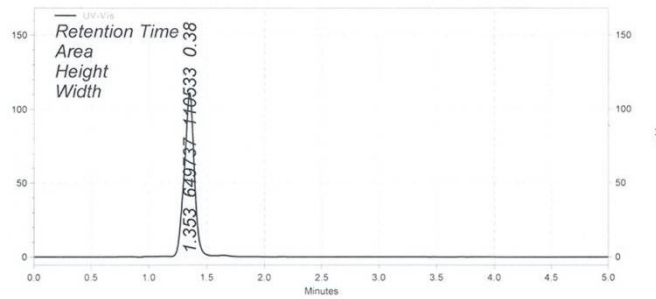
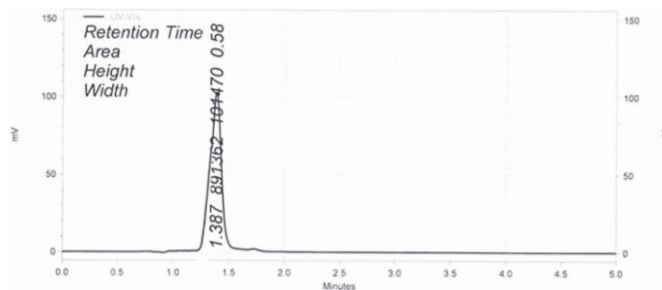


### Lampiran 1. Contoh Kromatogram Kurva Baku Deksametason

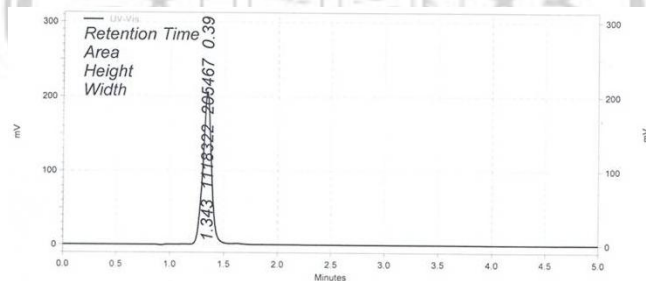
a. Larutan standar baku deksametason 10 µg/mL



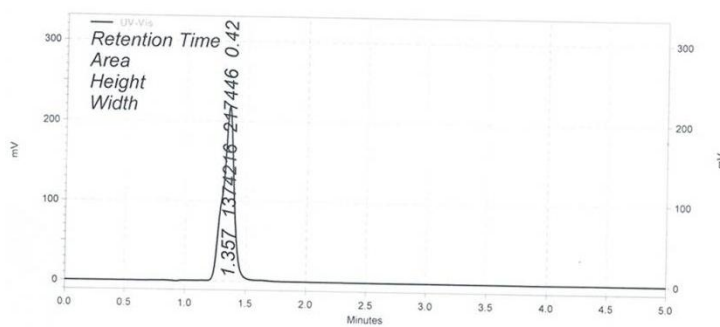
b. Larutan standar baku deksametason 20 µg/mL



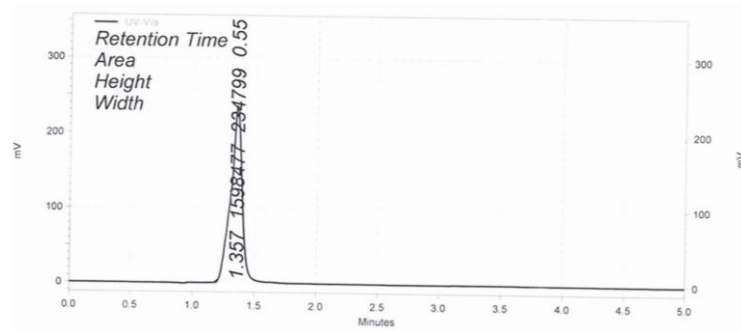
c. Larutan standar baku deksametason 30 µg/mL



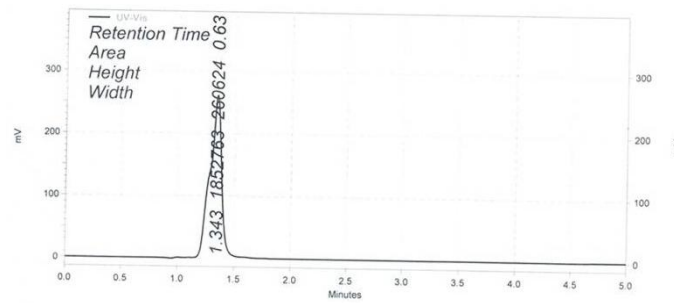
d. Larutan standar baku deksametason 40 µg/mL



e. Larutan standar baku deksametason 50 µg/mL

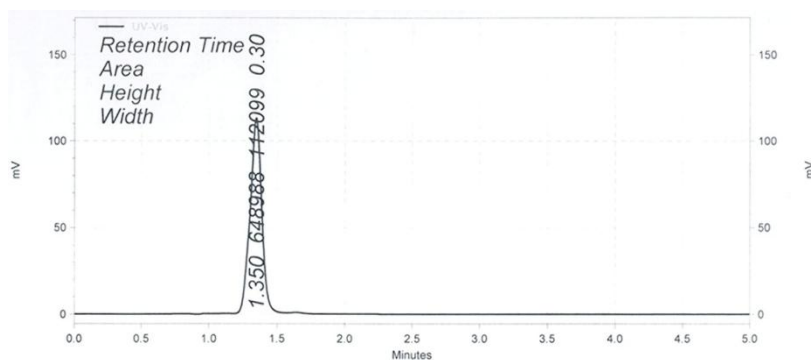


f. Larutan standar baku deksametason 60 µg/mL

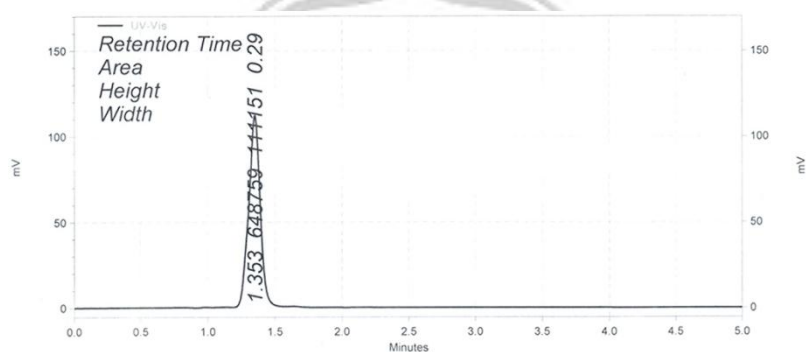


## Lampiran 2. Contoh Kromatogram Sampel Deksametason Replikasi 6 kali

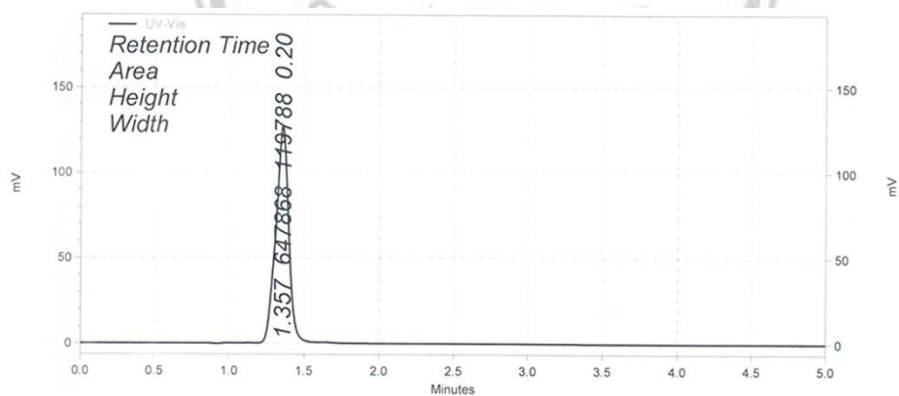
### a. Kromatogram Sampel Deksametason Replikasi 1



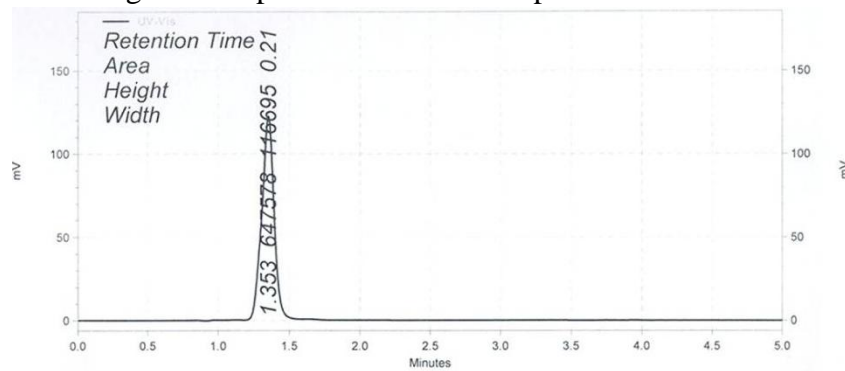
### b. Kromatogram Sampel Deksametason Replikasi 2



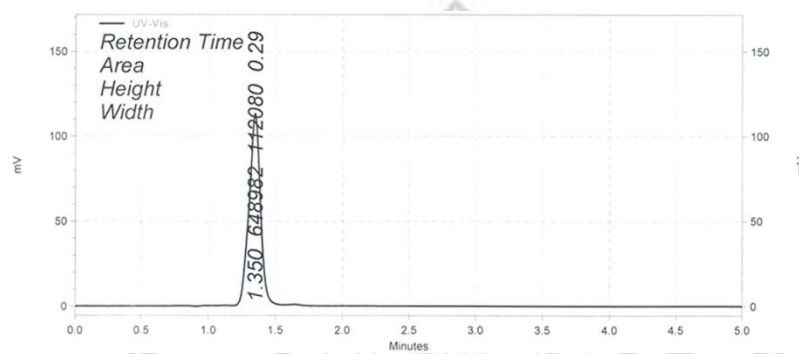
### c. Kromatogram Sampel Deksametason Replikasi 3



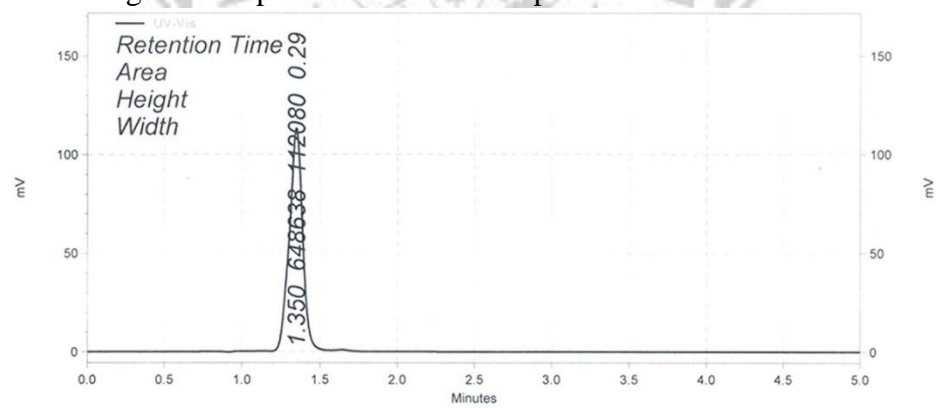
## d. Kromatogram Sampel Dekسامetason Replikasi 4



## e. Kromatogram Sampel Dekسامetason Replikasi 5



## f. Kromatogram Sampel Dekسامetason Replikasi 6



**Lampiran 3. Contoh Perhitungan Perolehan Kembali Deksametason dengan Metode *Standard Addition Method***

1. Perolehan kembali pada sampel yang ditambah baku sejumlah 80% dari target kadar analit dalam sampel

a. Konsentrasi sampel sebelum penambahan bahan baku (B)

1) Luas puncak deksametason = 1118322

2) Kadar deksametason berdasarkan persamaan garis

$$Y = 23978,197x + 408242,6 \text{ adalah } 29,614 \mu\text{g/mL}$$

b. Konsentrasi bahan baku yang ditambahkan (C)

1) Luas puncak deksametason = 891362

3) Kadar deksametason berdasarkan persamaan garis

$$Y = 23978,197x + 408242,6 \text{ adalah } 20,148 \mu\text{g/mL}$$

c. Konsentrasi sampel yang diperoleh setelah penambahan bahan baku (A)

1) Luas puncak total analit 1 = 1601773

$$\text{Luas puncak total analit 2} = 1602952$$

$$\text{Luas puncak total analit 3} = 1602336$$

2) Berdasarkan persamaan garis  $Y = 23978,197x + 408242,6$  maka :

$$\text{Kadar total analit 1} = 49,776 \mu\text{g/mL}$$

$$\text{Kadar total analit 2} = 49,825 \mu\text{g/mL}$$

$$\text{Kadar total analit 3} = 49,799 \mu\text{g/mL}$$

## 2. Perhitungan perolehan kembali

$$\% \text{ perolehan kembali} = \frac{A - B}{C} \times 100 \%$$

a. Analit 1

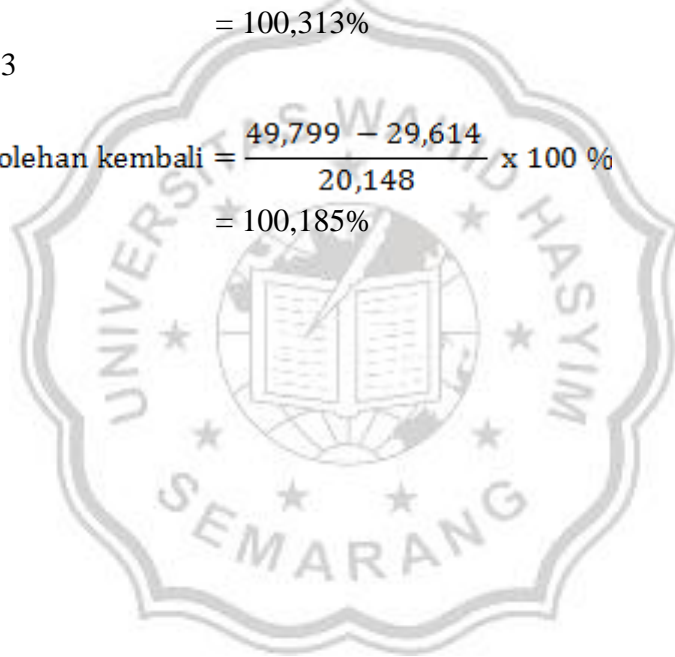
$$\begin{aligned} \% \text{ perolehan kembali} &= \frac{49,776 - 29,614}{20,148} \times 100 \% \\ &= 100,069\% \end{aligned}$$

b. Analit 2

$$\begin{aligned} \% \text{ perolehan kembali} &= \frac{49,825 - 29,614}{20,148} \times 100 \% \\ &= 100,313\% \end{aligned}$$

c. Analit 3

$$\begin{aligned} \% \text{ perolehan kembali} &= \frac{49,799 - 29,614}{20,148} \times 100 \% \\ &= 100,185\% \end{aligned}$$



#### Lampiran 4. Perhitungan LOD dan LOQ Deksametason

No	X	$X_i^2$	$X_i - X_{\square}$	$(X_i - X_{\square})^2$	$Y_i$	$Y_c$	$(Y_i - Y_c)$	$(Y_i - Y_c)^2$
1	10	100	-25	625	649737	648024,6	1712,43	2932416,505
2	20	400	-15	225	891362	887806,5	3555,46	12641295,81
3	30	900	-5	25	1118322	1127589	-9266,51	85868207,58
4	40	1600	5	25	1374216	1367370	6845,52	46861144,07
5	50	2500	15	225	1598477	1607152	-8675,45	75263432,7
6	60	3600	25	625	1852380	1846934	5445,58	29654341,54
	35	9100		1750				253220838,2

Dari persamaan  $Y = 23978,197x + 408242,6$  maka  $Y_c$  dapat dihitung :

1.  $Y = 23978,197x + 408242,6$

$$Y = 23978,197 (10) + 408242,6$$

$$Y = 648024,6$$

2.  $Y = 23978,197x + 408242,6$

$$Y = 23978,197 (20) + 408242,6$$

$$Y = 887806,5$$

3.  $Y = 23978,197x + 408242,6$

$$Y = 23978,197 (30) + 408242,6$$

$$Y = 1127589$$

4.  $Y = 23978,197x + 408242,6$

$$Y = 23978,197 (40) + 408242,6$$

$$Y = 1367370$$

5.  $Y = 23978,197x + 408242,6$

$$Y = 23978,197 (50) + 408242,6$$

$$Y = 1607152$$

$$6. Y = 23978,197x + 408242,6$$

$$Y = 23978,197 (50) + 408242,6$$

$$Y = 1846934$$

$$7. \text{ Persamaan kurva baku : } Y = 23978,197x + 408242,6 \text{ (} r = 0,999 \text{)}$$

$$S_{y/x} = \left\{ \frac{\sum (Y_i - Y_c)^2}{n-2} \right\}^{1/2}$$

$$= (253220838,2/4)^{1/2}$$

$$= 7956,457$$

$$S_a = S_{y/x} \sqrt{\frac{\sum X_i^2}{n \sum (X_i - X_{rata-rata})^2}}$$

$$= 7956,457 \times \sqrt{\frac{9100}{6 \times 1750}}$$

$$= 7956,457 \times 0,930$$

$$= 7399,505$$

#### Perhitungan nilai LOD :

Nilai Y pada batas deteksi ditentukan dengan persamaan  $Y = Y_B + 3 S_B$

Y = nilai intersept (a) pada persamaan kurva kalibrasi

$S_B$  = simpangan baku intersept (a) ( $S_a$ )

$$Y = 408242,6 + 3 (7399,505)$$

$$= 430441,115$$

$$Y = 23978,197x + 408242,6$$

$$430441,115 = 23978,197x + 408242,6$$

$$\text{LOD} = X = 0,926 \mu\text{g/mL}$$



**Perhitungan nilai LOQ :**

Nilai Y pada batas kuantifikasi ditentukan dengan persamaan  $Y = Y_B + 10 S_B$

Y = nilai intersept (a) pada persamaan kurva kalibrasi

$S_B$  = simpangan baku intersept (a) ( $S_a$ )

$$Y = 408242,6 + 10 (7399,505)$$

$$= 482237,65$$

$$Y = 23978,197x + 408242,6$$

$$482237,65 = 23978,197x + 408242,6$$

$$\mathbf{LOQ = X = 3,086 \mu g/mL}$$



### Lampiran 5. Contoh Perhitungan Kadar Deksametason dalam sediaan Obat Tradisional Pegal Linu

Persamaan regresi linier kurva baku adalah

$$Y = BX + A$$

$$Y = 23978,197x + 408242,6$$

Replikasi 1

$$Y = 23978,197x + 408242,6$$

$$648988 = 23978,197x + 408242,6$$

$$X = 10,040 \mu\text{g/mL}$$

Sampel dilarutkan dalam 50 mL, sehingga kadar obat tradisional pegal linu yang ditambahkan deksametason adalah

$$X = 10,040 \mu\text{g/mL} \times 50 \text{ mL}$$

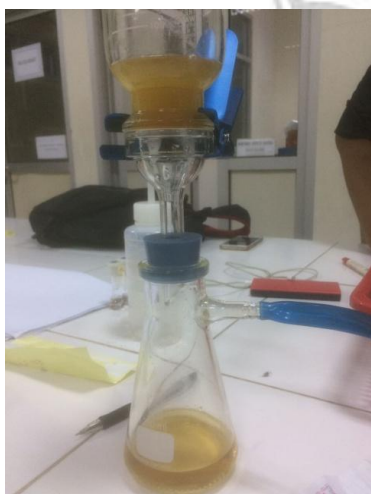
$$= 502 \mu\text{g} / 1000$$

$$= 0,502 \text{ mg}$$

% Kadar deksametason dalam sediaan obat tradisional pegal linu

$$= \frac{0,502}{0,5} \times 100\% = 100,4\%$$


## Lampiran 6. Dokumentasi Penelitian



## Lampiran 7. Certificate of Analysis Dexametason

20/03 2015 15:02:862224134096 TIANFA #1423 P.008

Handwritten: 15/03/2015

 **天津天药药业股份有限公司**  
TIANJIN TIANYAO PHARMACEUTICALS CO., LTD.

**CERTIFICATE OF ANALYSIS**  
天津天药药业股份有限公司  
检验报告专用章

**REVIEWED**  
By Mahanie at 4:54 pm, Mar 31, 2015

Page: 1 / 1

Product	Dexamethasone	Manufacturing date	2015.02.12
Batch No.	ND 150204	Report date	2015.03.17
Test criteria	BP1993	Expiry date	2020.02.12
Test	Specifications	Results	
Appearance	A white or almost white, crystalline powder	White crystalline powder	
Melting point	About 255°C	259.5 ~ 260.5°C	
Identification	B: IR; C: TLC	Conforms	
Light absorption	380 ~ 410	390	
Specific optical rotation	+75° ~ +80°	+77°	
Related substances	1.0% < Only one impurity spot ≤ 2.0%	Conforms	
Loss on drying	≤ 0.5%	0.24%	
Assay*	96.0% ~ 104.0%	98.9%	
Particle size	Micronized	Conforms	
Batch size	69.78kg		
Quantity	65kg		
Conclusion	The above product conforms to BP1993.		

\*Storage conditions: Kept in a well-closed container and protected from light  
\*Calculated on the dried basis

Checked by: 李强 2015.3.17      Approved by: 贾婉萍 2015.3.17



## Lampiran 8. Surat Keterangan Penelitian



# UNIVERSITAS WAHID HASYIM FAKULTAS FARMASI

Jl. Menoreh Tengah X / 22 Sampangan - Semarang 50236 Telp. (024) 8505680 - 8505681 Fax. (024) 8505680

### SURAT KETERANGAN

No. *Ob*/Lab. Kimia Farmasi/ C.05/UWH/IV/2017

Assalamu'alaikum Wr. Wb.

Yang bertanda tangan dibawah ini, Kepala Bagian Kimia Farmasi Fakultas Farmasi Universitas Wahid Hasyim Semarang menerangkan bahwa :

Nama : Muhamad Barik Ulfa Faza  
NIM : 135010933  
Fak/ Univ/ Sekolah : Farmasi / Universitas Wahid Hasyim

Telah melakukan Penelitian Validasi menggunakan Spektrofotometer UV-Vis dan HPLC di Laboratorium Kimia Analisa, Fakultas Farmasi Universitas Wahid Hasyim Semarang, dengan judul penelitian :

“Validasi Metode Penetapan Kadar Dekسامetason Menggunakan Kromatografi Cair Kinerja Tinggi dan Aplikasinya Pada Obat Tradisional Pegal Linu yang Ditambahkan Dekسامetason”

Demikian surat keterangan ini dibuat untuk dipergunakan semestinya.

Wassalamu'alaikum Wr. Wb.

Semarang, April 2017

Ka. Bag Kimia Farmasi



Maria Yuliana, S.Pt