BAB V

KESIMPULAN DAN SARAN

A. Kesimpulan

Berdasarkan hasil penelitian dan pembahasan dapat disimpulkan sebagai berikut:

1. Pemberian zat pengatur tumbuh NAA dan BAP dengan konsentrasi 0/1; 0,25/0,75; 0,5/0,5; 0,75/0,25; dan 1/0 *ppm* dalam medium *New Phalaenopsis* (NP) mampu menginduksi kalus daun stevia (*Stevia rebaudiana* Bertonii M.).

2. Penambahan zat pengatur tumbuh NAA dan BAP dengan konsentrasi 0/1; 0,25/0,75; 0,5/0,5; 0,75/0,25; dan 1/0 *ppm* dalam medium *New Phalaenopsis* (NP) tidak mampu secara langsung merangsang pembentukan steviosida dalam kalus daun stevia.

3. Kadar steviosida yang terkandung dalam kalus daun stevia dengan penambahan zat pengatur tumbuh NAA dan BAP dengan konsentrasi 0/1; 0,25/0,75; 0,5/0,5; 0,75/0,25; dan 1/0 *ppm* dalam medium *New Phalaenopsis* (NP) lebih rendah dari tanaman asalnya.

4. Kadar steviosida tertinggi yang terkandung dalam kalus daun stevia dengan penambahan zat pengatur tumbuh NAA dan BAP adalah dengan konsentrasi penambahan NAA 0 dan BAP 1 *ppm*, kadarnya sebesar 0,043%.

B. Saran

Untuk penelitian lebih lanjut peneliti menyarankan:

1. Penambahan kadar glukosa dengan konsentrasi lebih besar, misalnya dari 20 g/L menjadi 30 g/L.

2. Penambahan prekursor dalam medium untuk memperbanyak kandungan steviosida dalam kalus daun stevia (*Stevia rebaudiana* Bertonii M.), misalnya senyawa *ent* – kauren.

3. Perlu dikaji secara lebih lanjut tentang kandungan kimia dari kalus daun stevia selain steviosida yang nantinya dapat berguna dan bermanfaat terutama bagi dunia kefarmasian.

4. Perlu diadakan penetapan kadar steviosida dengan KLT preparatif agar diperoleh steviosida murni.

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LAMPIRAN

Lampiran 1. Surat keterangan determinasi tanaman stevia.

UNIVERSITAS SETIA BUDI

UPT- LABORATORIUM

No : 162/DET/UPT-LAB/09/VI/2014
Hal : Surat Keterangan Determinasi Tumbuhan

Menerangkan bahwa :
Nama : Dwi Setyaningrum
NIM : 16102885 A
Fakultas : Farmasi Universitas Setia Budi

Telah mendeterminasikan tumbuhan : **Stevia (*Stevia rebaudiana* Bertonii M.)**
Hasil determinasi berdasarkan : **Baker: Flora of Java**

1b – 2b – 3b – 4b – 12b – 13b – 14b – 17b – 18b – 19b – 20b – 21b – 22b – 23b – 24b – 25b – 26b – 27b – 799a. Familia 166. Asteraceae. 1b – 3a – 4b – 5b – 23b – 28a – 29b. 11. *Stevia sp*.

Deskripsi *Stevia rebaudiana* Bertonii M.

Habitus : Semak, semusim, tinggi dapat mencapai 90 cm.
Batang : Bulat, hijau, beruas, berbulu.
Daun : Tunggal, berhadapan, bulat telur, berbulu, ujung tumpul, pangkal runcing, tepi bergerigi, tulang daun menyirip, tangkai pendek, hijau.
Bunga : Majemuk malai, di ujung dan di ketiak daun,
Buah : Kotak, berambut, coklat.
Biji : Bentuk jarum.
Akar : Tunggang.

Pustaka : Backer C.A. & Brink R.C.B. (1965): *Flora of Java* (Spermatophytes only). N.V.P. Noordhoff – Groningen – The Netherlands.

Surakarta, 09 Juni 2014
Tim determinasi

Dra.Kartinah Wiryosoendjojo, SU.

Jl. Let.jen Sutoyo, Mojosongo-Solo 57127 Telp.0271-852518, Fax.0271-853275
Homepage : www.setiabudi.ac.id, e-mail : info@setiabudi.ac.id

Lampiran 2. Surat Certificate of Analysis steviosida standar.

NINGBO HAISHU J S TRADING CO,LTD.

ADD: 529 YUANBAOSHAN ROAD, BEILUN DISTRICT, NINGBO, CHINA E-mail: jasonji@vip.163.com
TEL: 0086-574-87897188/27851288 FAX:0086-574-87897189 URL: http://www.jsbotanics.com

Certificate of Analysis

Product Name:	**Stevioside**	**Manufacture Date:**	**2009-05-01**
Latin Name:	***Stevia Rebaudiana Hemsl***	**Testing Date:**	**2009-05-05**
Batch Number:	**SST20090501**	**Expire Date:**	**2011-04-30**
Quantity:	**500KGS**	**Shelf Life:**	**24 MONTHS**

ITEM	SPECIFICATION	TEST RESULT
PHYSICAL TESTS:		
DESCRIPTION:		
APPEARANCE	WHITE FINE POWDER	COMPLIES
AROMA	CHARACTERISTIC	COMPLIES
TASTE	CHARACTERISTIC	COMPLIES
PARTICLE SIZE	80 MESH	COMPLIES
BULK DENSITY	0.35-0.55G/ML	0.35G/ML
CHEMICAL TESTS:		
ASSAY	≥95.00%	95.48%
SPECIFIC ROTATION	-30° ~-38°	-37°
SPECIFIC ABSOROANCE	≤0.050	0.038
LOSS ON DRYING	≤4.0%	3.5%
ASH	≤0.2%	0.11%
HEAVY METAL	≤10PPM	<10PPM
AS	≤1PPM	<1PPM
MICROBIOLOGICAL RESULTS		
TOTAL AEROBIC PLATE COUNT	≤1000CFU/G	<10 CFU/G
YEAST & MOLD	≤100 CFU/G	10 CFU/G
E.COLI	NEGATIVE	NEGATIVE
SALMONELLA	NEGATIVE	NEGATIVE
STAPHYLOCOCCUS AUREUS	NEGATIVE	NEGATIVE
STORAGE	STORE IN COOL & DRY PLACE. KEEP AWAY FROM STRONG LIGHT AND HEAT.	

QUALITY ASSURANCE OFFICER S.L.AN

CORRECTOR LI YI

ANALYST YUJIAO WA

货物运输安全保证函

发件公司	宁波市海曙区健升经贸有限公司		
生产厂家	宁波市海曙区健升经贸有限公司		
运单号	845 6706 775		
货物品名（中文）	甜菊叶提取物		
货物品名（英文）	STEVIOSIDE		
货物运输条件鉴定书编号	20090178655	签发日期	20090106
鉴定结果	普通货物		
包装	袋装		
始发地/地址	宁波		
目的地/地址	印尼		

我公司委托_____承运的该类货物，无爆炸，无氧化，无腐蚀，无放射性，非易燃，非有毒有害，非用于制造化学武器的原料，经上海化工研究检测中心鉴定，无危险性，可按普通货物条件运输，包装符合要求.

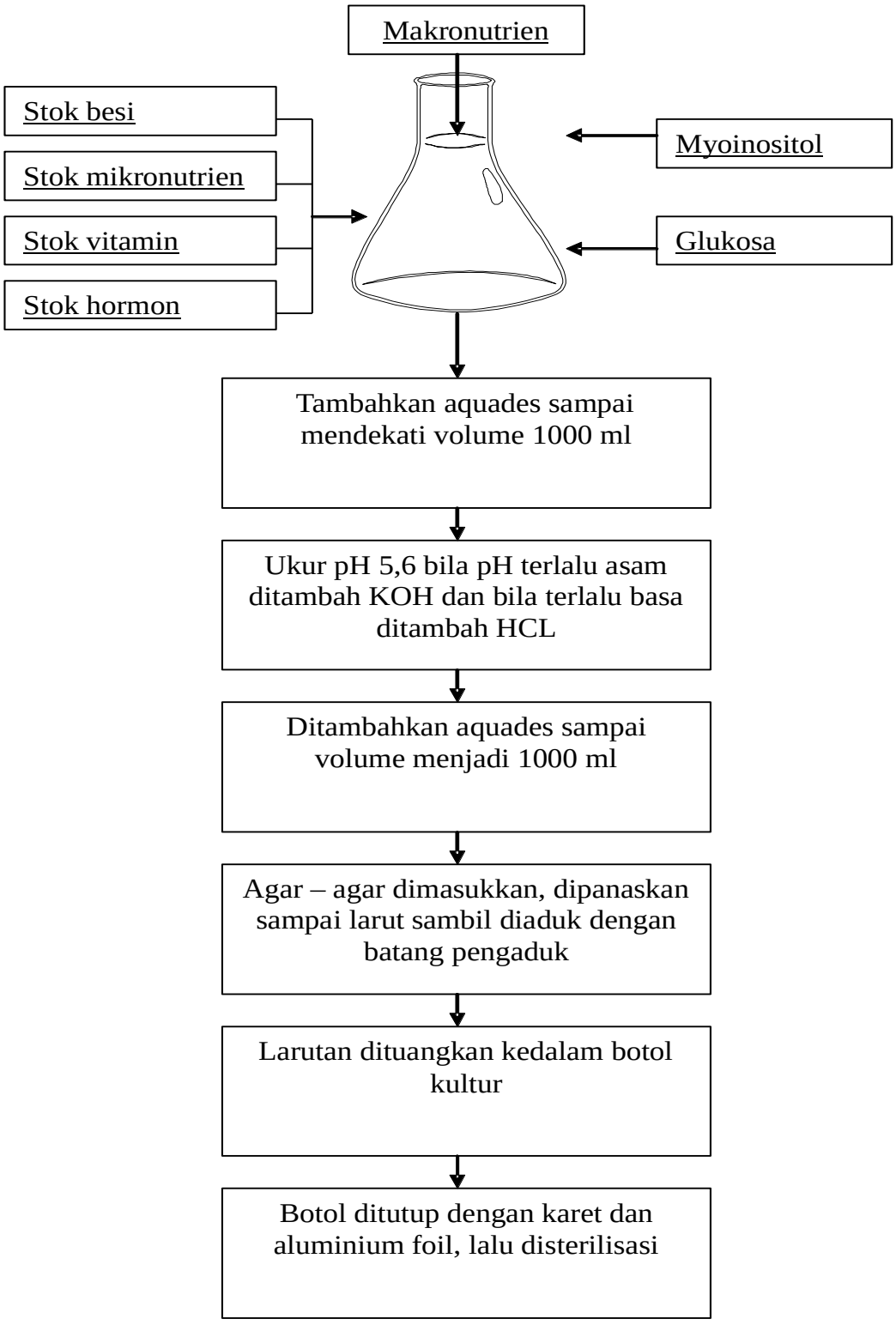
我可以上申报属实，若由于我公司申报不符，而造成运输过程中的一切损伤，我公司承担一切法律责任和经济赔偿。

送样单位（公章）	生产单位（公章）

Lampiran 3. Komposisi media *New Phalaenopsis* (NP).

Bahan	Jumlah (mg/l)
I. Makronutrien	
NH_4NO_3	32
$(NH_4)_2SO_4$	303,9
KNO_3	424,6
$Mg(NO_3)_2.6H_2O$	256,4
$Ca(NO_3)_2.4H_2O$	637,6
KH_2PO_4	462,7
II. Besi	
Na_2EDTA	37,3
$FeSO_4.\ 7H_2O$	27,8
III. Mikronutrien	0,5
$MnSO_{4.}\ H_2O$	11,15
$ZnSO_{4.}\ 4H_2O$	4,3
H_3BO_3	3,1
KI	0,415
$NaMoO_{4.}\ 2H_2O$	0,125
$CuSO_{4.}\ 5H_2O$	0,0125
$CoCl_{2.}\ 6H_2O$	0,0125
IV. Vitamin	
Glycine	2
Nicotinic acid	0,5
Pyridoxine-HCl	0,5
Thiamine-HCl	0,1
Myoinositol	100
Glukosa	20000
Agar	7.500
pH	5,6

Lampiran 4. Skema pembuatan media *New Phalaenopsis* (NP) 1 liter.



Lampiran 5. Foto alat yang digunakan untuk penelitian

Autosampler CAMAG

Chamber

Autoclave

Enkas

Oven binder

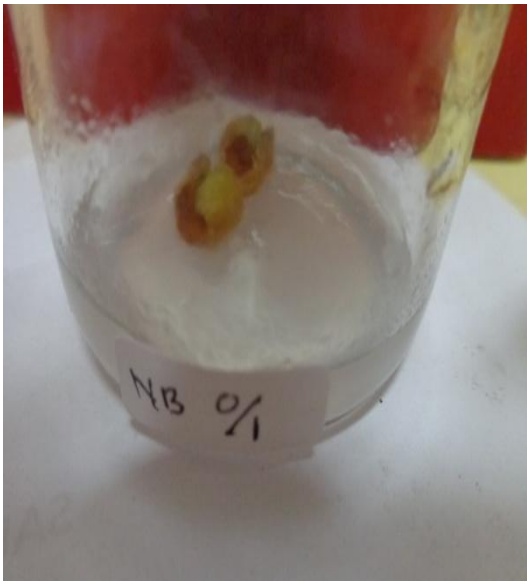
Timbangan analitik

Lampiran 6. Foto tanaman Stevia (*Stevia rebaudiana* Bertonii M.)

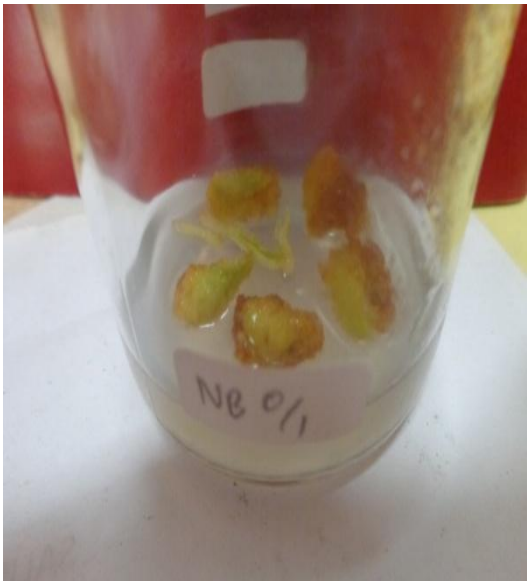
Lampiran 7. Foto kalus daun stevia(*Stevia rebaudiana* Bertonii M.)

ZPT NAA 0 *ppm* : BAP 1 *ppm*
Eksplan setelah diinkubasi
selama 2 minggu

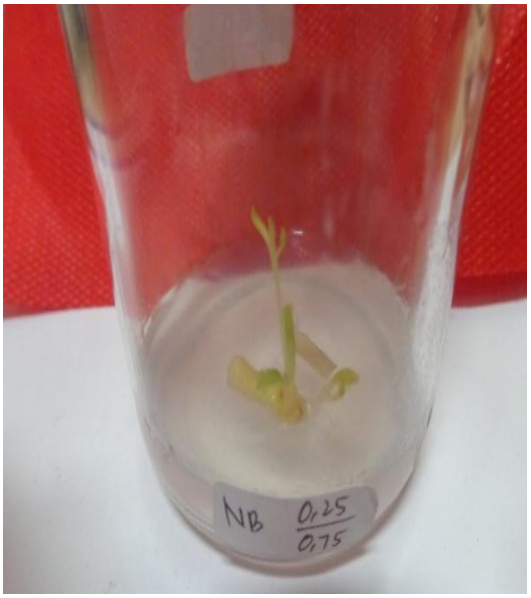
ZPT NAA 0 *ppm* : BAP 1 *ppm*
Eksplan setelah diinkubasi
selama 3 minggu



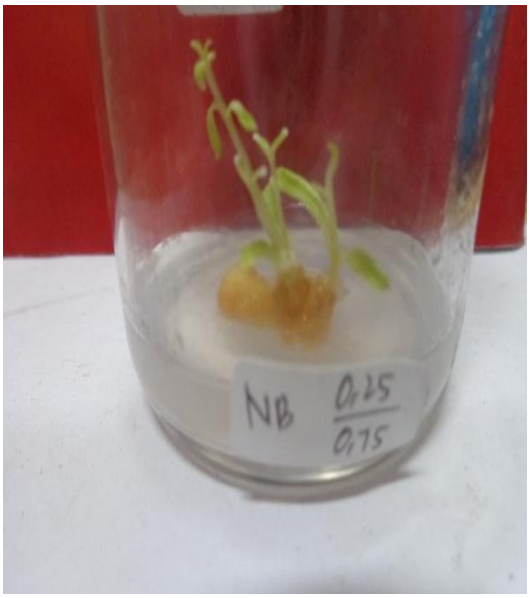
ZPT NAA 0 *ppm* : BAP 1 *ppm*
Kalus setelah diinkubasi
selama 4 minggu



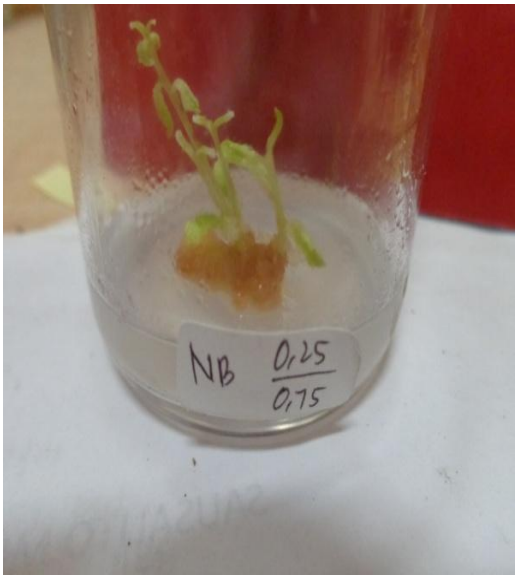
ZPT NAA 0 *ppm* : BAP 1 *ppm*
Kalus setelah disubkultur



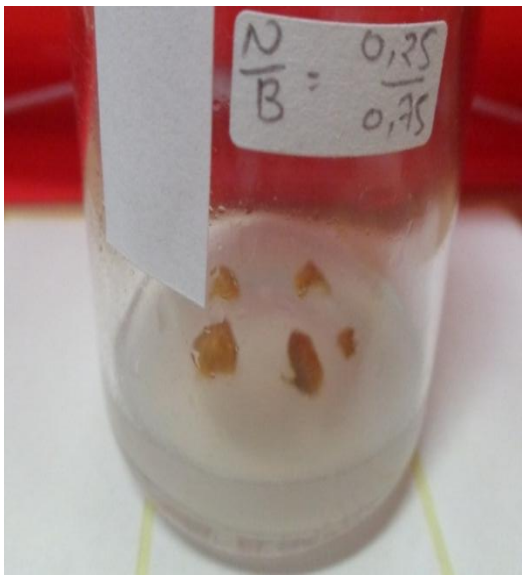
ZPT NAA 0,25 *ppm* : BAP 0,75 *ppm*
Eksplan setelah diinkubasi
selama 2 minggu



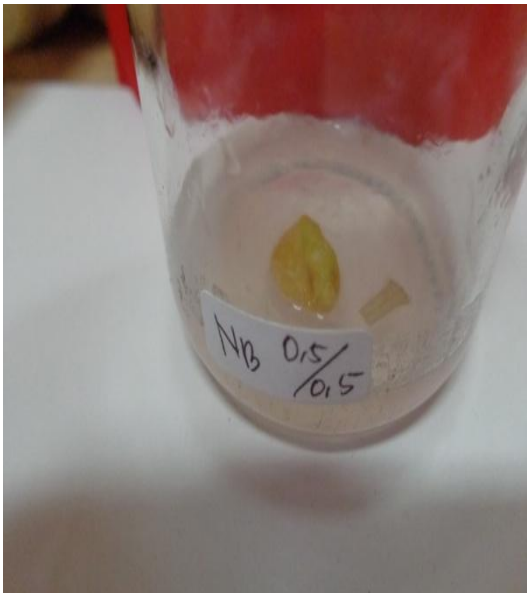
ZPT NAA 0,25 *ppm* : BAP 0,75 *ppm*
Eksplan setelah diinkubasi
selama 3 minggu



ZPT NAA 0,25 *ppm* : BAP 0,75 *ppm*
Kalus setelah diinkubasi
selama 4 minggu



ZPT NAA 0,25 *ppm* : BAP 0,75 *ppm*
Kalus setelah disubkultur



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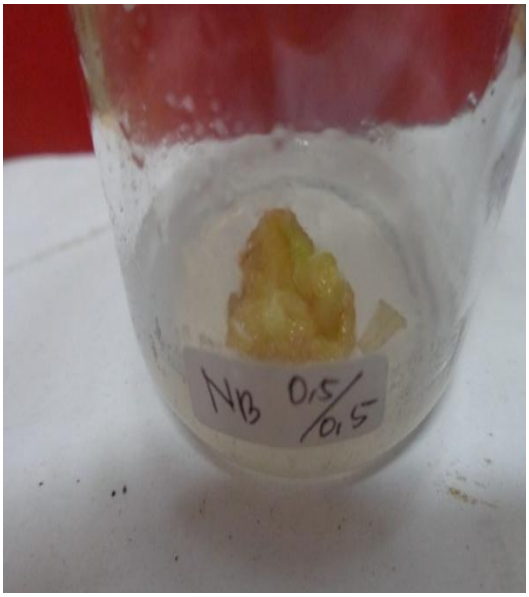
Eksplan setelah diinkubasi
selama 2 minggu



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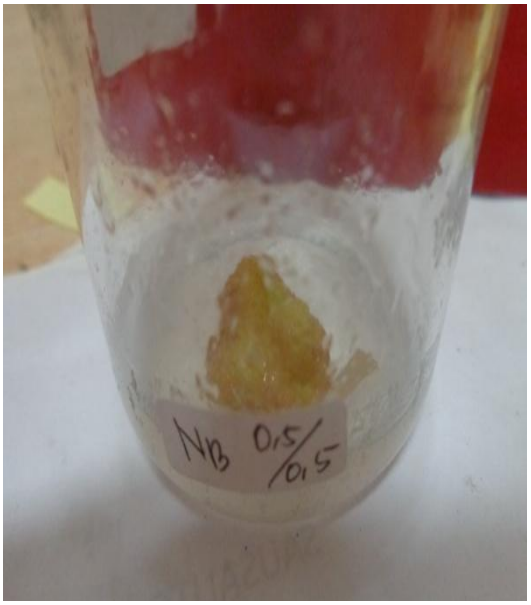
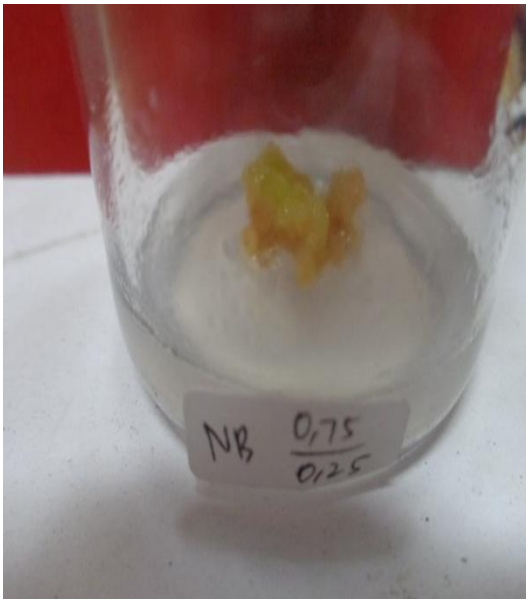
Eksplan setelah diinkubasi
selama 3 minggu



ZPT NAA 0,5 *ppm* : BAP 0,5 *ppm*
Kalus setelah diinkubasi
selama 4 minggu

ZPT NAA 0,5 *ppm* : BAP 0,5 *ppm*
Kalus setelah disubkultur

ZPT NAA 0,75 *ppm* : BAP 0,25 *ppm*
Eksplan setelah diinkubasi
selama 2 minggu

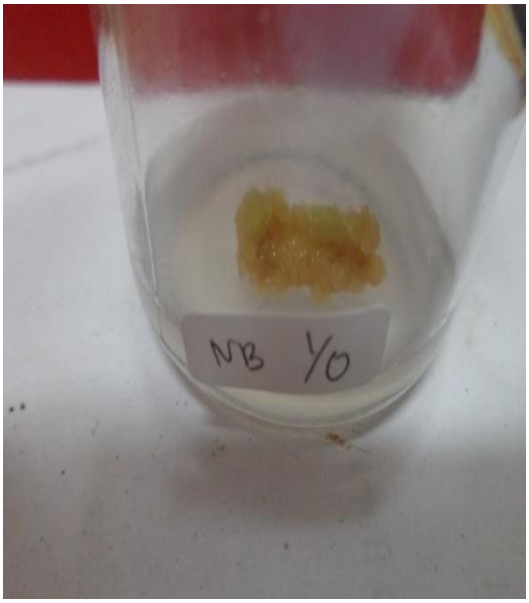


ZPT NAA 0,75 *ppm* : BAP 0,25 *ppm*
Eksplan setelah diinkubasi
selama 3 minggu

ZPT NAA 0,75 *ppm* : BAP 0,25 *ppm*
Kalus setelah diinkubasi
selama 4 minggu

ZPT NAA 0,75 *ppm* : BAP 0,25 *ppm*
Kalus setelah disubkultur

ZPT NAA 1 *ppm* : BAP 0 *ppm*
Eksplan setelah diinkubasi
selama 2 minggu



ZPT NAA 1 *ppm* : BAP 0 *ppm*
Eksplan setelah diinkubasi
selama 3 minggu

ZPT NAA 1 *ppm* : BAP 0 *ppm*
Kalus setelah diinkubasi
selama 4 minggu

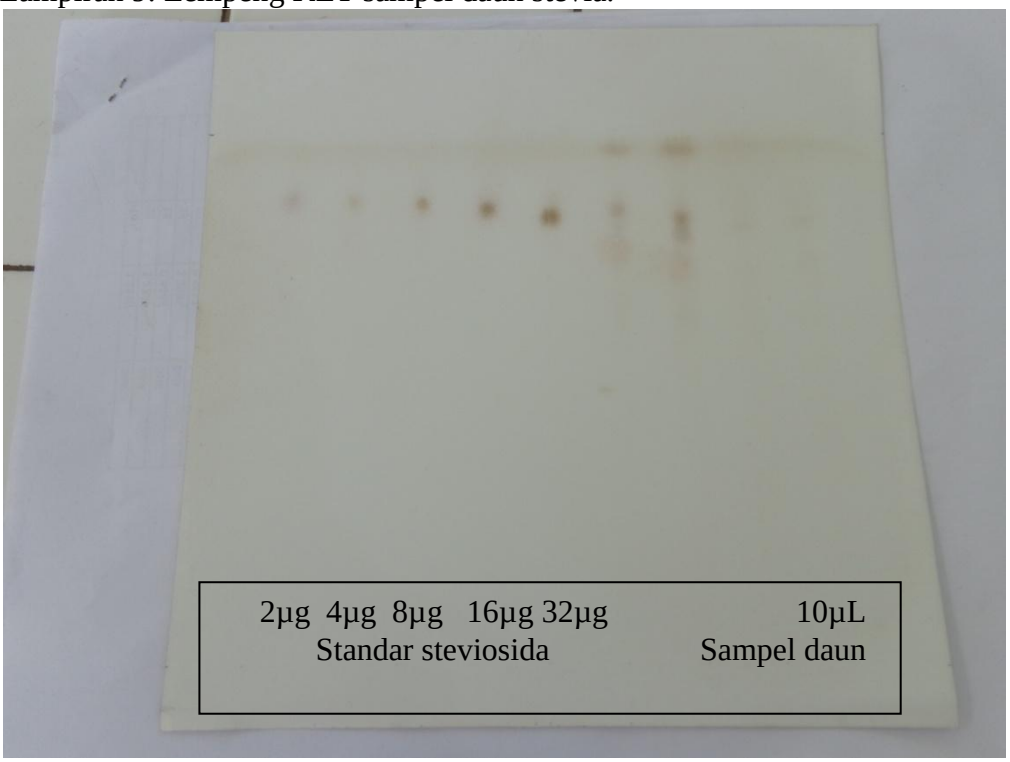
ZPT NAA 0,5 *ppm* : BAP 0,5 *ppm*
Kalus setelah disubkultur

Lampiran 8. Ekstrak daun dan kalus daun stevia.

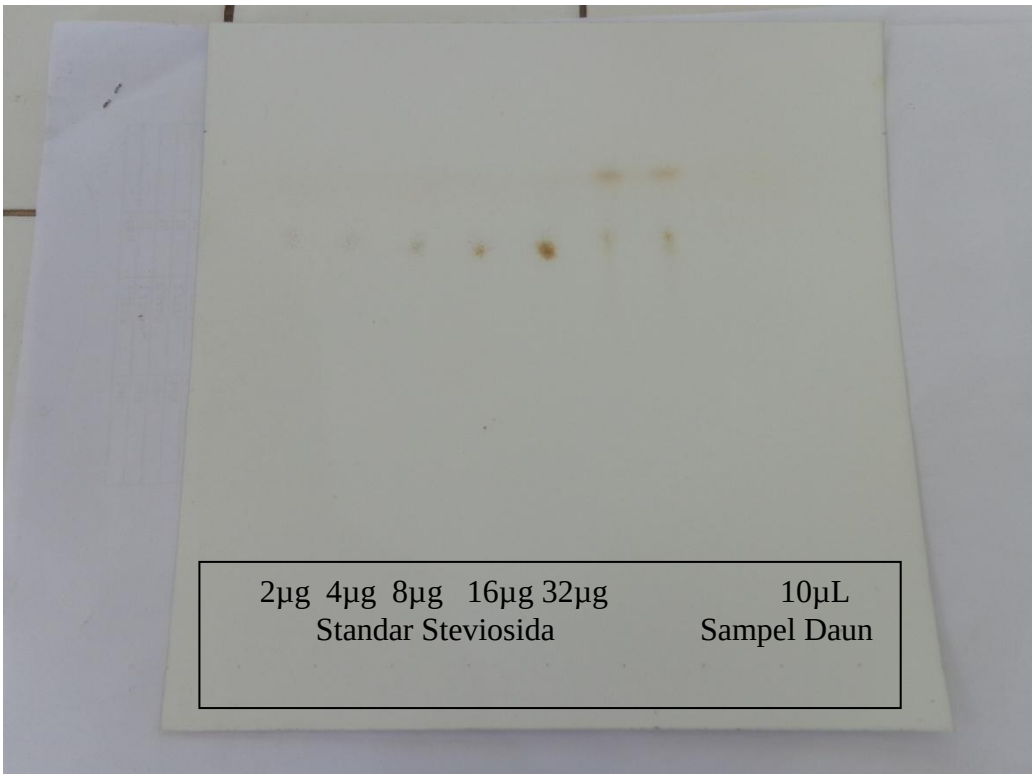
Ekstrak daun stevia.

Ekstrak kalus daun stevia.

Lampiran 9. Lempeng KLT sampel daun stevia.

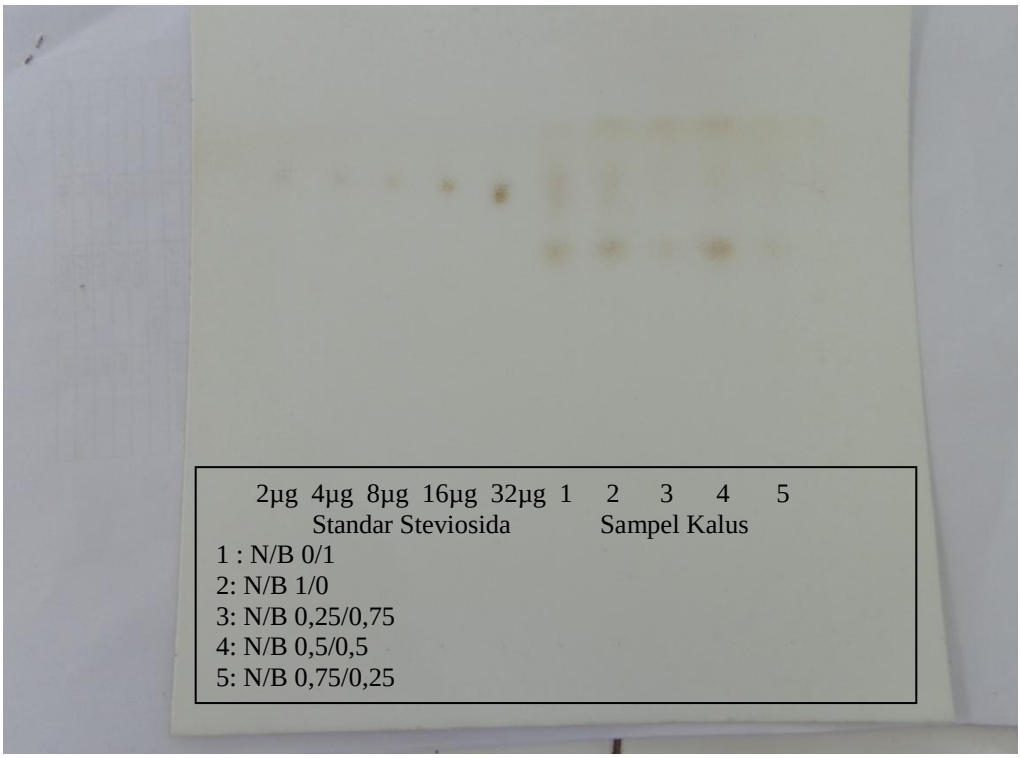


Lempeng KLT Replikasi 1

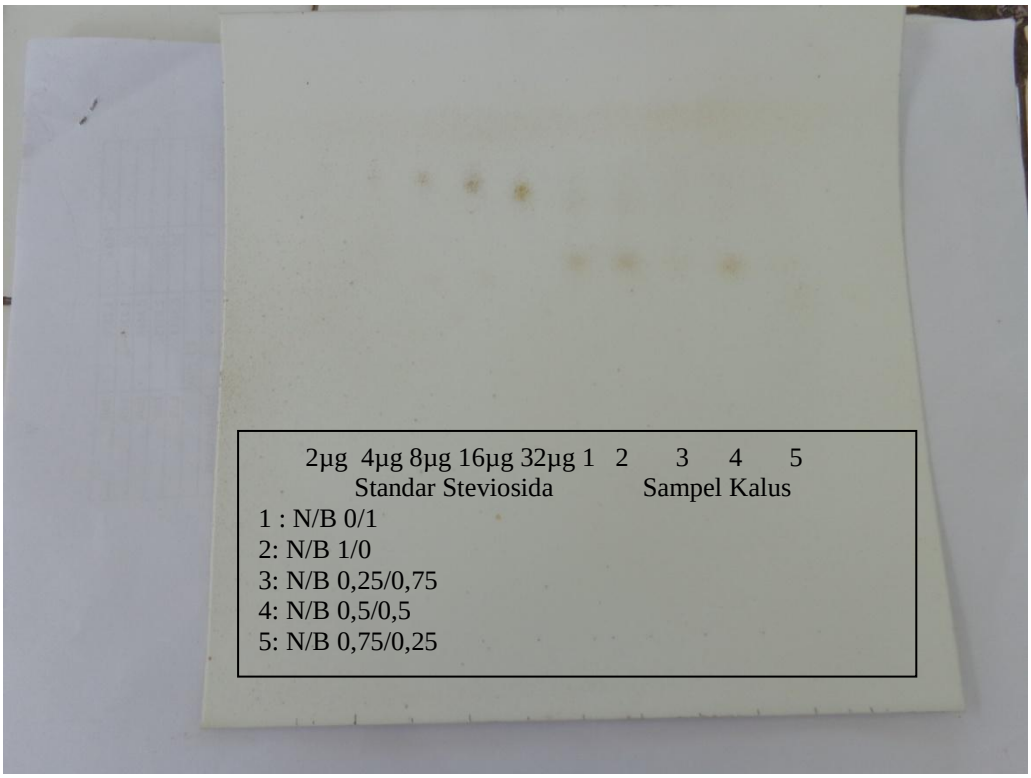


Lempeng KLT Replikasi 2

Lampiran 10. Lempeng KLT sampel kalus daun stevia.



Lempeng KLT Replikasi 1



Lempeng KLT Replikasi 2.

Lampiran 11. Kromatogram seri konsentrasi steviosida standar dan sampel daun stevia replikasi 1.

Application position	8,0 mm
Solvent front position	75,0 mm

Instrument

Instrument	CAMAG TLC Scanner 3 "Scanner3_160602" S/N 160602 (1.14.28)
Executed by	farmasiusd 25 Oktober 2013 14:18:57
Number of tracks	7
Position of first track X	15,0 mm
Distance between tracks	10,0 mm
Scan start pos. Y	20,0 mm
Scan end pos. Y	154,0 mm
Slit dimensions	6,00 x 0,10 mm, Micro
Optimize optical system	Light
Scanning speed:	20 mm/s
Data resolution:	100 µm/step

Measurement Table

Wavelength	400
Lamp	D2 & W
Measurement Type	Remission
Measurement Mode	Absorption
Optical filter	Second order
Detector mode	Automatic
PM high voltage	460 V

Detector properties

Y-position for 0 adjust	20,0 mm
Track # for 0 adjust	0
Analog Offset	10%
Sensitivity	Automatic (36)

Integration

Properties

Data filtering	Savitsky-Golay 7
Baseline correction	Lowest Slope
Peak threshold min. slope	5
Peak threshold min. height	10 AU
Peak threshold min. area	50
Peak threshold max. height	990 AU
Track start position	20,1 mm
Track end position	154,0 mm
Display scaling	Automatic

User : farmasiusd
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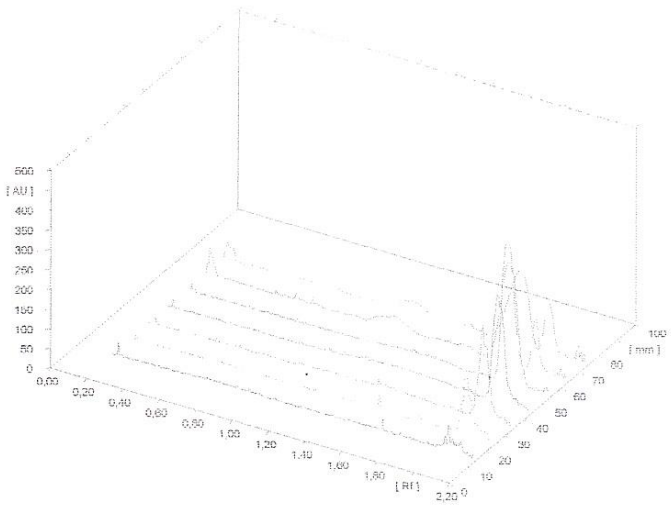
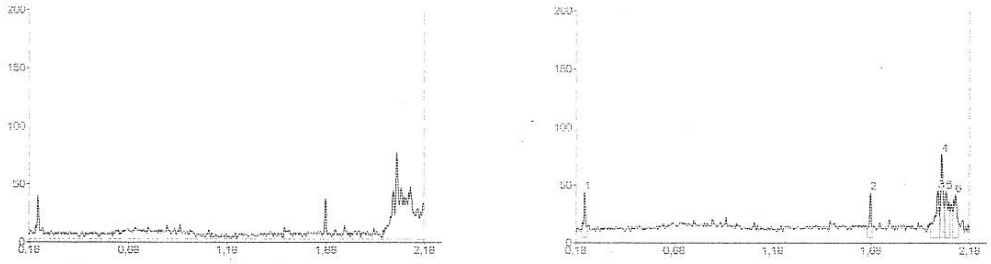
winCATS Planar Chromatography Manager

All tracks at Wavelength



Track 1, ID: baku 1



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %		Assigned substance
1	0,21	0,9	0,22	33,8	14,22	0,24	3,5	223,9	9,17		unknown *
2	1,66	2,4	1,68	33,8	14,22	1,69	4,2	192,6	7,89		unknown *
3	1,99	5,4	2,02	35,6	15,00	2,03	14,3	484,8	19,85	V	unknown *
4	2,03	18,0	2,04	67,1	28,24	2,05	21,1	599,4	24,55	V	unknown *
5	2,05	22,7	2,06	34,9	14,69	2,08	18,1	494,0	20,23	✓	unknown *
6	2,09	17,0	2,11	32,4	13,63	2,12	7,7	447,1	18,31		unknown *

1578.2

User : farmasiusd
25 Oktober 2013 14:19:02

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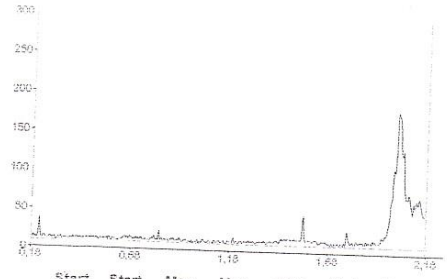
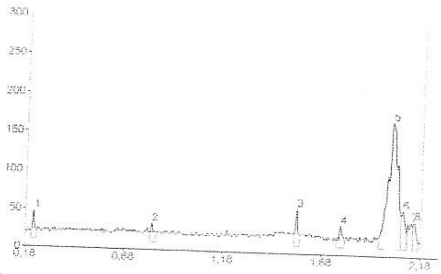
winCATS Planar Chromatography Manager

Detection - CAMAG TLC Scanner 3

Information

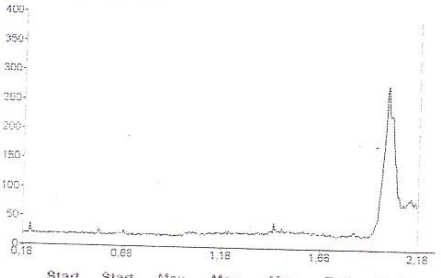
Track 2, ID: baku 2

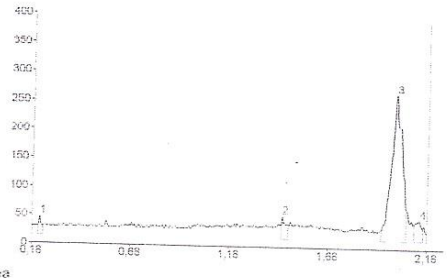




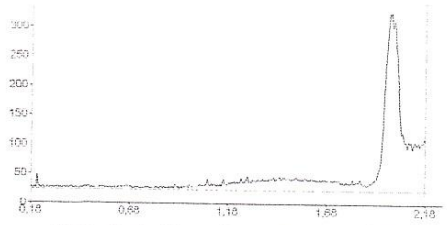
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %		Assigned substance
1	0,21	1,9	0,22	26,6	7,70	0,23	1,2	159,4	2,13		unknown *
2	0,81	3,5	0,82	14,6	4,23	0,84	1,9	121,8	1,63		unknown *
3	1,54	6,9	1,56	38,6	11,15	1,57	4,9	325,3	4,35		unknown *
4	1,76	1,2	1,78	18,8	5,43	1,80	2,4	174,9	2,34		unknown *
5	1,97	5,0	2,03	155,0	44,83	2,08	35,7	5400,8	72,18	✓	unknown *
6	2,08	35,8	2,09	40,3	11,66	2,11	12,1	620,8	8,30		unknown *
7	2,11	14,4	2,13	25,1	7,27	2,14	19,3	400,4	5,35		unknown *
8	2,14	20,9	2,14	26,8	7,74	2,17	0,4	279,4	3,73		unknown *

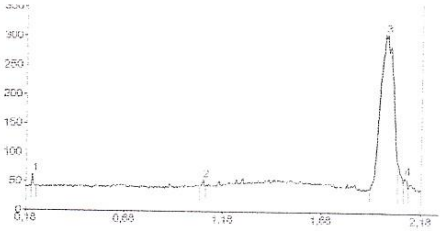
Track 3, ID: baku 4





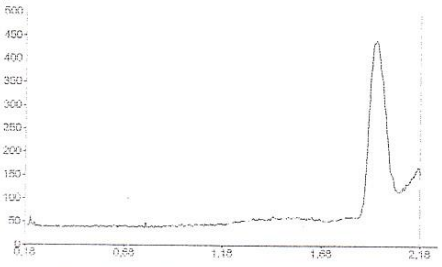
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %		Assigned substance
1	0,21	1,0	0,22	16,6	5,47	0,23	2,3	93,4	0,92		unknown *
2	1,44	8,7	1,45	24,0	7,93	1,48	9,9	336,5	3,32		unknown *
3	1,95	3,2	2,02	240,4	79,32	2,08	39,2	9267,7	91,43	✓	unknown *
4	2,12	13,8	2,14	22,1	7,28	2,16	5,1	438,9	4,33		unknown *

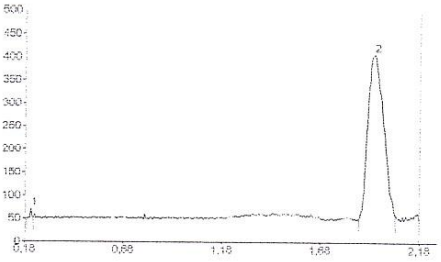




Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,20	0,1	0,21	21,8	6,62	0,23	1,3	122,6	0,93	unknown *
2	1,06	3,4	1,08	14,9	4,51	1,09	4,5	154,3	1,17	unknown *
3	1,93	2,3	2,00	269,5	81,80	2,06	45,2	12611,8	95,60	unknown *
4	2,09	14,2	2,10	23,3	7,07	2,11	5,0	304,2	2,31	unknown *

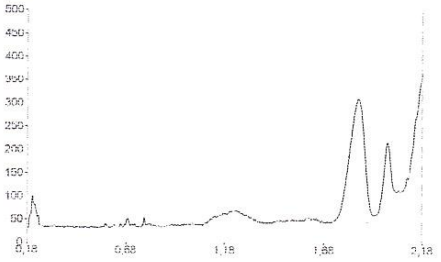
Track 5, ID: baku 16

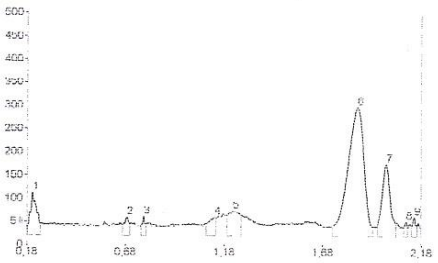




Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,19	0,1	0,21	21,6	5,67	0,22	2,4	124,5	0,58	unknown *
2	1,88	2,2	1,90	359,5	94,33	2,06	12,2	21404,4	99,42	unknown *

Track 6, ID: daun 1





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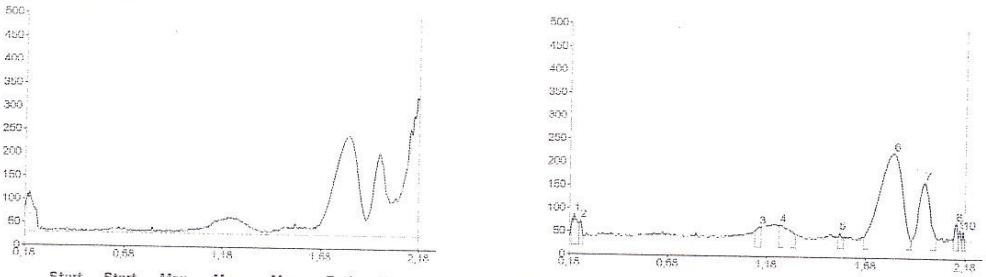
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,18	0,9	0,21	71,5	12,12	0,25	5,6	1451,9	8,38	unknown *
2	0,66	1,5	0,69	19,6	3,32	0,70	3,9	262,3	1,15	unknown *
3	0,76	0,6	0,77	21,4	3,63	0,79	5,0	142,6	0,63	unknown *
4	1,09	6,1	1,13	20,6	3,49	1,14	18,0	485,6	2,13	unknown *
5	1,20	23,5	1,22	33,3	5,64	1,27	24,2	1453,3	6,38	unknown *
6	1,73	2,3	1,86	256,5	43,48	1,93	0,4	14999,6	65,88	unknown *
7	1,96	5,1	2,00	134,6	22,81	2,05	8,6	3717,5	16,33	unknown *
8	2,09	0,1	2,10	11,1	1,88	2,11	0,3	72,6	0,32	unknown *
9	2,13	1,5	2,14	21,3	3,62	2,16	0,0	184,3	0,81	unknown *

Track 7, ID: daun 2



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,19	22,7	0,20	47,2	8,56	0,23	28,3	906,8	3,71	unknown *
2	0,23	27,8	0,24	34,0	6,16	0,25	0,9	316,3	1,29	unknown *
3	1,12	14,3	1,15	25,0	4,54	1,15	22,6	464,4	1,90	unknown *
4	1,24	28,7	1,25	30,5	5,53	1,33	8,4	1211,3	4,96	unknown *
5	1,54	5,5	1,55	15,4	2,79	1,57	3,2	152,3	0,62	unknown *
6	1,67	5,6	1,82	187,2	33,97	1,91	0,1	15961,9	65,34	unknown *
7	1,91	0,0	1,98	126,7	22,99	2,03	7,1	4760,1	19,49	unknown *
8	2,12	0,5	2,13	39,4	7,15	2,14	7,0	405,3	1,66	unknown *
9	2,15	9,1	2,15	24,1	4,37	2,16	0,3	156,3	0,64	unknown *
10	2,16	1,3	2,17	21,5	3,91	2,18	0,7	93,3	0,38	unknown *

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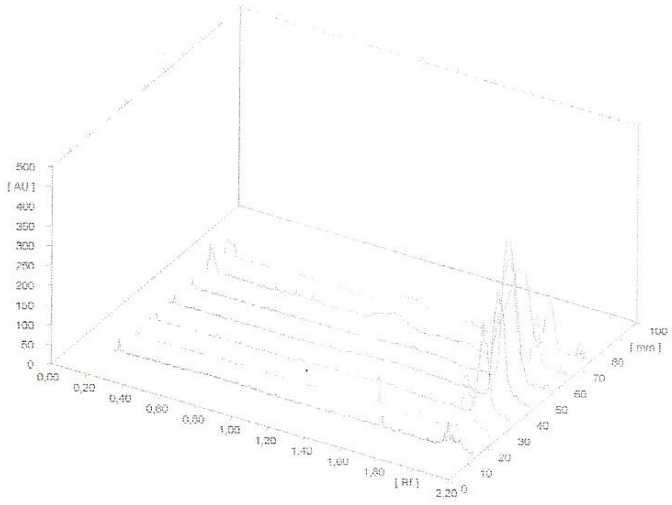
Track 4, ID: baku 8

Lampiran 12. Kromatogram seri konsentrasi steviosida standar dan sampel daun stevia replikasi 2.

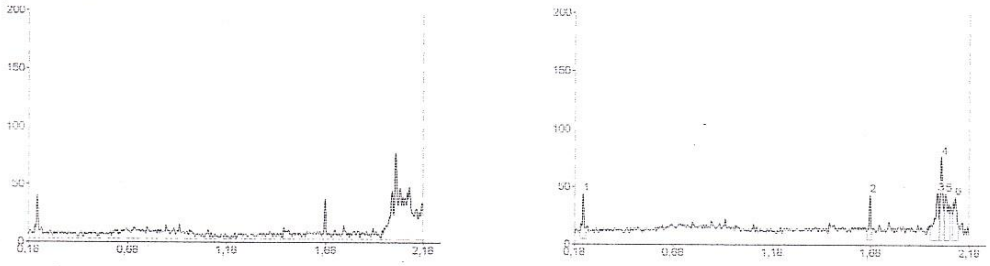
Application position	8,0 mm
Solvent front position	75,0 mm
Instrument	
Executed by	CAMAG TLC Scanner 3 "Scanner3_160602" S/N 160602 (1.14.28) farmasiusd 25 Oktober 2013 14:18:57
Number of tracks	7
Position of first track X	15,0 mm
Distance between tracks	10,0 mm
Scan start pos. Y	20,0 mm
Scan end pos. Y	154,0 mm
Slit dimensions	6,00 x 0,10 mm, Micro
Optimize optical system	Light
Scanning speed:	20 mm/s
Data resolution:	100 µm/step
Measurement Table	
Wavelength	400
Lamp	D2 & W
Measurement Type	Remission
Measurement Mode	Absorption
Optical filter	Second order
Detector mode	Automatic
PM high voltage	460 V
Detector properties	
Y-position for 0 adjust	20,0 mm
Track # for 0 adjust	0
Analog Offset	10%
Sensitivity	Automatic (36)
Integration	
Properties	
Data filtering	Savitsky-Golay 7
Baseline correction	Lowest Slope
Peak threshold min. slope	5
Peak threshold min. height	10 AU
Peak threshold min. area	50
Peak threshold max. height	990 AU
Track start position	20,1 mm
Track end position	154,0 mm
Display scaling	Automatic

winCATS Planar Chromatography Manager

All tracks at Wavelength



Track 1, ID: baku 1



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %		Assigned substance
1	0,21	0,9	0,22	33,6	14,22	0,24	3,5	223,9	9,17		unknown *
2	1,66	2,4	1,68	33,6	14,22	1,69	4,2	192,6	7,89		unknown *
3	1,99	5,4	2,02	35,6	15,00	2,03	14,3	484,8	19,85	V	unknown *
4	2,03	18,0	2,04	67,1	28,24	2,05	21,1	599,4	24,55	V	unknown *
5	2,05	22,7	2,06	34,9	14,69	2,08	18,1	494,0	20,23	✓	unknown *
6	2,09	17,0	2,11	32,4	13,63	2,12	7,7	447,1	18,31		unknown *

1578.2

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Detection - CAMAG TLC Scanner 3

Information

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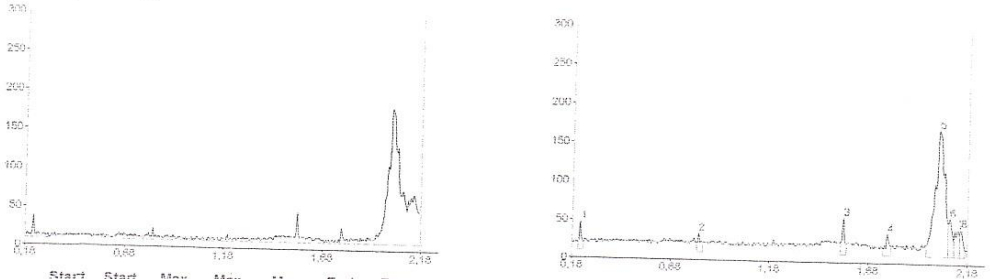
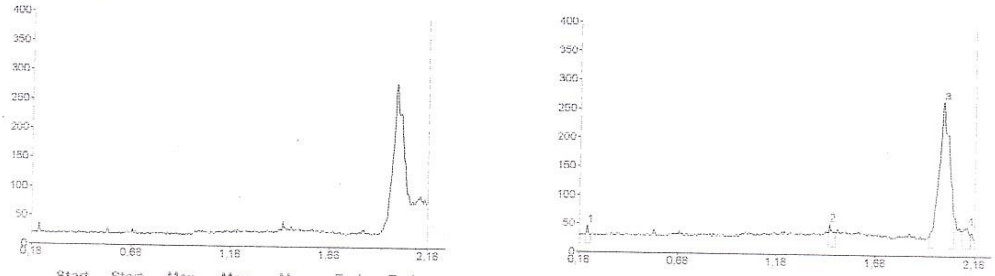
Track 2, ID: baku 2

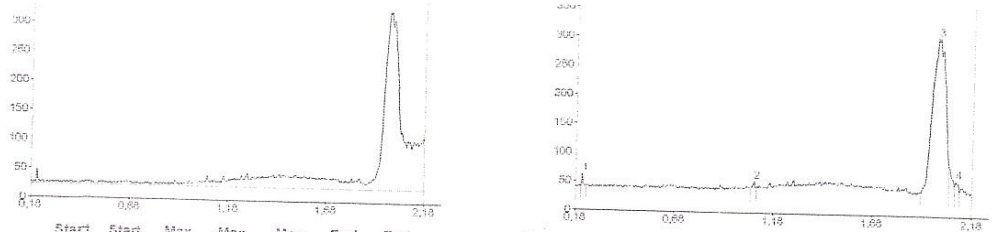


Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,21	1,9	0,22	26,6	7,70	0,23	1,2	159,4	2,13	unknown *
2	0,81	3,5	0,82	14,6	4,23	0,84	1,9	121,8	1,63	unknown *
3	1,54	6,9	1,56	38,6	11,15	1,57	4,9	325,3	4,35	unknown *
4	1,76	1,2	1,78	18,8	5,43	1,80	2,4	174,9	2,34	unknown *
5	1,97	5,0	2,03	155,0	44,83	2,08	35,7	5400,6	72,18	unknown *
6	2,08	35,8	2,09	40,3	11,66	2,11	12,1	620,8	8,30	unknown *
7	2,11	14,4	2,13	25,1	7,27	2,14	19,3	400,4	5,35	unknown *
8	2,14	20,9	2,14	26,8	7,74	2,17	0,4	279,4	3,73	unknown *

Track 3, ID: baku 4

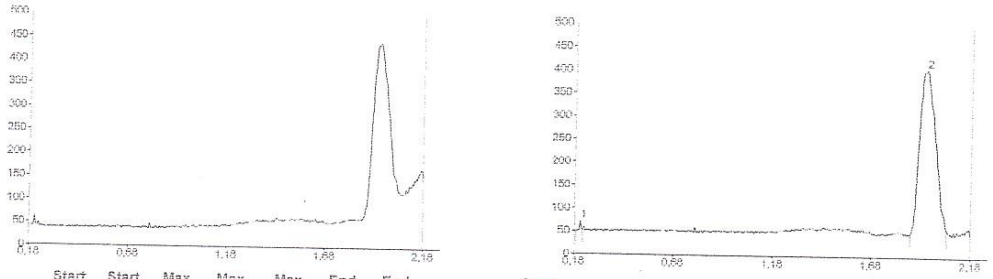


Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,21	1,0	0,22	16,6	5,47	0,23	2,3	93,4	0,92	unknown *
2	1,44	8,7	1,45	24,0	7,93	1,48	9,9	336,5	3,32	unknown *
3	1,95	3,2	2,02	240,4	79,32	2,08	39,2	9267,7	91,43	unknown *
4	2,12	13,8	2,14	22,1	7,28	2,16	5,1	438,9	4,33	unknown *



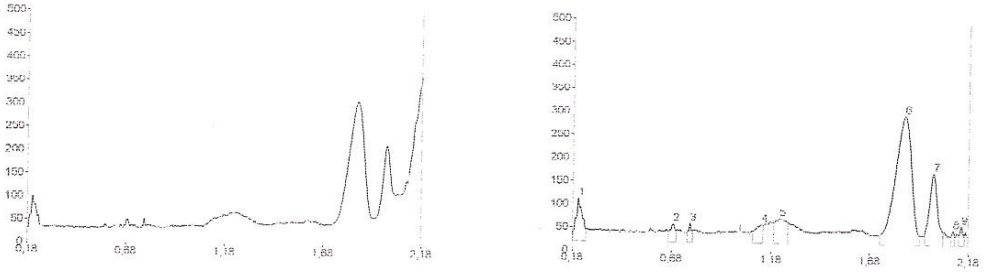
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,20	0,1	0,21	21,8	6,62	0,23	1,3	122,6	0,93	unknown *
2	1,06	3,4	1,08	14,9	4,51	1,09	4,5	154,3	1,17	unknown *
3	1,93	2,3	2,00	269,5	81,80	2,06	45,2	12611,8	95,60	unknown *
4	2,09	14,2	2,10	23,3	7,07	2,11	5,0	304,2	2,31	unknown *

Track 5, ID: baku 16



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,19	0,1	0,21	21,6	5,87	0,22	2,4	124,5	0,58	unknown *
2	1,88	2,2	1,96	359,5	94,33	2,06	12,2	21404,4	99,42	unknown *

Track 6, ID: daun 1



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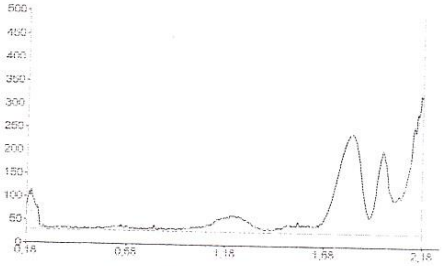
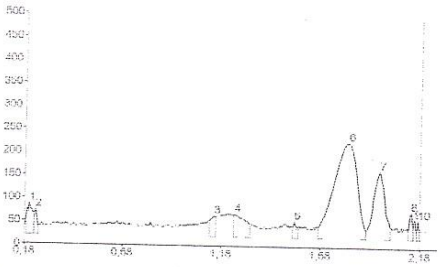
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,16	0,6	0,21	71,5	12,12	0,25	5,5	1451,9	6,38	unknown *
2	0,66	1,5	0,69	19,6	3,32	0,70	3,9	262,3	1,15	unknown *
3	0,75	0,6	0,77	21,4	3,63	0,79	5,0	142,6	0,63	unknown *
4	1,09	6,1	1,13	20,6	3,49	1,14	16,0	485,6	2,13	unknown *
5	1,20	23,5	1,22	33,3	5,64	1,27	24,2	1453,3	6,38	unknown *
6	1,73	2,3	1,86	256,5	43,48	1,93	0,4	14999,6	65,88	unknown *
7	1,96	5,1	2,00	134,6	22,81	2,05	8,6	3717,5	16,33	unknown *
8	2,09	0,1	2,10	11,1	1,88	2,11	0,3	72,6	0,32	unknown *
9	2,13	1,6	2,14	21,3	3,62	2,16	0,0	184,3	0,81	unknown *

Track 7, ID: daun 2





Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,19	22,7	0,20	47,2	8,56	0,23	26,3	906,8	3,71	unknown *
2	0,23	27,8	0,24	34,0	6,16	0,25	0,9	316,3	1,29	unknown *
3	1,12	14,3	1,15	25,0	4,54	1,15	22,6	464,4	1,90	unknown *
4	1,24	28,7	1,25	30,5	5,53	1,33	8,4	1211,3	4,96	unknown *
5	1,54	5,5	1,56	15,4	2,79	1,57	3,2	152,3	0,62	unknown *
6	1,87	5,6	1,82	187,2	33,97	1,91	0,1	15961,9	65,34	unknown *
7	1,91	0,0	1,96	126,7	22,99	2,03	7,1	4760,1	19,49	unknown *
8	2,12	0,5	2,13	39,4	7,15	2,14	7,0	405,3	1,66	unknown *
9	2,15	9,1	2,15	24,1	4,37	2,16	0,3	156,3	0,64	unknown *
10	2,16	1,3	2,17	21,5	3,91	2,18	0,7	93,3	0,38	unknown *

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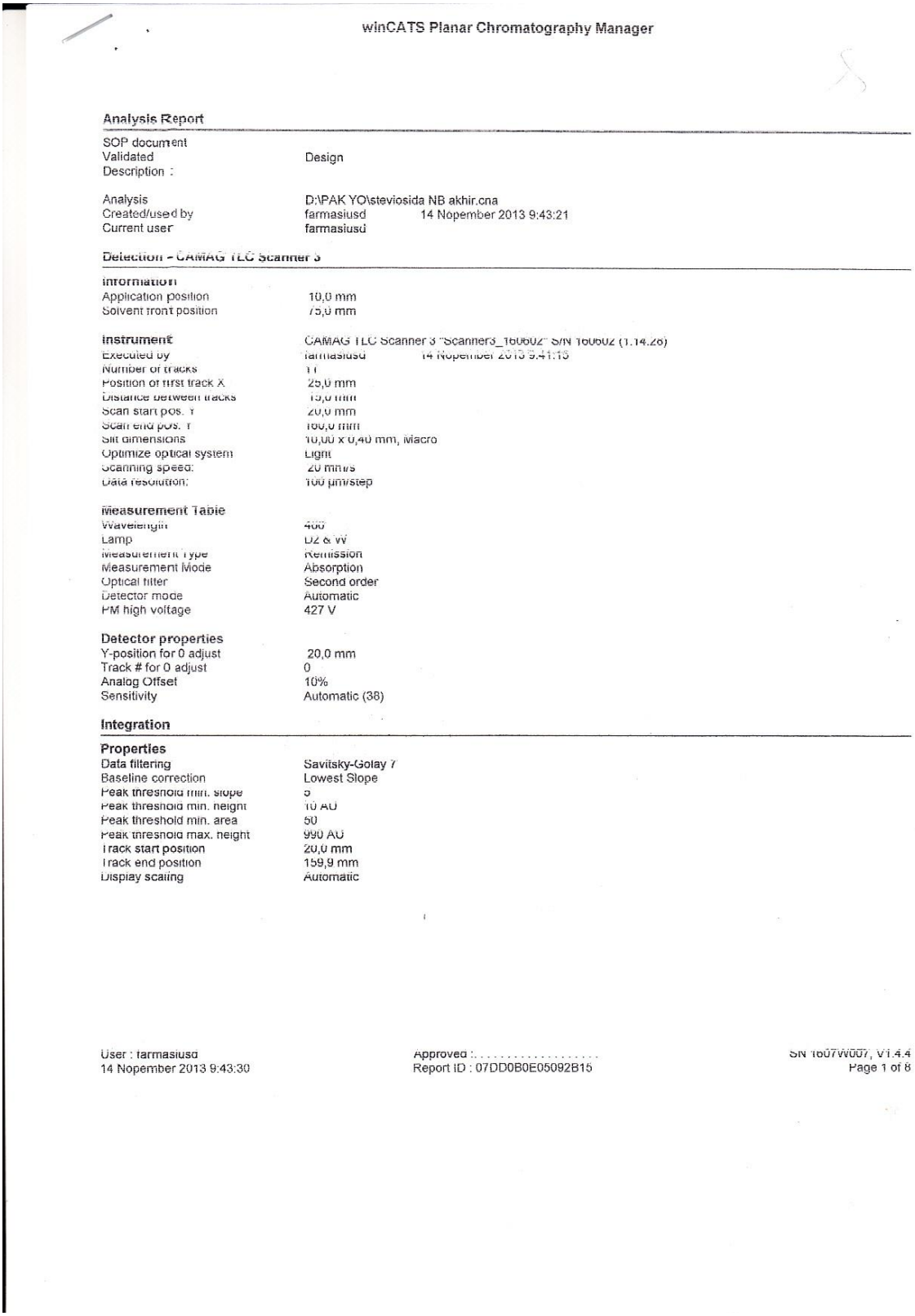
Track 4, ID: baku 8

Lampiran 13. Kromatogram seri konsentrasi steviosida standar dan sampel kalus daun stevia replikasi 1.



winCATS Planar Chromatography Manager

Analysis Report

SOP document	
Validated	Design
Description :	
Analysis	D:\PAK YO\steviosida NB akhir.cna
Created/used by	farmasiusd 14 November 2013 9:43:21
Current user	farmasiusd

Detection - CAMAG TLC Scanner 3

Information

Application position	10,0 mm
Solvent front position	75,0 mm
Instrument	CAMAG TLC Scanner 3 "Scanner3_160602" S/N 160602 (1.14.26)
Executed by	farmasiusd 14 November 2013 9:41:13
Number of tracks	11
Position of first track X	25,0 mm
Distance between tracks	15,0 mm
Scan start pos. Y	20,0 mm
Scan end pos. Y	160,0 mm
Slit dimensions	10,00 x 0,40 mm, Macro
Optimize optical system	Light
Scanning speed:	20 mm/s
Data resolution:	100 µm/step

Measurement Table

Wavelength	400
Lamp	D2 & W
Measurement Type	Remission
Measurement Mode	Absorption
Optical filter	Second order
Detector mode	Automatic
PM high voltage	427 V

Detector properties

Y-position for 0 adjust	20,0 mm
Track # for 0 adjust	0
Analog Offset	10%
Sensitivity	Automatic (38)

Integration

Properties

Data filtering	Savitsky-Golay 7
Baseline correction	Lowest Slope
Peak threshold min. slope	5
Peak threshold min. height	10 AU
Peak threshold min. area	50
Peak threshold max. height	990 AU
Track start position	20,0 mm
Track end position	159,9 mm
Display scaling	Automatic

User : farmasiusd
14 November 2013 9:43:30

Approved : .....
Report ID : 07DD0B0E05092B15

SN 1607W007, V1.4.4
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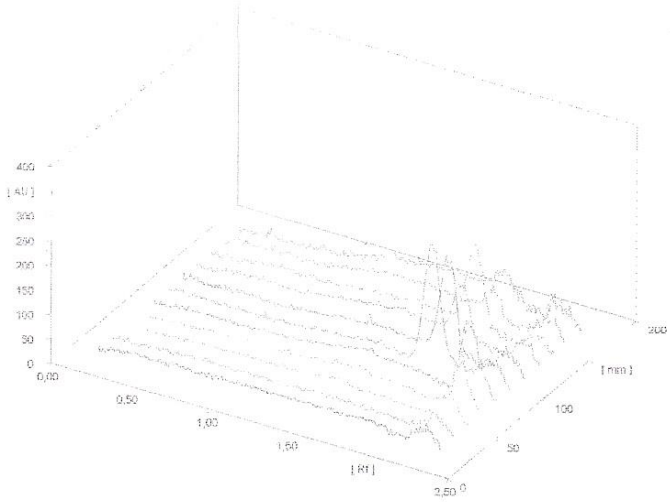
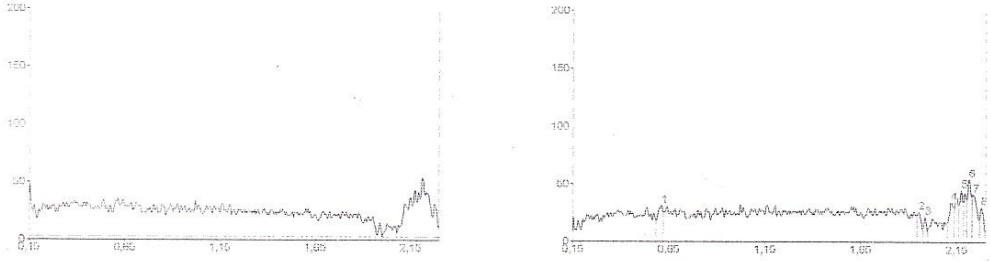
winCATS Planar Chromatography Manager

All tracks at Wavelength



Track 1, ID: baku 1

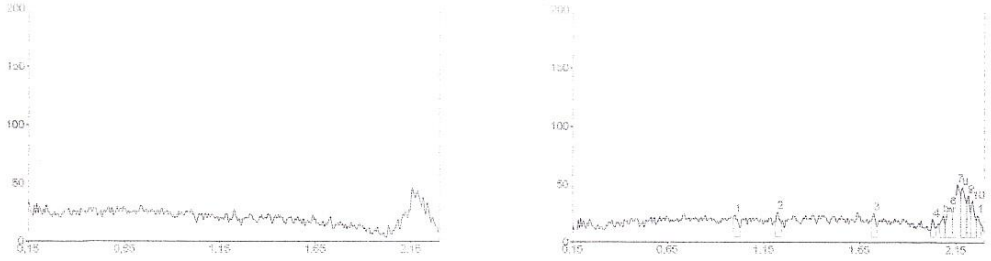


Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,59	8,5	0,62	21,1	10,25	0,63	14,9	416,3	13,32	unknown *
2	1,95	13,0	1,96	16,4	7,94	1,98	1,1	228,4	7,31	unknown *
3	1,98	1,9	2,00	11,9	5,79	2,01	0,9	101,8	3,26	unknown *
4	2,11	6,8	2,13	24,5	12,05	2,14	20,0	433,2	13,86 ✓	unknown *
5	2,17	21,7	2,18	35,2	17,10	2,19	24,2	471,4	15,08 ✓	unknown *
6	2,21	26,7	2,22	44,8	21,73	2,23	29,2	645,4	20,65 ✓	unknown *
7	2,24	29,4	2,24	31,4	15,22	2,27	8,8	590,1	18,88 ✓	unknown *
8	2,28	9,9	2,28	20,4	9,91	2,30	0,1	238,9	7,64	unknown *

21 40,1

winCATS Planar Chromatography Manager

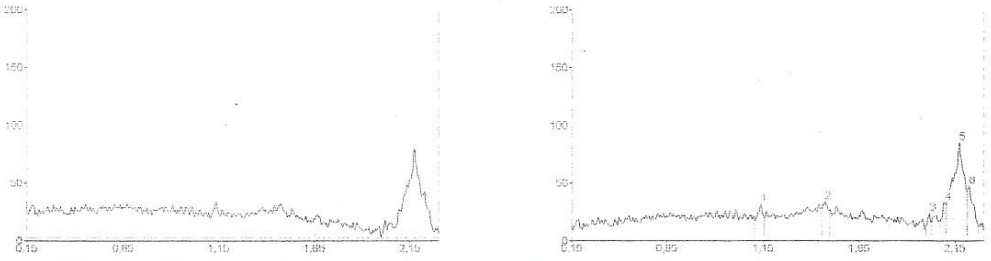
Track 2, ID: baku 2



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,00	11,4	1,01	14,1	5,72	1,04	2,7	239,1	8,15	unknown *
2	1,22	7,4	1,23	16,7	6,80	1,26	6,2	256,2	6,59	unknown *
3	1,72	8,1	1,73	16,0	6,49	1,75	4,1	220,4	5,67	unknown *
4	2,03	0,3	2,04	10,6	4,31	2,05	2,8	92,7	2,38	unknown *
5	2,07	5,5	2,09	14,8	6,02	2,10	6,5	189,6	4,88	unknown *
6	2,10	6,7	2,13	21,1	8,58	2,14	16,2	430,1	11,06	unknown *
7	2,14	16,3	2,17	41,3	16,76	2,18	32,3	874,2	22,48	unknown *
8	2,18	32,4	2,19	38,5	15,65	2,22	24,3	716,3	18,42	unknown *
9	2,22	25,2	2,22	31,9	12,97	2,24	17,2	335,8	8,64	unknown *
10	2,24	16,0	2,24	26,9	10,94	2,26	9,7	361,9	9,30	unknown *
11	2,27	9,6	2,27	14,2	5,75	2,29	5,3	172,9	4,45	unknown *

3889,8

Track 3, ID: baku 4



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,11	7,2	1,14	21,7	11,12	1,16	11,1	453,6	7,97	unknown *
2	1,46	17,4	1,48	23,9	12,27	1,50	16,2	580,7	10,20	unknown *
3	2,01	2,9	2,03	13,9	7,13	2,04	5,7	141,2	2,48	unknown *
4	2,08	7,1	2,10	23,2	11,92	2,11	23,0	328,9	5,76	unknown *
5	2,11	21,0	2,18	75,1	38,53	2,22	33,2	3380,3	59,37	unknown *
6	2,22	33,7	2,23	37,1	19,03	2,26	2,4	809,5	14,22	unknown *

4517,8

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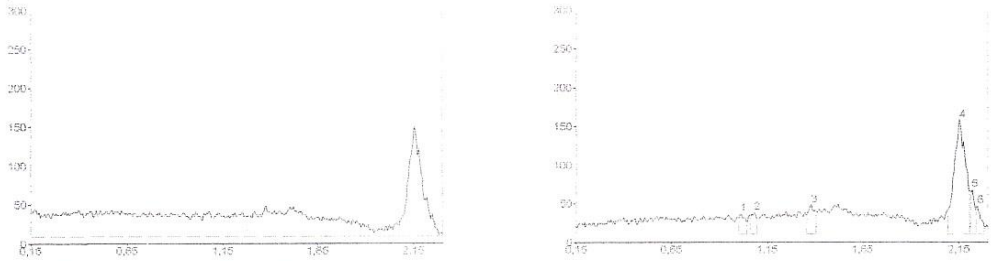
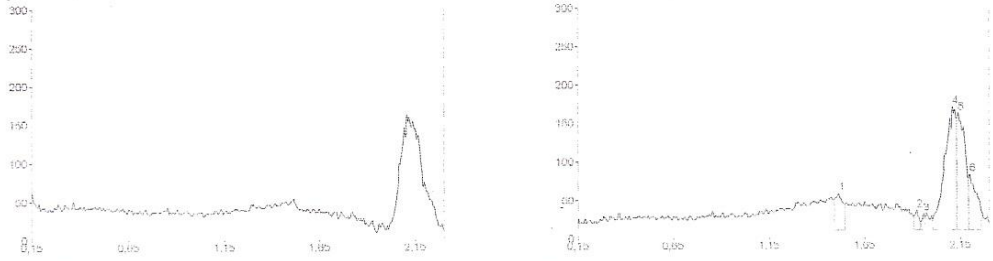
Track 4, ID: baku 6



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,01	11,0	1,01	16,3	5,88	1,05	5,8	332,1	3,76	unknown *
2	1,06	12,9	1,08	18,3	6,59	1,10	9,8	353,6	4,01	unknown *
3	1,36	15,3	1,38	26,4	10,21	1,41	20,2	695,7	7,89	unknown *
4	2,10	21,5	2,15	138,8	49,93	2,21	45,4	6329,1	71,74	unknown *
5	2,22	46,1	2,23	48,6	17,48	2,25	21,9	714,8	8,10	unknown *
6	2,25	23,1	2,25	27,6	9,92	2,29	0,1	398,7	4,50	unknown *

7440,6

Track 5, ID: baku 16



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,50	30,4	1,52	37,8	8,98	1,55	23,9	1140,5	8,90	unknown *
2	1,91	8,2	1,93	16,0	3,78	1,95	2,2	235,2	1,65	unknown *
3	1,96	0,7	1,97	11,5	2,74	1,97	6,9	85,8	0,60	unknown *
4	2,02	4,1	2,11	150,9	35,79	2,14	134,7	6248,0	43,81	unknown *
5	2,14	134,9	2,14	142,5	33,80	2,20	57,4	4739,6	33,23	unknown *
6	2,20	58,6	2,21	62,9	14,91	2,27	13,7	1813,2	12,71	unknown *

12800,8

User : farmasiusd
14 November 2013 9:43:30

Approved : .....
Report ID : 07DD0B0E06092B15

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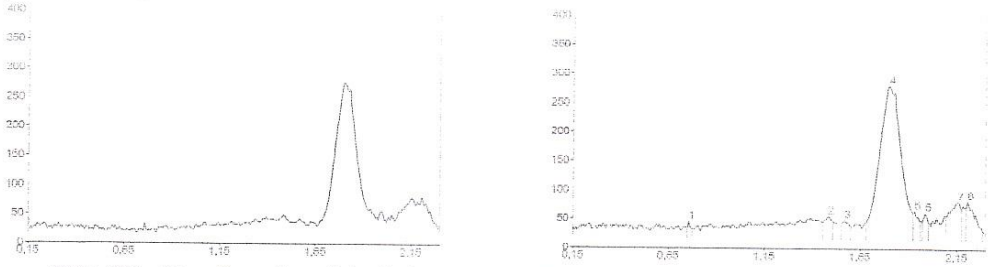
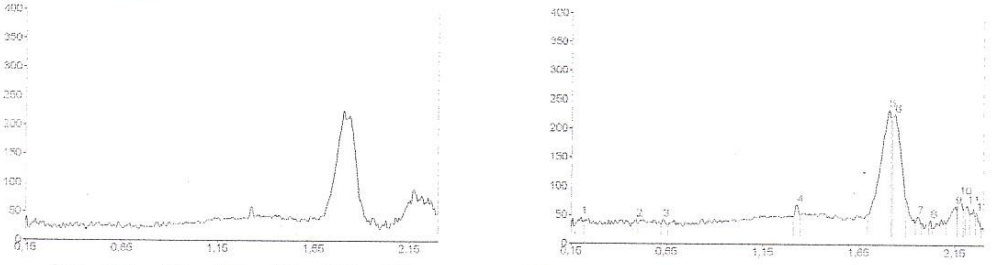
Track 6, ID: sampel 0/1



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,75	3,5	0,76	16,0	3,26	0,78	3,5	136,6	0,50	unknown *
2	1,46	16,9	1,49	26,9	5,50	1,51	18,0	753,9	2,73	unknown *
3	1,56	13,4	1,57	19,5	3,99	1,61	8,6	522,0	1,89	unknown *
4	1,69	15,5	1,80	251,9	51,46	1,93	33,1	20873,7	75,64	unknown *
5	1,94	32,6	1,94	35,9	7,34	1,97	17,6	694,2	2,52	unknown *
6	1,98	16,8	2,00	32,8	6,70	2,02	15,4	575,5	2,09	unknown *
7	2,10	28,7	2,16	52,7	10,76	2,18	40,5	2286,9	8,29 ✓	unknown *
8	2,20	41,9	2,21	53,7	10,96	2,29	4,7	1754,3	6,36 ✓	unknown *

40417

Track 7, ID: sampel 1/0



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,17	0,2	0,21	16,0	2,36	0,22	7,2	281,8	1,43	unknown *
2	0,48	5,0	0,50	12,6	1,87	0,50	4,8	158,1	0,80	unknown *
3	0,62	3,6	0,64	12,6	1,87	0,66	1,8	177,5	0,90	unknown *
4	1,31	18,6	1,33	39,3	5,83	1,35	21,1	693,4	3,52	unknown *
5	1,70	23,1	1,81	204,9	30,35	1,82	190,8	8485,0	43,06	unknown *
6	1,83	191,4	1,84	195,7	29,00	1,90	48,8	6611,1	33,55	unknown *
7	1,95	8,3	1,97	20,1	2,97	1,99	7,2	324,0	1,64	unknown *
8	2,02	6,6	2,03	14,0	2,08	2,04	0,1	96,3	0,49	unknown *
9	2,11	8,1	2,16	38,2	5,67	2,17	31,3	1003,9	5,09 ✓	unknown *
10	2,17	33,2	2,18	55,5	8,22	2,20	33,0	1010,1	5,13 ✓	unknown *
11	2,21	34,7	2,22	38,7	5,74	2,24	23,8	574,4	2,92 ✓	unknown *
12	2,27	25,6	2,27	27,2	4,03	2,30	0,3	286,3	1,46 ✓	unknown *

2876,7

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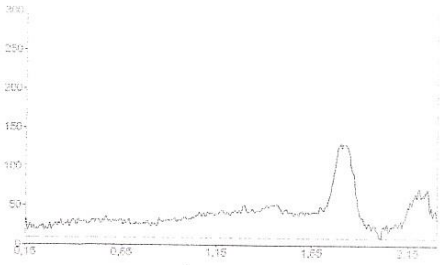
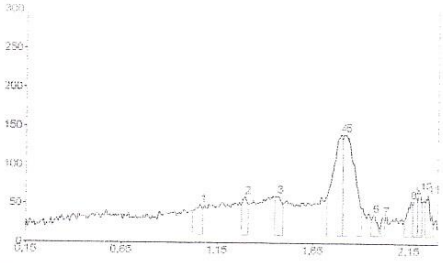
Track 8, ID: sampel 0,25/0,75

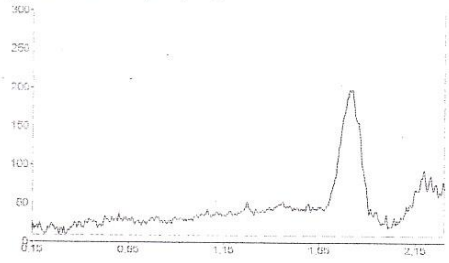


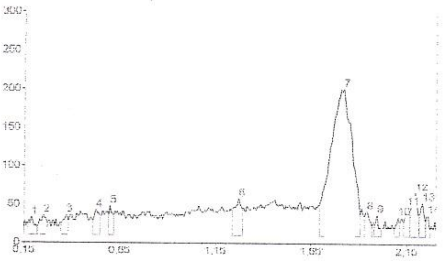


Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,03	21,2	1,07	29,0	5,22	1,08	22,6	830,8	5,18	unknown *
2	1,28	28,7	1,30	39,6	7,12	1,32	30,2	833,3	5,20	unknown *
3	1,46	39,8	1,47	41,3	7,43	1,50	29,8	1096,4	6,84	unknown *
4	1,73	40,7	1,80	122,0	21,97	1,81	115,9	4579,5	28,57	unknown *
5	1,81	117,0	1,82	121,6	21,94	1,91	25,7	5409,8	33,76	unknown *
6	1,96	10,9	1,98	17,5	3,16	2,00	1,5	312,8	1,95	unknown *
7	2,01	0,6	2,02	14,5	2,61	2,03	10,3	149,5	0,93	unknown *
8	2,13	12,0	2,17	35,9	6,46	2,18	30,1	748,4	4,67	unknown *
9	2,18	30,9	2,20	42,6	7,67	2,20	36,7	649,0	4,05	unknown *
10	2,20	36,9	2,22	47,6	8,57	2,22	34,4	634,9	3,96	unknown *
11	2,24	34,8	2,26	43,7	7,87	2,28	5,5	782,1	4,88	unknown *

Track 9, ID: sampel 0,75/0,25

2814,4





Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,17	4,5	0,19	13,1	2,64	0,22	0,0	193,6	0,94	unknown *
2	0,23	4,1	0,26	15,5	3,12	0,28	6,3	318,8	1,54	unknown *
3	0,35	5,2	0,38	16,2	3,26	0,39	9,0	296,8	1,43	unknown *
4	0,51	8,9	0,53	22,9	4,60	0,55	16,2	439,2	2,12	unknown *
5	0,60	16,8	0,60	27,7	5,57	0,62	15,4	364,1	1,76	unknown *
6	1,24	24,8	1,26	38,0	7,63	1,30	25,5	1061,1	5,13	unknown *
7	1,70	31,0	1,82	181,5	36,43	1,91	18,8	15051,7	72,71	unknown *
8	1,94	16,4	1,95	22,1	4,45	1,98	4,6	410,0	1,98	unknown *
9	1,99	6,4	2,00	18,0	3,62	2,02	0,2	167,7	0,81	unknown *
10	2,09	0,9	2,11	15,1	3,02	2,12	8,6	143,1	0,69	unknown *
11	2,14	9,8	2,16	28,2	5,66	2,17	24,2	501,7	2,42	unknown *
12	2,17	24,2	2,20	47,3	9,49	2,22	18,2	1046,6	5,07	unknown *
13	2,22	18,7	2,24	34,2	6,86	2,25	11,6	513,2	2,48	unknown *
14	2,25	12,3	2,26	18,2	3,66	2,28	0,5	192,6	0,93	unknown *

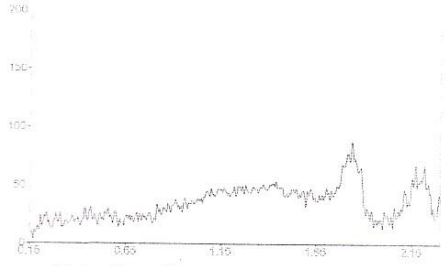
2399,2

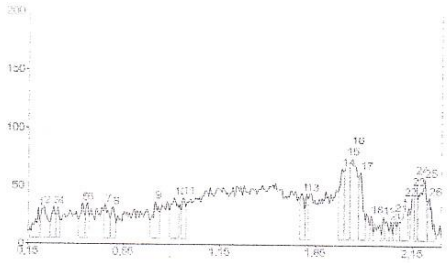
User : farmasiuad
14 Nopember 2013 9:43:30

Approved :
Report ID : 07DD0B0E05092B15

SN 1607W007, V1.4.
Page 6 of

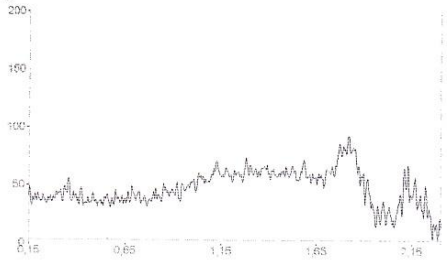
Track 10, ID: sampel 0,5/0,5

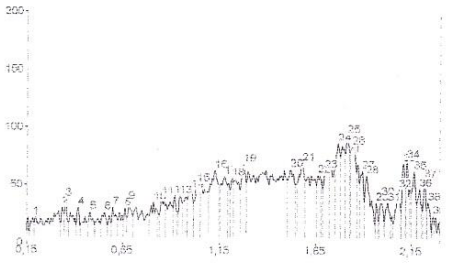




Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,18	0,4	0,21	20,4	2,38	0,22	9,9	293,8	2,13	unknown *
2	0,22	13,2	0,24	22,0	2,56	0,27	8,2	492,5	3,56	unknown *
3	0,27	8,5	0,29	21,7	2,53	0,30	14,0	290,1	2,10	unknown *
4	0,30	15,0	0,31	21,8	2,52	0,32	9,1	250,7	1,81	unknown *
5	0,42	10,5	0,44	24,9	2,90	0,45	14,1	413,7	2,99	unknown *
6	0,46	15,4	0,47	25,4	2,96	0,48	14,5	287,6	2,08	unknown *
7	0,55	18,1	0,56	24,3	2,82	0,58	11,7	424,4	3,07	unknown *
8	0,59	12,5	0,60	21,9	2,55	0,62	7,8	327,8	2,37	unknown *
9	0,79	10,8	0,82	27,0	3,14	0,84	17,3	586,2	4,24	unknown *
10	0,89	19,1	0,92	30,3	3,52	0,94	21,4	829,8	6,00	unknown *
11	0,95	19,4	0,96	31,2	3,64	0,98	22,1	468,4	3,39	unknown *
12	1,57	30,2	1,59	35,0	4,07	1,60	20,9	553,5	4,00	unknown *
13	1,60	22,2	1,61	34,7	4,04	1,62	31,0	308,2	2,23	unknown *
14	1,78	37,1	1,79	58,9	6,83	1,80	55,4	928,2	6,70	unknown *
15	1,81	55,2	1,82	66,3	7,72	1,83	58,8	1107,7	8,01	unknown *
16	1,83	59,7	1,84	76,0	8,85	1,86	49,0	1762,6	12,75	unknown *
17	1,88	50,0	1,89	54,0	6,29	1,92	12,5	883,0	6,39	unknown *
18	1,94	8,4	1,95	15,9	1,85	1,96	2,0	137,7	1,00	unknown *
19	2,00	0,1	2,01	15,2	1,77	2,02	9,6	106,1	0,77	unknown *
20	2,04	3,5	2,05	11,4	1,33	2,06	0,9	68,1	0,49	unknown *
21	2,06	0,0	2,07	18,1	2,11	2,07	7,5	133,5	0,97	unknown *
22	2,09	10,4	2,12	31,8	3,71	2,13	16,3	553,7	4,01	unknown *
23	2,14	17,7	2,16	41,3	4,81	2,17	33,3	463,4	3,35	unknown *
24	2,17	34,0	2,18	51,2	5,96	2,18	30,7	491,1	3,55	unknown *
25	2,19	31,1	2,22	48,2	5,61	2,23	29,1	1169,8	8,46	unknown *
26	2,24	29,7	2,25	32,3	3,76	2,28	0,1	490,5	3,55	unknown *

Track 11, ID: kaius + baku





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Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,17	0,6	0,19	11,5	0,75	0,19	6,0	124,6	0,50	unknown *
2	0,33	6,3	0,34	20,2	1,32	0,35	16,3	193,0	0,77	unknown *
3	0,35	14,5	0,36	27,6	1,80	0,37	7,7	254,1	1,01	unknown *
4	0,41	4,8	0,43	20,2	1,31	0,44	4,4	197,7	0,79	unknown *
5	0,48	7,6	0,49	16,1	1,05	0,51	4,6	240,7	0,96	unknown *
6	0,54	5,8	0,56	16,0	1,04	0,58	4,7	268,8	1,07	unknown *
7	0,60	7,1	0,60	20,6	1,34	0,63	9,7	294,4	1,17	unknown *
8	0,65	9,4	0,67	19,8	1,29	0,68	10,3	185,0	0,74	unknown *
9	0,68	10,6	0,69	25,2	1,64	0,71	12,5	366,6	1,46	unknown *
10	0,79	12,9	0,82	24,8	1,61	0,83	17,1	526,5	2,11	unknown *
11	0,84	13,6	0,86	29,3	1,91	0,87	21,5	478,1	1,90	unknown *
12	0,92	19,9	0,92	31,1	2,03	0,94	17,1	338,0	1,35	unknown *
13	0,94	15,1	0,95	30,5	1,99	0,97	24,1	408,5	1,63	unknown *
14	0,99	27,1	1,01	35,3	2,29	1,02	24,0	653,9	2,61	unknown *
15	1,02	24,4	1,04	40,9	2,66	1,06	35,6	770,3	3,07	unknown *
16	1,10	33,9	1,13	52,5	3,41	1,15	40,3	1612,9	6,43	unknown *
17	1,16	36,3	1,18	47,5	3,09	1,20	39,7	1151,6	4,59	unknown *
18	1,21	35,5	1,22	45,7	2,98	1,23	42,1	494,9	1,97	unknown *
19	1,27	35,9	1,28	57,9	3,76	1,30	42,3	1004,4	4,00	unknown *
20	1,51	43,7	1,53	53,9	3,50	1,55	40,8	1339,0	5,33	unknown *
21	1,56	42,0	1,59	59,4	3,86	1,60	45,1	1350,7	5,38	unknown *
22	1,66	39,3	1,67	48,8	3,17	1,69	44,7	778,9	3,10	unknown *
23	1,70	37,4	1,71	53,2	3,46	1,73	49,6	1124,7	4,48	unknown *
24	1,76	58,1	1,78	76,5	4,98	1,79	65,2	1297,4	5,17	unknown *
25	1,81	67,5	1,82	83,5	5,43	1,83	68,7	1219,4	4,86	unknown *
26	1,84	70,4	1,85	73,3	4,77	1,87	51,4	1431,4	5,70	unknown *
27	1,88	41,4	1,90	52,5	3,42	1,91	24,8	793,0	3,16	unknown *
28	1,91	27,8	1,92	48,4	3,15	1,97	6,5	1098,2	4,38	unknown *
29	1,97	8,8	1,98	25,2	1,64	1,99	9,5	223,5	0,89	unknown *
30	1,99	10,4	2,01	29,9	1,95	2,02	9,1	382,2	1,52	unknown *
31	2,02	9,6	2,04	25,2	1,64	2,05	10,3	382,9	1,53	unknown *
32	2,06	7,8	2,09	38,9	2,40	2,10	18,4	638,8	2,54	unknown *
33	2,10	21,5	2,12	59,4	3,87	2,13	41,3	685,3	2,73	unknown *
34	2,13	42,0	2,14	62,4	4,06	2,15	37,2	675,9	2,69	unknown *
35	2,16	34,1	2,17	52,5	3,41	2,19	25,0	787,3	3,14	unknown *
36	2,19	25,6	2,20	37,6	2,45	2,21	23,7	489,6	1,95	unknown *
37	2,22	18,2	2,23	45,8	2,96	2,24	16,9	471,7	1,88	unknown *
38	2,24	30,2	2,25	25,8	1,68	2,26	0,2	278,0	1,11	unknown *
39	2,27	2,3	2,27	14,2	0,92	2,28	7,7	88,0	0,35	unknown *

3075.3

User : farmaslusd
14 Nopember 2013 9:43:30

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Lampiran 14. Kromatogram seri konsentrasi steviosida standar dan sampel kalus daun stevia replikasi 2.

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2

Analysis Report

SOP document	
Validated	Design
Description :	
Analysis	D:\PAK YO\steviosida NB.cna
Created/used by	farmasiusd 28 Oktober 2013 9:46:07
Current user	farmasiusd

Detection - CAMAG TLC Scanner 3

Information

Application position	10,0 mm
Solvent front position	75,0 mm
Instrument	CAMAG TLC Scanner 3 "Scanner3_160602" S/N 160602 (1.14.28)
Executed by	farmasiusd 28 Oktober 2013 9:17:27
Number of tracks	11
Position of first track X	25,0 mm
Distance between tracks	15,0 mm
Scan start pos. Y	20,0 mm
Scan end pos. Y	151,0 mm
Slit dimensions	10,00 x 0,40 mm, Macro
Optimize optical system	Light
Scanning speed:	20 mm/s
Data resolution:	100 µm/step

Measurement Table

Wavelength	400
Lamp	D2 & W
Measurement Type	Remission
Measurement Mode	Absorption
Optical filter	Second order
Detector mode	Automatic
PM high voltage	426 V

Detector properties

Y-position for 0 adjust	20,0 mm
Track # for 0 adjust	0
Analog Offset	10%
Sensitivity	Automatic (36)

Integration

Properties

Data filtering	Savitsky-Golay 7
Baseline correction	Lowest Slope
Peak threshold min. slope	5
Peak threshold min. height	10 AU
Peak threshold min. area	50
Peak threshold max. height	990 AU
Track start position	20,0 mm
Track end position	150,3 mm
Display scaling	Automatic

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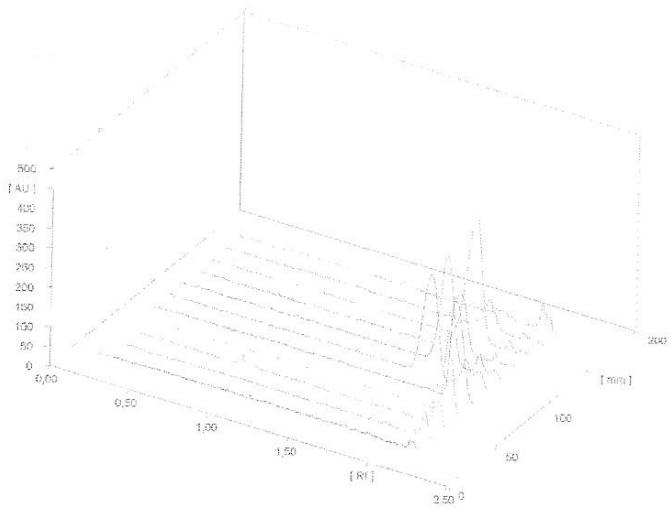
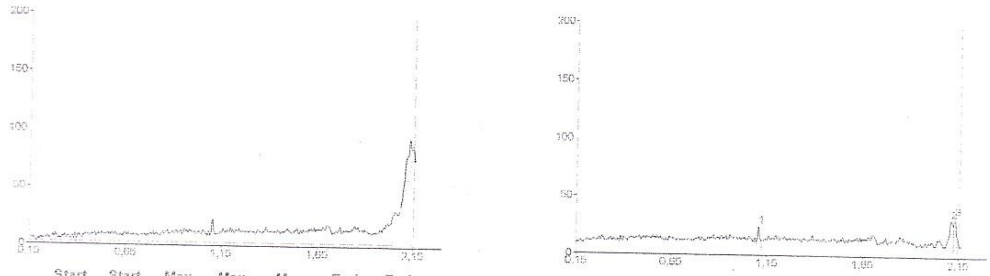
All tracks at Wavelength



Track 1, ID: baku 1



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,10	1,8	1,11	15,5	24,58	1,12	2,7	125,5	18,20	unknown *
2	2,09	1,6	2,12	22,5	35,67	2,13	17,3	326,3	47,35	unknown *
3	2,13	17,6	2,14	25,0	39,75	2,15	6,7	237,4	34,44	unknown *

8637

User : farmasiusd
15 Nopember 2013 10:31:38

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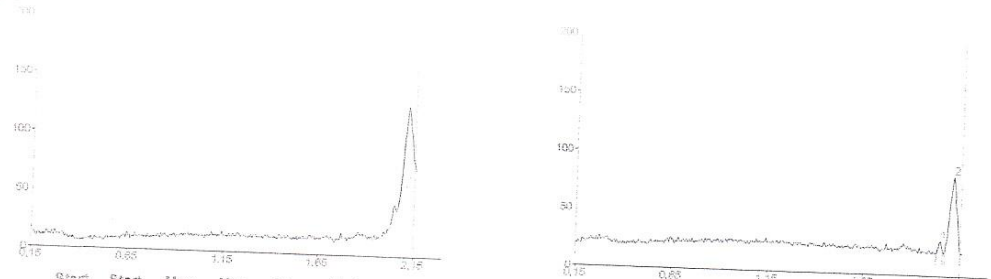
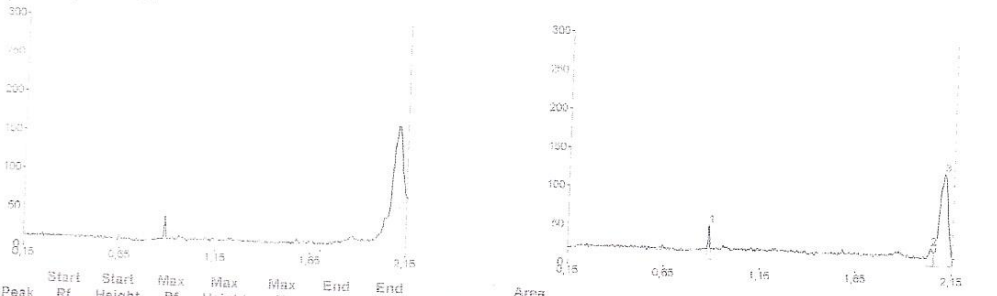
Track 2, ID: baku 2



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	2,03	0,1	2,05	10,8	13,95	2,08	3,1	125,1	6,54	unknown *
2	2,08	1,7	2,12	66,5	86,05	2,16	1,5	1787,3	93,46	unknown *

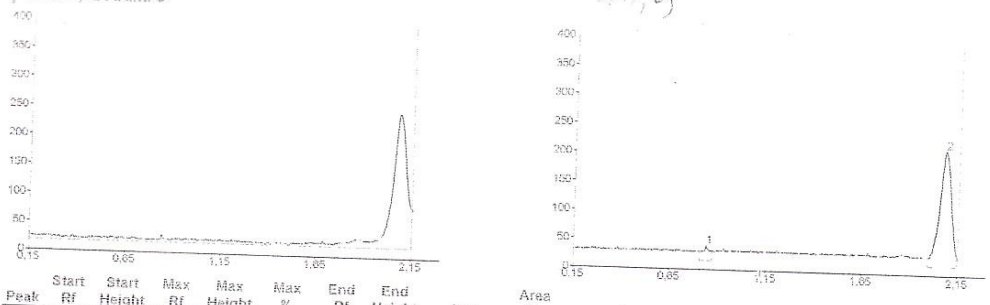
Track 3, ID: baku 4



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,88	3,0	0,89	34,0	21,60	0,90	4,2	228,5	5,79	unknown *
2	2,02	0,4	2,04	13,8	8,78	2,06	8,7	174,9	4,43	unknown *
3	2,08	7,7	2,11	109,5	69,62	2,16	1,1	3543,0	89,78	unknown *

3717,09

Track 4, ID: baku 8



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	0,81	0,8	0,85	11,4	5,74	0,88	3,0	169,4	2,11	unknown *
2	2,00	0,8	2,09	186,4	94,26	2,15	3,9	7857,1	97,89	unknown *

User : farmasiuad
15 November 2013 10:31:38

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Report ID : 07DD0A1C02092E07

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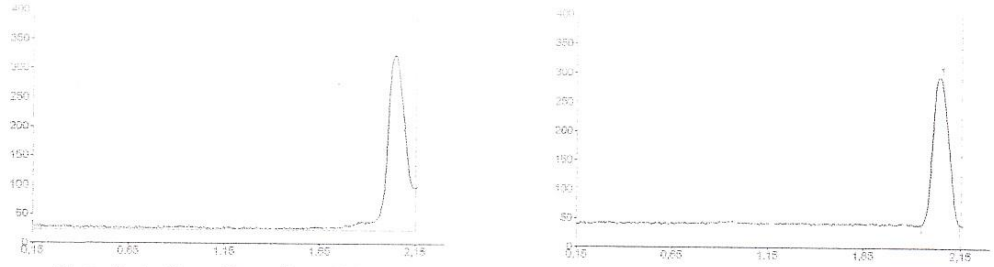
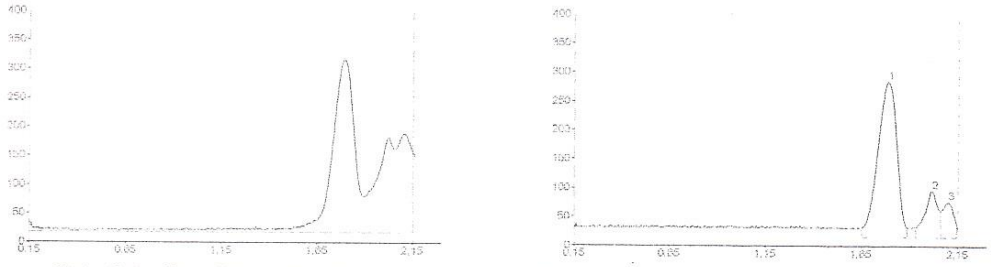
Page 3 of

Track 5, ID: baku 10



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,98	0,7	2,04	257,0	100,00	2,15	2,5	14835,9	100,00	unknown *

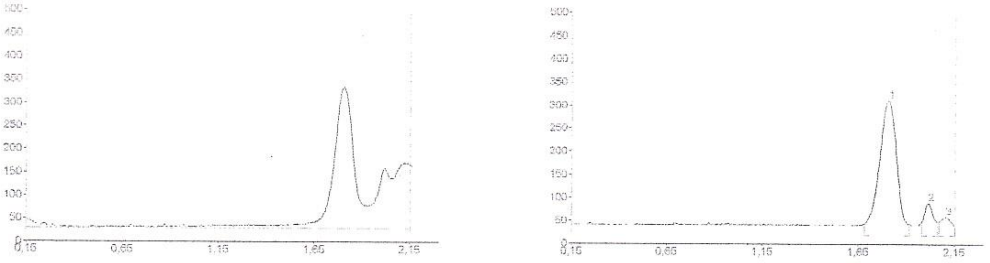
Track 6, ID: sampel 0/1



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,86	1,5	1,80	255,5	69,33	1,90	3,6	18374,9	79,39	unknown *
2	1,94	3,3	2,02	66,1	17,93	2,07	32,5	2838,1	12,26	unknown *
3	2,07	32,5	2,11	46,9	12,74	2,15	7,9	1931,1	8,34	unknown *

4769,2

Track 7, ID: sampel 1/0



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,69	4,5	1,81	273,2	79,70	1,92	2,9	17810,9	88,81	unknown *
2	1,98	7,6	2,02	49,7	14,51	2,07	9,6	1573,3	7,83	unknown *
3	2,08	8,3	2,11	19,9	5,79	2,16	0,8	716,3	3,56	unknown *

22380,6

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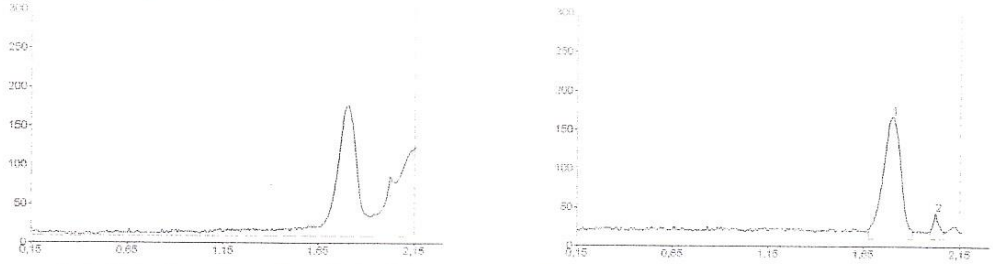
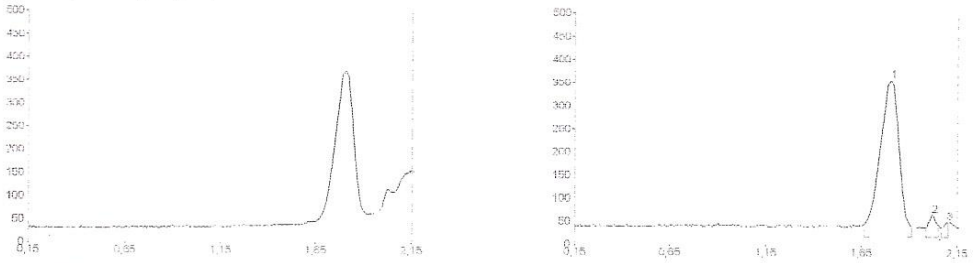
Track 8, ID: sampel 0,25/0,75



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,68	3,3	1,80	149,3	85,99	1,92	2,4	9839,9	95,80	unknown *
2	2,00	0,2	2,03	24,3	14,01	2,07	1,1	431,9	4,20	unknown *

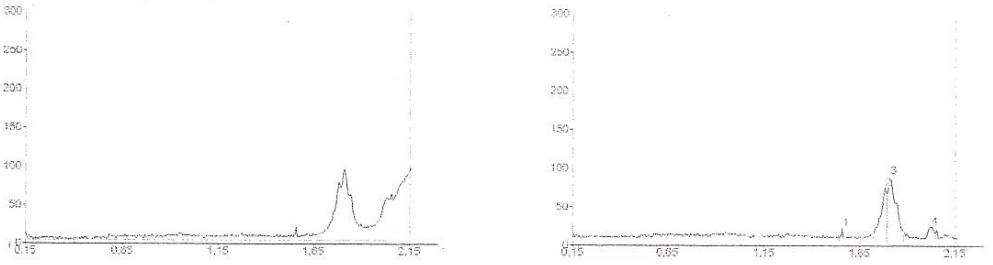
Track 9, ID: sampel 0,75/0,25



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,67	6,3	1,81	318,1	89,23	1,92	2,5	22516,8	96,81	unknown *
2	2,00	0,1	2,03	26,7	7,49	2,06	5,4	579,2	2,49	unknown *
3	2,07	1,3	2,10	11,7	3,28	2,11	10,6	163,7	0,70	unknown *

742,9

Track 10, ID: sampel 0,5/0,5



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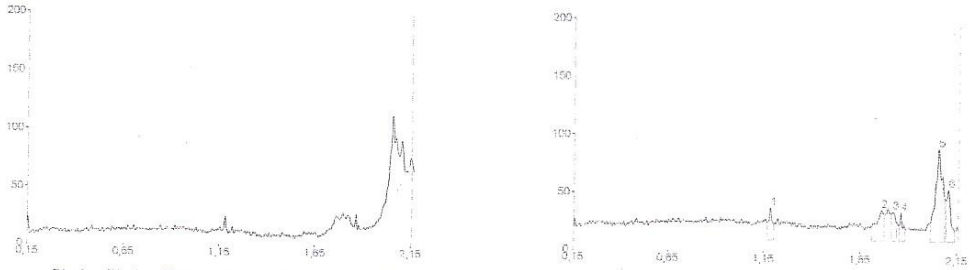
Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,55	0,0	1,57	12,5	7,26	1,58	0,7	80,0	1,75	unknown *
2	1,73	6,5	1,79	64,6	37,63	1,80	57,4	1550,5	33,96	unknown *
3	1,80	57,8	1,82	79,6	46,19	1,89	8,0	2583,7	56,59	unknown *
4	2,00	0,3	2,04	15,4	8,92	2,06	6,9	351,4	7,70 ✓	unknown *

Track 11, ID: kalus + baku



Peak	Start Rf	Start Height	Max Rf	Max Height	Max %	End Rf	End Height	Area	Area %	Assigned substance
1	1,17	5,4	1,18	18,1	10,65	1,20	3,4	189,0	6,09	unknown *
2	1,71	3,2	1,77	16,7	9,82	1,78	13,4	436,0	14,04	unknown *
3	1,82	12,7	1,82	15,2	8,94	1,84	8,5	237,5	7,65	unknown *
4	1,86	4,5	1,87	14,8	8,68	1,89	0,5	115,4	3,72	unknown *
5	2,02	5,8	2,06	70,2	41,24	2,09	29,5	1638,8	52,79 ✓	unknown *
6	2,10	25,9	2,11	35,2	20,67	2,14	0,3	487,5	15,71 ✓	unknown *

276,3

User : farmaslusd
15 Nopember 2013 10:31:38

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Report ID : 07DD0A1C02092E07

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Lampiran 15. Perhitungan kadar steviosida dalam daun dan kalus daun stevia.

- Perhitungan kadar steviosida standar

  Kadar steviosida dalam pelarut *n* – butanol = 10,0 mg/ml

  Kadar steviosida standar = 2,0 mg/ml = 2,0 µg/µl

- Pembuatan kurva baku steviosida standar dengan lima seri kadar.

  Kadar = volume totolan x kadar steviosida standar

  a. Volume totolan = 1 µl

     Kadar 1 = 1 x 2 = 2 µg

  b. Volume totolan = 2 µl

     Kadar 2 = 2 x 2 = 4 µg

  c. Volume totolan = 4 µl

     Kadar 3 = 4 x 2 = 8 µg

  d. Volume totolan = 8 µl

     Kadar 4 = 8 x 2 = 16 µg

  e. Jumlah totolan = 16 µl

     Kadar 5 = 16 x 2 = 32 µg

1. Kurva baku steviosida standar lempeng KLT daun Surakarta 1

Volume totolan (µl)	[C] (ug)	AUC
1 µl	2	1328,2
2 µl	4	5324,8
4 µl	8	9147,5
8 µl	16	12955,1
16 µl	32	21171

Persamaan regresi : Y = A + BX

Y = 2427 + 609,5419 X (perhitungan kalkulator)

r = 0,9778

2. Kurva baku steviosida standar lempeng KLT daun Surakarta 2

Volume totolan (µl)	[C] (ug)	AUC
1 µl	2	1578,2
2 µl	4	5400,8
4 µl	8	9267,7
8 µl	16	12611,8
16 µl	32	21404,4

Persamaan regresi : Y = A + BX

Y = 2503,1875 + 608,8220 X (perhitungan kalkulator)

r = 0,9805

3. Kurva baku steviosida standar lempeng KLT kalus daun stevia 1

Volume totolan (µl)	[C] (ug)	AUC
1 µl	2	2140,1
2 µl	4	3080,8
4 µl	8	4517,8
8 µl	16	7440,6
16 µl	32	12800,8

Persamaan regresi : Y = A + BX

Y = 1627,9417 + 352,2644 X (perhitungan kalkulator)

r = 0,9994

4. Kurva baku steviosida standar lempeng KLT kalus daun stevia 2

Volume totolan (µl)	[C] (ug)	AUC
1 µl	2	563,7
2 µl	4	1787,3
4 µl	8	3717,9
8 µl	16	7857,1
16 µl	32	14835,9

Persamaan regresi : Y = A + BX

Y = – 119,1750 + 473,5125 X (perhitungan kalkulator)

r = 0,9989

- Penetapan kadar steviosida sampel daun (AUC steviosida pada Rf 0,76 – 0,82)

  Volume totolan = 10 µl

  Bobot bahan = 3 g

  Replikasi 1 (AUC = 4873,9)

  Y = 2427 + 609,5419 X

  X = 4873,9 – 2427 / 609,5419 = 4,0143 µg

  Kadar dalam 5 ml (mg) = (5000 / 10 x 4,0143) / 1000 = 2,01 mg

  Kadar steviosida (%) = 2,01 mg / 3 g = 0,67 mg/g = 0,067%

  Replikasi 2 (AUC = 4760,1)

  Y = 2503,1875 + 608,8220 X

  X = 4760,1 – 2503,1875 / 608,8220 = 3,7070 µg

  Kadar dalam 5 ml (mg) = (5000 / 10 x 3,7070) / 1000 = 1,85 mg

  Kadar steviosida (%) = 1,85 mg / 3 g = 0,62 mg/g = 0,062%

Hasil penetapan kadar steviosida dalam daun stevia.

DAUN	Surakarta (%)
Replikasi 1	0.067
Replikasi 2	0.062
Rata – rata	0.065
SD	0.0035

- Penetapan kadar steviosida dalam kalus daun steviosida (AUC steviosida pada Rf 0,76 – 0,82)

  1. NAA / BAP 0/1

  Volume totolan = 30 µl

  Bobot bahan = 3,36 g

  Replikasi 1 (AUC = 4041,2)

  Y = 1627,9417 + 352,2644 X

  X = 4041,2 – 1627,9417 / 352,2644 = 6,8507 µg

  Kadar dalam 5 ml (mg) = (5000 / 10 x 6,8507) / 1000 = 1,14 mg

  Kadar steviosida (%) = 1,14 mg / 3,36 g = 0,34 mg/g = 0,034%

  Replikasi 2 (AUC = 4769,2)

  Y = – 119,1750 + 473,5125 X

  X = 4769,2 + 119,1750 / 473,5125 = 10,3236 µg

  Kadar dalam 5 ml (mg) = (5000 / 10 x 10,3236) / 1000 = 1,72 mg

  Kadar steviosida (%) = 1,72 mg / 3,36 g = 0,51 mg/g = 0,051%

2. NAA / BAP 0,25/0,75

  Volume totolan = 30 µl

  Bobot bahan = 3,05 g

  Replikasi 1 (AUC = 2814,4)

  Y = 1627,9417 + 352,2644 X

  X = 2814,4 – 1627,9417 / 352,2644 = 3,3681 µg

Kadar dalam 5 ml (mg) = (5000 / 10 x 3,3681) / 1000 = 0,56 mg

Kadar steviosida (%) = 0,56 mg / 3,05 g = 0,18 mg/g = 0,018%

Replikasi 2 (AUC = 431,9)

Y = – 119,1750 + 473,5125 X

X = 431,9 + 119,1750 / 473,5125 = 1,1638 µg

Kadar dalam 5 ml (mg) = (5000 / 10 x 1,1638) / 1000 = 0,19 mg

Kadar steviosida (%) = 0,19 mg / 3,05 g = 0,06 mg/g = 0,006%

3. NAA / BAP 0,5/0,5

Volume totolan = 30 µl

Bobot bahan = 3,03 g

Replikasi 1 (AUC = 3168,5)

Y = 1627,9417 + 352,2644 X

X = 3168,5 – 1627,9417 / 352,2644 = 4,3733 µg

Kadar dalam 5 ml (mg) = (5000 / 10 x 4,3733) / 1000 = 0,73 mg

Kadar steviosida (%) = 0,73 mg / 3,03 g = 0,24 mg/g = 0,024%

Replikasi 2 (AUC = 351,4)

Y = – 119,1750 + 473,5125 X

X = 351,4 + 119,1750 / 473,5125 = 0,9938 µg

Kadar dalam 5 ml (mg) = (5000 / 10 x 0,9938) / 1000 = 0,17 mg

Kadar steviosida (%) = 0,17 mg / 3 g = 0,05 mg/g = 0,005%

4. NAA / BAP 0,75/0,25

   Volume totolan = 30 µl

   Bobot bahan = 3,06 g

   Replikasi 1 (AUC = 2399,2)

   Y = 1627,9417 + 352,2644 X

   X = 2399,2 – 1627,9417 / 352,2644 = 2,1894 µg

   Kadar dalam 5 ml (mg) = (5000 / 10 x 2,1894) / 1000 = 0,36 mg

   Kadar steviosida (%) = 0,36 mg / 3,06 g = 0,12 mg/g = 0,012%

   Replikasi 2 (AUC = 742,9)

   Y = – 119,1750 + 473,5125 X

   X = 742,9 + 119,1750 / 473,5125 = 1,8206 µg

   Kadar dalam 5 ml (mg) = (5000 / 10 x 1,8206) / 1000 = 0,30 mg

   Kadar steviosida (%) = 0,30 mg / 3,06 g = 0,10 mg/g = 0,01%

5. NAA / BAP 0/1

   Volume totolan = 30 µl

   Bobot bahan = 3 g

   Replikasi 1 (AUC = 2876,7)

   Y = 1627,9417 + 352,2644 X

   X = 2876,7 – 1627,9417 / 352,2644 = 3,5449 µg

   Kadar dalam 5 ml (mg) = (5000 / 10 x 3,5449) / 1000 = 0,59 mg

   Kadar steviosida (%) = 0,59 mg / 3 g = 0,20 mg/g = 0,02%

Replikasi 2 (AUC = 2289,6)

Y = – 119,1750 + 473,5125 X

X = 2289,6 + 119,1750 / 473,5125 = 5,0870 µg

Kadar dalam 5 ml (mg) = (5000 / 10 x 5,0870) / 1000 = 0,85 mg

Kadar steviosida (%) = 0,85 mg / 3 g = 0,28 mg/g = 0,028 %

Hasil penetapan kadar steviosida dalam kalus daun stevia (%).

N/B	0/1	0,25/0,75	0,5/0,5	0,75/0,25	1/0
Replikasi 1	0.034	0.018	0.024	0.012	0.020
Replikasi 2	0.051	0.006	0.005	0.010	0.028
Rata – rata	0.043	0.012	0.015	0.011	0.024
SD	0.0120	0.0085	0.0134	0.0014	0.0057