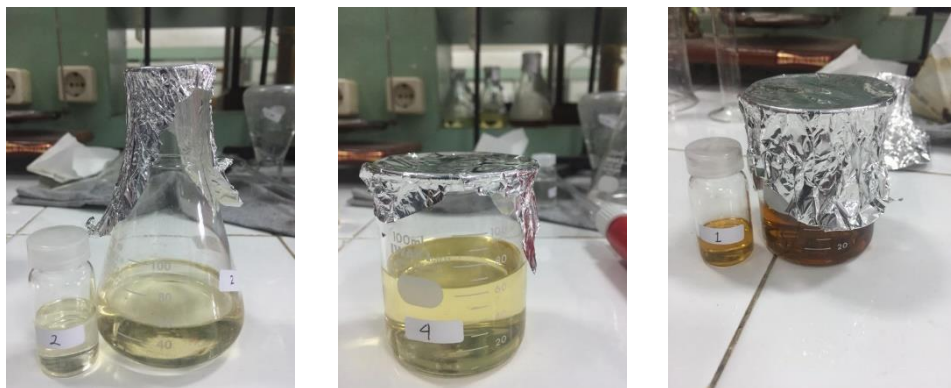
e. Sampel 5 (FBL – C)

$$\text{Kadar kafein (mg/g)} = \frac{\text{Konsentrasi (mg/L)} \times \text{Volume (L)} \times \text{Fp}}{\text{Berat Sampel (g)}}$$

$$\rightarrow x \text{ mg/g} = \frac{5,386 \text{ (mg/L)} \times 0,1 \text{ (L)} \times 1}{2 \text{ (g)}}$$

$$\rightarrow 0,26 \text{ mg/g}$$

Lampiran 6. Dokumentasi



Lampiran 7. Gambar Sepktra Standar dan Sampel

