LAMPIRAN 1. ***Informed Consent***

Informed Consent

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA

POLITEKNIK KESEHATAN BANDUNG

JURUSAN ANALIS KESEHATAN

LEMBAR *INFORMED CONSENT*

Penelitian ini berjudul "Analisis Kadar Nikotin Dan Trigliserida Dalam Darah Perokok Aktif" bermaksud untuk mengetahui kadar serta hubungan antara nikotin dan trigliserida dalam darah perokok aktif. Penelitian ini bermanfaat untuk memberikan informasi kepada masyarakat khususnya kepada perokok aktif mengenai kadar nikotin dan trigliserida dalam darah dan bahaya merokok sehingga diharapkan dapat merubah perilaku kebiasaan merokok.

Untuk melakukan penelitian ini, saya memerlukan bantuan saudara yang merupakan perokok aktif sebagai sampel penelitian saya. Karenanya saya meminta bantuan saudara agar berkenan untuk dilakukan pengisian kuisioner dan pengambilan darah. Sebelum pengambilan darah, saudara diharapkan telah berpuasa makan selama minimal 10 jam. Selanjutnya akan dilakukan pengambilan darah sebanyak 3 mL yang kemudian darah tersebut akan diperiksa kadar nikotin dan trigliseridanya. Dalam proses pengambilan darah, akan ada sedikit rasa nyeri dan resiko kecil terjadinya pembiruan di kulit sekitar bekas tusukan jarum. Jika terjadi sesuatu yang memerlukan pertolongan dokter pada saat pengambilan darah, maka saudara akan segera diberi pertolongan. Bila perlu dirujuk ke rumah sakit dan biaya akan ditanggung oleh peneliti.

Partisipasi saudara bersifat sukarela, semua biaya penelitian ini dibebankan kepada peneliti. Adapun segala informasi atau catatan mengenai hasil pemeriksaan saudara akan dijaga kerahasiaannya. Kalaupun diperlukan untuk kepentingan kedinasan, maka nama anda akan dilindungi dalam bentuk kode atau nomor yang tidak akan diketahui oleh siapapun baik yang turut dan tidak turut dalam pengambilan data tersebut.

Pertanyaan

Apabila ada pertanyaan yang menyangkut penelitian dan diri Saudara, dapat hubungi langsung kepada Laras Eka Fitriana, Jurusan Analis Kesehatan Poltekkes Kemenkes Bandung, Jalan Babakan Loa Cimahi.

Telp. 081517628130

LAMPIRAN 2. Lembar Persetujuan

LEMBAR PERSETUJUAN SETELAH PENJELASAN

Saya telah dibacakan apa yang tertera di atas, dan telah diberi kesempatan bertanya atas apa yang tidak saya mengerti. Saya mengerti, bahwa partisipasi saya dilakukan secara sukarela, dan dapat menolak atau mengundurkan diri sewaktu – waktu tanpa sanksi apapun dalam penelitian "Analisis Kadar Nikotin Dan Trigliserida Dalam Darah Perokok Aktif" yang dilakukan oleh Laras Eka Fitriana dari Jurusan Analis Kesehatan Poltekkes Kemenkes Bandung.

Saya memahami maksud, manfaat, resiko, waktu, dan prosedur penelitian ini, serta saya setuju dengan kompensasi yang akan saya terima. Saya akan membubuhkan tanda tangan saya di bawah ini dan menyatakan keikutsertaan saya dalam pelaksanaan penelitian ini.

Setelah membaca pernyataan di atas, saya yang bertanda tangan di bawah ini:

Nama :

Jenis Kelamin :

Umur :

Alamat :

No. Hp ;

Telah bersedia untuk ikut serta menjadi subjek penelitian ini. Saya yakin yang saya sampaikan ini terjamin kebenarannya.

Bandung, ... 2020

Peneliti, Responden,

Laras Eka Fitriana
NIM. P17334117050 .....

LAMPIRAN 3. Kuesioner Penelitian

KUESIONER PENELITIAN

Nama : .....

Jenis kelamin : Laki - laki

Usia : ..... Tahun

Alamat : .....

.....

No. HP / Telp : .....

1. Sudah berapa lama anda memiliki kebiasaan merokok? ..... tahun
2. Jenis rokok apa yang anda hisap?
3. Berapa banyak rokok yang anda hisap dalam 1 hari ?
   a. ≤ 10 batang
   b. 11 – 20 batang
   c. 21 – 30 batang
   d. > 30 batang
4. Pukul berapa terakhir kali anda merokok?
5. Pukul berapa terakhir kali anda makan?
6. Apakah anda sering mengonsumsi makanan berlemak?
7. Apakah anda memiliki riwayat penyakit diabetes?
8. Apakah anda memiliki riwayat hipertensi?

BIOLABO
www.biolabo.fr
MANUFACTURER:
BIOLABO SAS,
Les Hautes Rives
02160, Maizy, France

TRIGLYCERIDES GPO Method

Reagent for quantitative determination of triglycerides in human serum or plasma

REF 80019	**R1**	2 x 50 mL	**R2**	2 x 50 mL	**R3**	1 x 5 mL
REF 87319	**R1**	10 x 100 mL	**R2**	10 x 100 mL	**R3**	1 x 5 mL

TECHNICAL SUPPORT AND ORDERS
Tel : (33) 03 23 25 15 50
Fax: (33) 03 23 256 256

CE

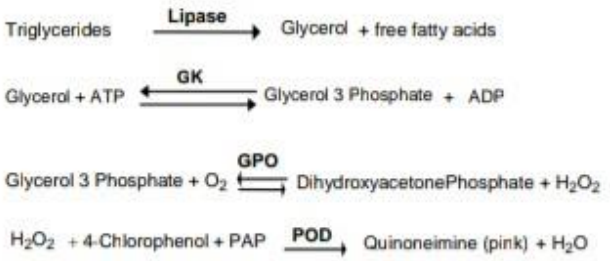
IVD **IN VITRO DIAGNOSTIC USE**

CLINICAL SIGNIFICANCE (1)

The measurement of the concentration in blood triglycerides is important for the diagnosis and the follow-up of hyperlipidemia. Its increase can be of genetic origin or secondary to other metabolic disorders such as: diabetes mellitus, hyper and hypothyroidisms, hepatic diseases, acute and chronic pancreatitis, nephrosis. A rise in triglycerides also represents an atherogenic risk factor. It is responsible for the opalescence, or even the cloudiness of the serum. Corticoids and oestrogen/progestin treatments can also aggravate hypertriglyceridemia.

PRINCIPLE (4) (5)

Fossati and Prencipe method associated with Trinder reaction.
Reaction scheme is as follows:



The absorbance of the coloured complex (quinoneimine), proportional to the amount of triglycerides in the specimen, is measured at 500 nm.

REAGENTS

Vial R1 **BUFFER**

PIPES	100	mmol/L
Magnesium chloride	9.8	mmol/L
Chloro-4-phenol	3.5	mmol/L
Preservative		

Vial R2 **ENZYMES**

Lipase	≥ 1000	IU/L
Peroxydase (POD)	≥ 1700	IU/L
Glycerol 3 phosphate oxydase (GPO)	≥ 3000	IU/L
Glycerol Kinase (GK)	≥ 660	IU/L
4 - Amino – antipyrine (PAP)	0.5	mmol/L
Adenosine triphosphate Na (ATP)	1.3	mmol/L

Vial R3 **STANDARD**

Glycerol	2.28	mmol/L

Equivalent to trioleine or **triglycerides 200 mg/dL** (2.28 mmol/L)

SAFETY CAUTIONS

BIOLABO reagents are designated for professional, in vitro diagnostic use.

- Verify the integrity of the contents before use.
- Use adequate protections (overall, gloves, glasses).
- Do not pipette by mouth.
- In case of contact with skin or eyes, thoroughly wash affected areas with plenty of water and seek medical advice.
- Reagents contain sodium azide (concentration < 0.1%) which may react with copper and lead plumbing. Flush with plenty of water when disposing.
- Material Safety Data Sheet is available upon request.
- Waste disposal: Respect legislation in force in the country.

All specimens should be handled as potentially infectious, in accordance with good laboratory practices using appropriate precautions. Respect legislation in force in the country.

REAGENTS PREPARATION

Vial R2: Use a non-sharp instrument to remove aluminium cap.

Add promptly the contents of vial R2 (Enzymes), into vial R1 (Buffer).

Mix gently and wait for complete dissolution before using reagent (approximately 2 minutes).

STABILITY AND STORAGE

Store away from light, well cap in the original vial at 2-8°C.

- Standard (vial R3): Transfer the requested quantity, recap and store at 2-8°C.
- Unopened, reagents are stable until expiry date stated on the label of the kit when stored and used as described in the insert.
- Once reconstituted, working reagent is stable for 1 year when free from contamination.
- Discard reagent if cloudy or if absorbance at 500 nm > 0.200.
- Don't use working reagent after expiry date stated on the label of the Kit.

SPECIMEN COLLECTION AND HANDLING (2)

Serum or plasma (Heparin or EDTA) fasting ≥ 12 hours.

Separate from cells within 2 hours.

Do not use oxalate, fluoride or citrate.

Triglycerides are stable in specimen for:

- 5-7 days at 2-8°C.
- 3 months at –20°C.
- many years at –70°C.

Avoid repeated freezing and thawing.

INTERFERENCES (1) (2) (3)

Ascorbic acid: No significant interference up to 2.5 mg/dL. Above, under-estimation.

Hemoglobin: No significant interference up to 1.93 g/dL (300 µmol/L).

Bilirubin: No significant interference up to 8 mg/dL (137 µmol/L) of bilirubin. Above, under-estimation.

Free glycerol: Overestimation approximately 10 mg/dL (0.11 mmol/L), generated by endogen glycerol.

For a more comprehensive review of factors affecting this assay refer to the publication of Young D.S.

MATERIAL REQUIRED BUT NOT PROVIDED

1. Basic medical analysis laboratory equipment.
2. Normal and pathological control sera.

CALIBRATION (7)

- Standard (vial R3) provided in the kit or BIOLABO Multicalibrator REF 95015 traceable to SRM 909b.
- Or any calibrator traceable to a reference method or material.

The calibration frequency depends on proper instrument functions and on the preservation of reagent.

It is recommended to calibrate in the following cases:

1. When changing vial of reagent.
2. After maintenance operations on the instrument.
3. When control values are out of ranges, even after using a new vial of fresh serum.

QUALITY CONTROL

- BIOLABO EXATROL-N Level I REF 95010.
- BIOLABO EXATROL-P Level II REF 95011.
- Other assayed control sera referring to the same method.
- External quality control program.

It is recommended to control in the following cases:

- At least once a run.
- At least once within 24 hours.
- When changing vial of reagent.
- After maintenance operations on the instrument.

If control is out of range, apply following actions:

1. Repeat the test with the same control.
2. If control is still out of range, prepare a fresh control serum and repeat the test.
3. If control is still out of range, use a new vial of calibrator or a fresh calibrator and repeat the test.
4. If control is still out of range, calibrate with a new vial of reagent.
5. If control is still out of range, please contact BIOLABO technical support or your local Agent.

EXPECTED VALUES (6)

Triglycerides	mg/dL	[mmol/L]
Reference range	35-160	[0.40-1.82]

Each laboratory should establish its own normal ranges for the population that it serves.

PERFORMANCE CHARACTERISTICS

Within Run N = 30	Normal level	High level
Mean mg/dL	108	221
S.D. mg/dL	1	2
C.V. %	1.0	1.0

Between Run N = 33	Normal level	High level
Mean mg/dL	80	223
S.D. mg/dL	1	2.1
C.V. %	1.20	1.0

Detection limit: approximately 10 mg/dL

Sensitivity for 100 mg/dL: approximately 0.125 Abs. at 500 nm.

Comparison with a commercially available reagent:

y = 1.0182 x – 3.02 r = 0.9958

LINEARITY

The reaction is linear up to at least 700 mg/dL (7.9 mmol/L).

Above, dilute the specimen with saline solution and reassay taking into account the dilution factor to calculate the result. Linearity limit depends on specimen/reagent ratio.

MANUAL PROCEDURE

Let stand reagent and specimens at room temperature.

Pipette into well identified test tubes:	Blank	Standard	Assay
Reagent	1 mL	1 mL	1 mL
Demineralised water	10 µL		
Standard		10 µL	
Specimen			10 µL

Mix. Let stand for 5 minutes at 37°C or 10 minutes at room temperature.
Record absorbance at 500 nm (480-520) against reagent blank.
Reaction is stable for 1 hour.

Note: Specific procedures are available upon request for automated instruments. Please contact BIOLABO technical support.

CALCULATION

Calculate the result as follows:

$$\text{Result} = \frac{\text{Abs (Assay)}}{\text{Abs (Standard)}} \times \text{Standard concentration}$$

REFERENCES

(1) *TIETZ N.W. Text book of clinical chemistry, 3rd Ed. C.A. Burtis, E.R. Ashwood, W.B. Saunders (1999) p. 809-857.*

(2) *Clinical Guide to Laboratory Test, 4th Ed., N.W. TIETZ (2006) p. 1074-1077.*

(3) *YOUNG D.S., Effect of Drugs on Clinical laboratory Tests, 4th Ed. (1995) p.3-573 to 3-589*

(4) *Fossati P., Prencipe L., Clin. Chem. (1982), 28, p.2077-2080.*

(5) *Trinder P. Ann. Clin. Biochem. (1969), 6, p.27-29.*

(6) *TIETZ N.W. Text book of clinical chemistry, 2nd Ed. C.A. Burtis, E.R. Ashwood, W.B. Saunders (1994)p. 1030-1058 et p. 1073-1080.*

(7) *SRM: Standard Reference Material ®*

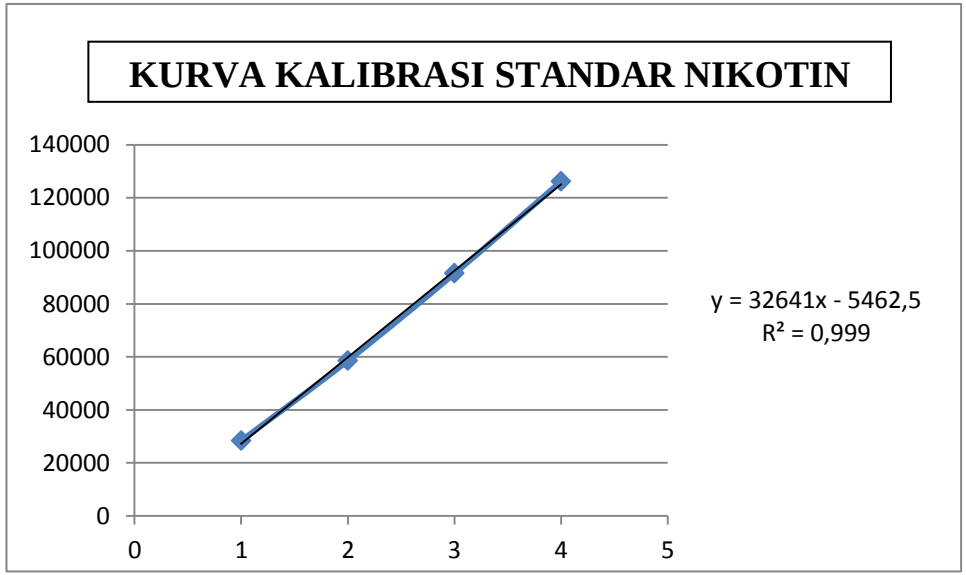
Manufacturer | Use by | IVD In vitro diagnostic | Temperature limitation | REF Catalogue number | See insert | LOT Batch number | Store away from light | sufficient for | → dilute with

LAMPIRAN 5. PERHITUNGAN KADAR NIKOTIN

1. Data deret standar nikotin

DERET STANDAR							
Konsentrasi	**Luas Area**	**Ret. Time**	**% area**	**Resolution**	**Tailing Factor**	**Theoritical Plate**	**k'**
1 ppm	28364	5,476	4,316	0,884	2,188	439192	0,546
2 ppm	58549	5,691	4,765	1,841	1,610	1490507	0,603
3 ppm	91446	5,848	5,064	2,208	1,390	1518993	0,641
4 ppm	126202	5,825	5,388	2,419	1,479	1713772	0,639
5 ppm	90770	5,340	3,160	1,625	0,000	1342497	0,505

*standar 5 ppm tipdak dipakai



2. Perhitungan kadar nikotin dan kadar trigliserida dalam sampel

Sampel	Luas Area	Ret. Time	% area	Resolution	Tailing Factor	Theoritical Plate	k'	SELISIH LUAS AREA	KADAR SAMPEL + STANDAR	KADAR NIKOTIN SEBENARNYA	KADAR TRIGLISERIDA
standar	54928	6,321	7,653	3,342	0,935	1590516	0,970				
sp03	42338	6,159	5,283	3,074	0,973	1903585	0,979	13974	1,464431237	0,464431237	64
sp04	41540	6,103	4,957	3,023	1,050	1814035	0,985	13176	1,439983456	0,439983456	142
sp05	38104	6,056	3,127	2,435	0,974	2414700	1,014	9740	1,334717074	0,334717074	152
sp06	24966	5,605	2,120	1,945	1,476	2187276	0,860	-3398	0,93221715	-0,06778285	93
standar	24003	5,480	3,539	2,263	2,107	1400042	0,741				
sp07	18264	5,468	2,021	2,091	1,887	1707785	0,760	-10100	0,726892558	-0,273107442	94
sp08	19157	5,431	2,360	2,149	1,890	1570272	0,753	-9207	0,754250789	-0,245749211	32
sp09	17174	5,420	2,037	2,030	1,997	1753717	0,750	-11190	0,693498974	-0,306501026	161
sp10	19308	5,410	2,097	2,128	0,000	2011973	0,757	-9056	0,758876873	-0,241123127	123
sp11	15884	5,416	1,718	2,326	1,940	1903444	0,763	-12480	0,653978126	-0,346021874	117
sp12	15624	5,428	1,930	1,541	1,943	1778003	0,761	-12740	0,646012683	-0,353987317	72
sp13	15874	5,414	1,701	2,411	2,041	1889879	0,748	-12490	0,318970007	-0,681029993	280
sp14	16140	5,436	1,945	2,364	1,807	1689861	0,769	-12224	0,661821023	-0,338178977	129
sp15	23052	5,482	2,863	1,676	0,000	750127	0,770	-5312	0,538877485	-0,461122515	45
sp01	21654	5,486	2,337	2,198	1,842	1558059	0,769	-6710	0,496047915	-0,503952085	132
sp02	19074	5,497	2,249	1,745	1,871	1264572	0,772	-9290	0,417006219	-0,582993781	174
standar	25041	5,499	3,578	2,211	0,000	1280236	0,544				
standar	33145	5,655	4,914	1,840	1,617	1586374	0,759				
sp16	35640	6,134	4,484	2,572	0,956	1984092	0,956	7276	1,25922919	0,25922919	151
sp17	30262	6,023	3,720	1,504	1,079	1962958	0,927	1898	1,094467081	0,094467081	523

sp18	36691	6,104	3,804	2,862	0,991	1824697	0,943	8327	1,291427959	0,291427959	208
sp19	29542	6,094	3,216	2,803	0,969	2100873	4,377	1178	1,072408934	0,072408934	77
sp20	32600	5,784	3,936	2,383	0,000	2200862	0,855	4236	1,166094789	0,166094789	120
sp21	17993	5,560	2,214	2,320	1,547	2297123	0,782	-10371	0,718590117	-0,281409883	73
standar	18155	5,486	2,969	1,734	2,264	1006615	0,684				

rokok	112795	5,354	3,042	0,956	0,000	1086614	0,775	tanpa adisi	-	3,622974174
rokok	176202	5,537	3,009	1,659	0,000	1643110	0,818	adisi 2 ppm	5,565531081	3,565531081
Rata rata										3,594252627

3. Perhitungan Batas Deteksi dan Batas Kuantitasi

BATAS DETEKSI & BATAS KUANTITASI				
No	Konsentrasi	Area	Yi	(Yi-Yi)2
1	1	28.364	27177,5	1407782,25
2	2	58.549	59818,5	1611630,25
3	3	91.446	92459,5	1027182,25
4	4	126.202	125100,5	1213302,25
			Total	5259897

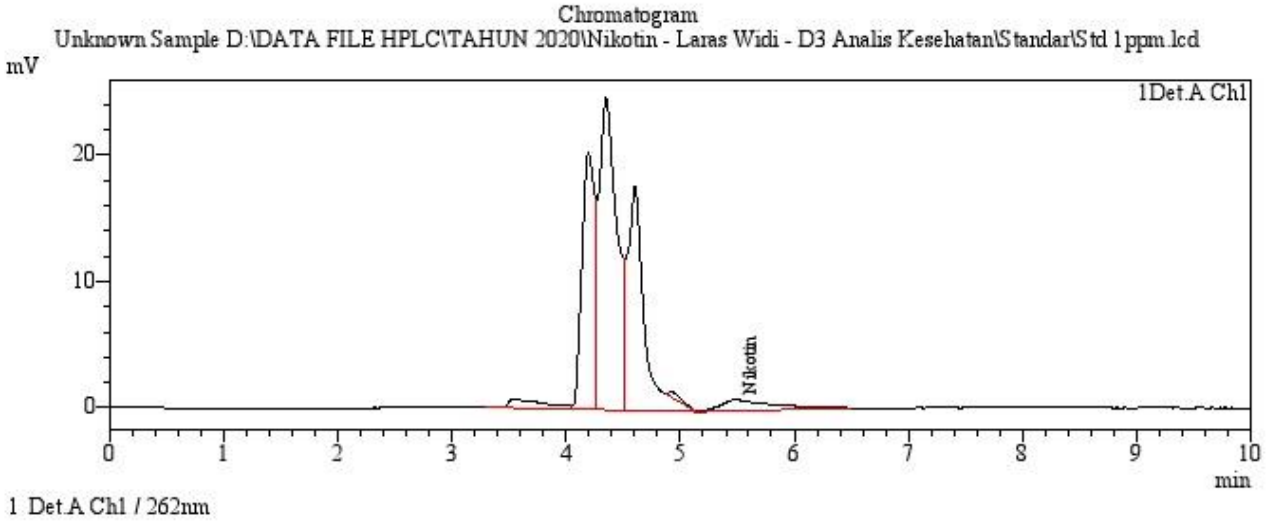
s(y/x)^2 1.314.974
s(y/x) 1146,723267

BD **0,0055**
BK **0,0183**

Lampiran 6. Data HPLC Pemeriksaan Kadar Nikotin

- **Kromatogram Deret Standar Nikotin**

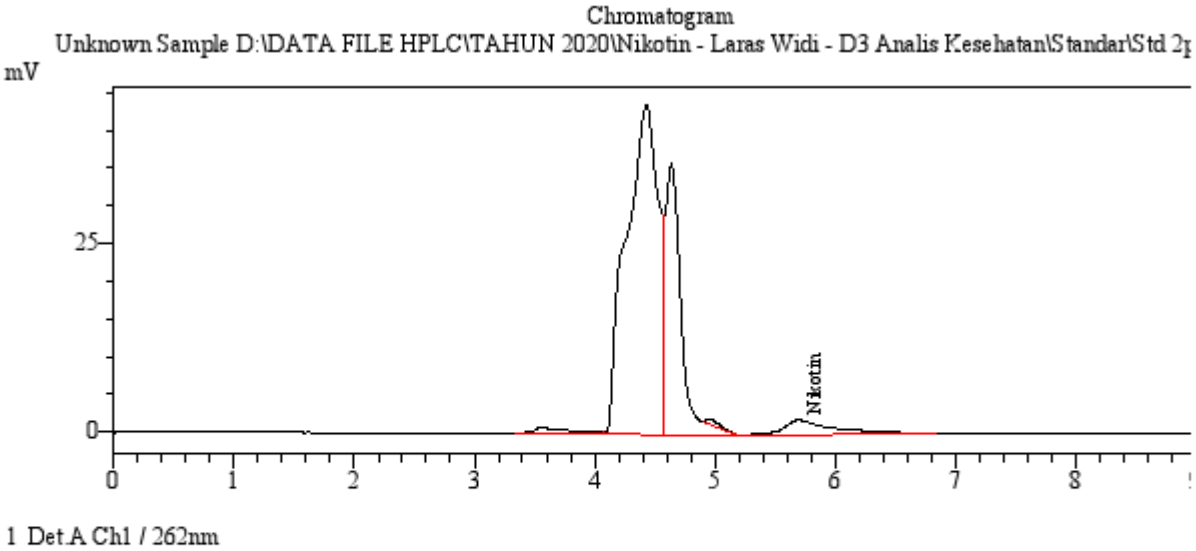
Standar Nikotin 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\Standar\Std 1ppm.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.476	28364	4.316	0.884	2.188	439.132	0.546

Standar Nikotin 2 ppm



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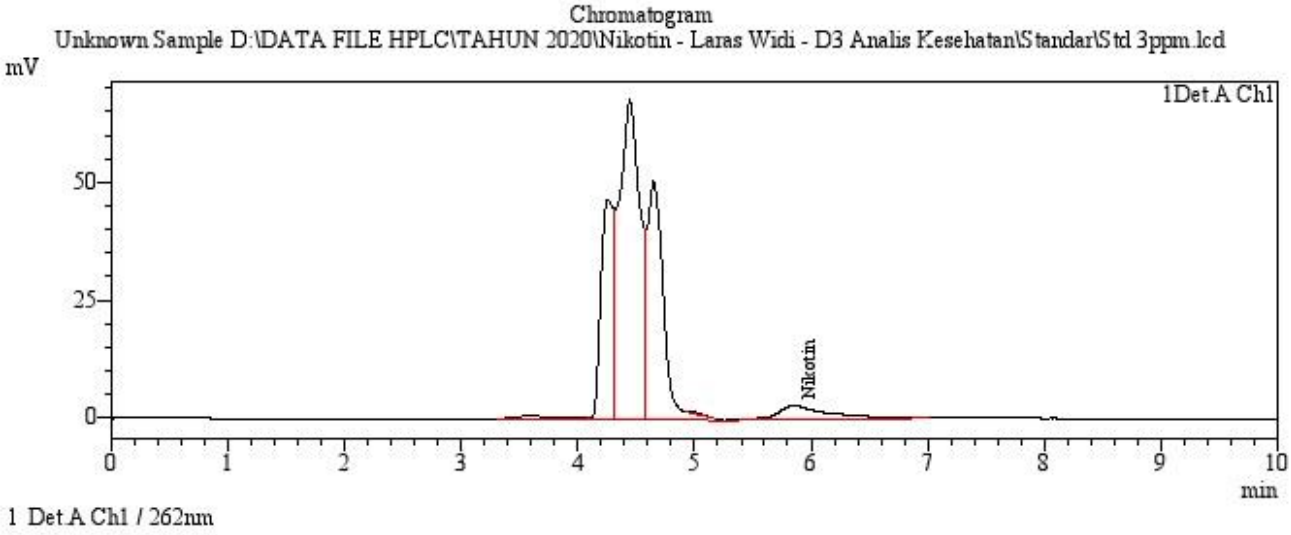
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.691	58549	4.765	1.841	1.610	1490.507	0.603

Standar Nikotin 3 ppm



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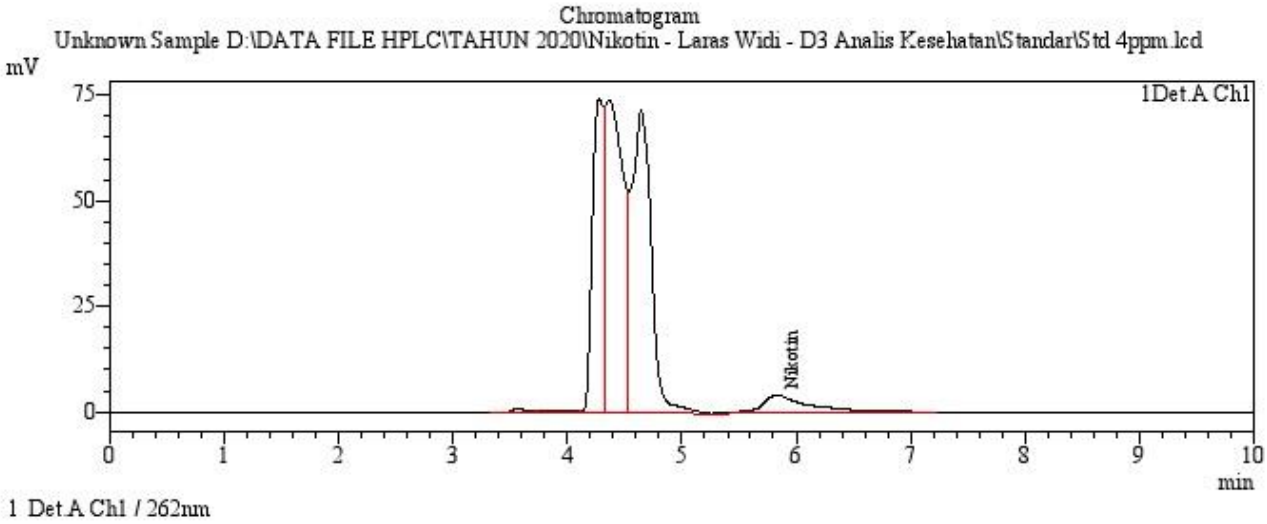
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.848	91446	5.064	2.208	1.390	1518.993	0.641

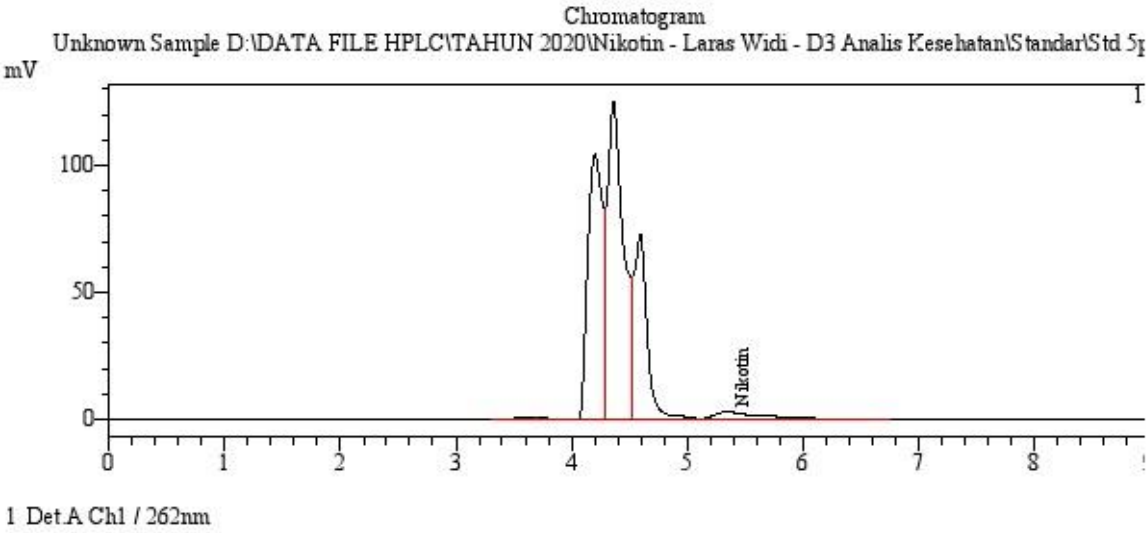
Standar Nikotin 4 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\Standar\Std 4ppm.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.825	126202	5.388	2.419	1.479	1713.772	0.639

Standar Nikotin 5 ppm



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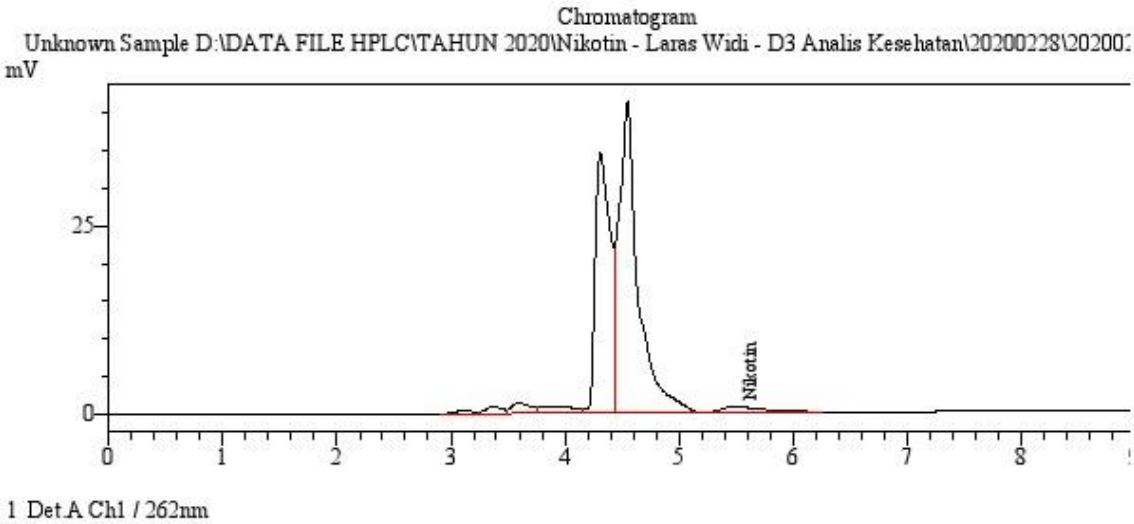
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.340	90770	3.160	1.625	0.000	1342.497	0.505

- **Kromatogram Sampel**

Sampel 01



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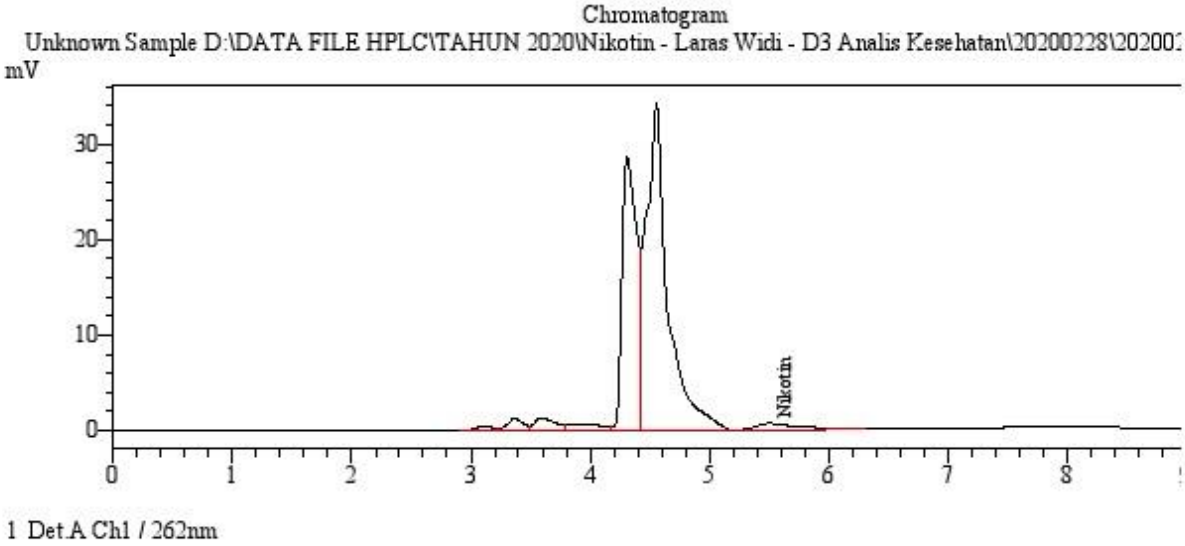
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.486	21654	2.337	2.198	1.842	1558.059	0.769

Sampel 02



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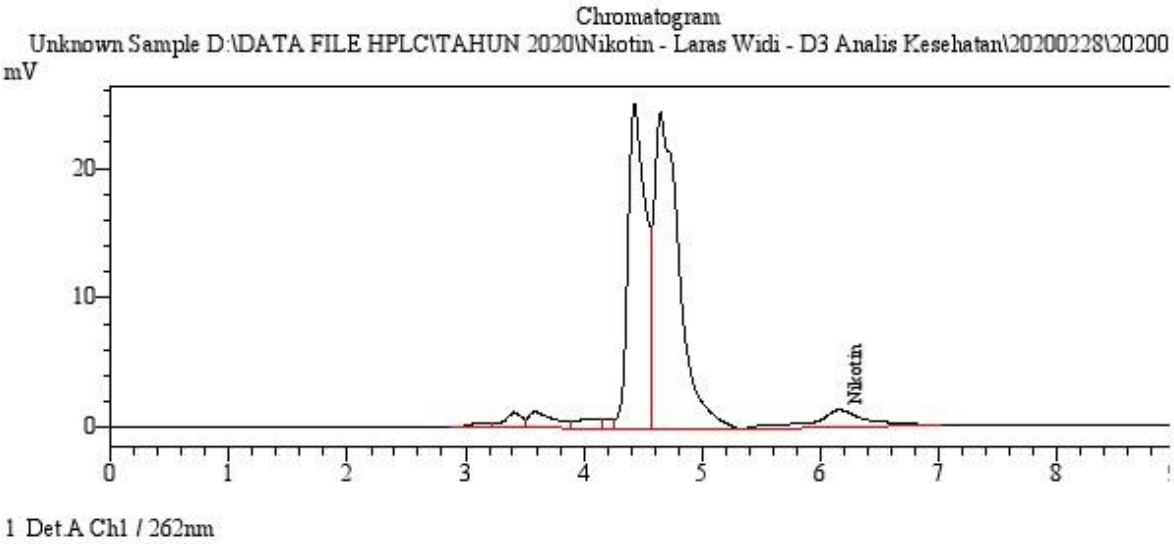
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.497	19074	2.249	1.745	1.871	1264.572	0.772

Sampel 03



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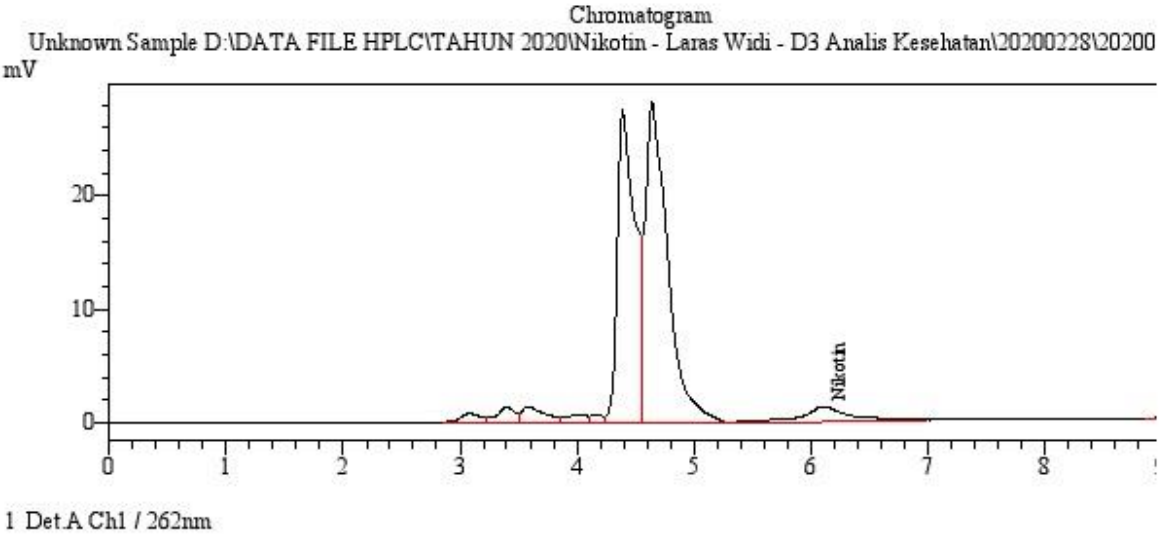
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.159	42338	5.283	3.074	0.973	1903.585	0.979

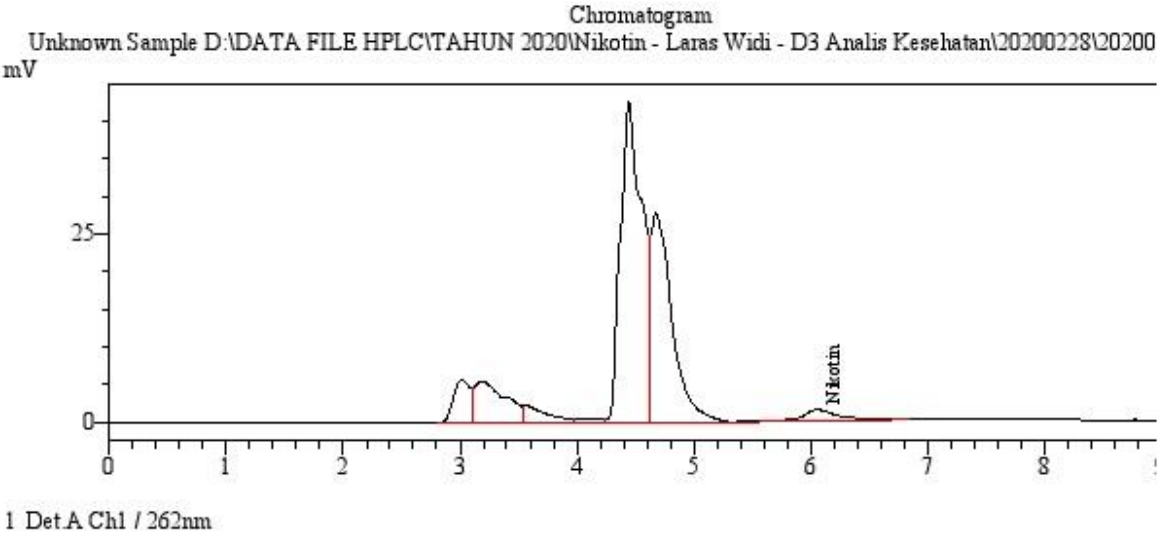
Sampel 04



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-6.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.103	41540	4.957	3.023	1.050	1814.035	0.985

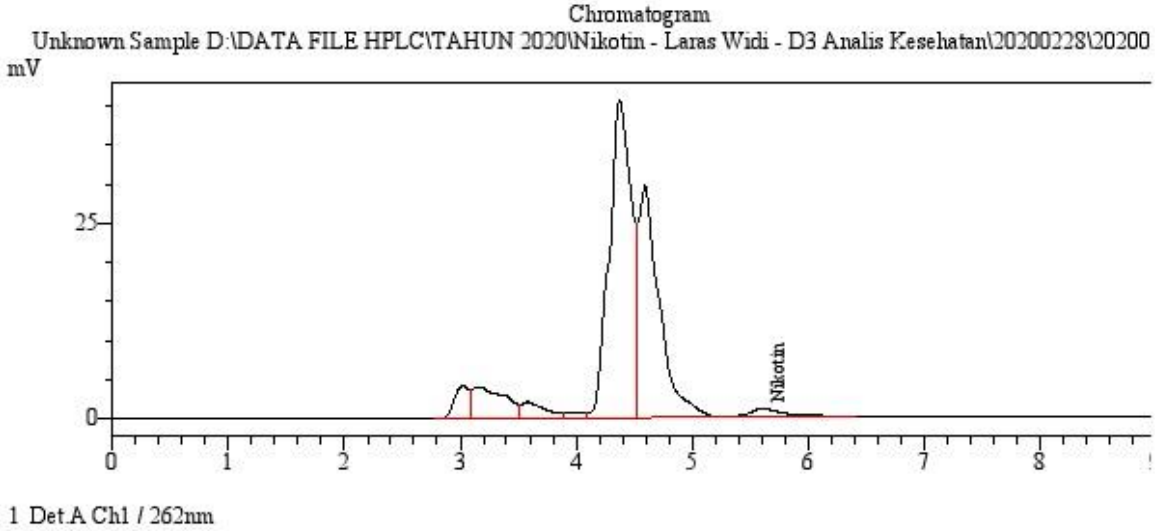
Sampel 05



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-7.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.056	38104	3.127	2.435	0.974	2414.700	1.014

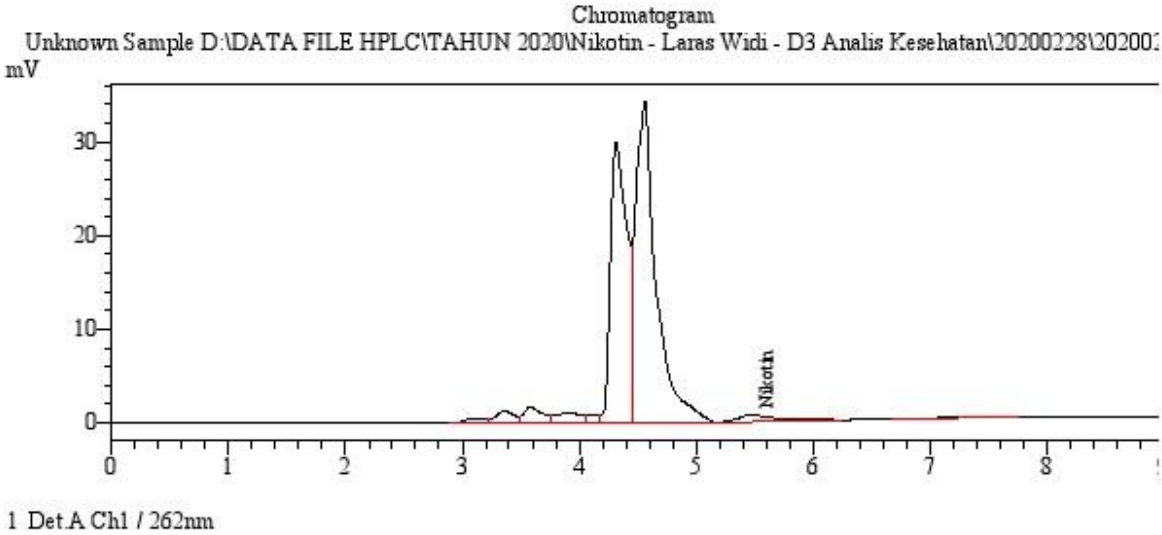
Sampel 06



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-8.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.605	24966	2.120	1.945	1.476	2187.276	0.860

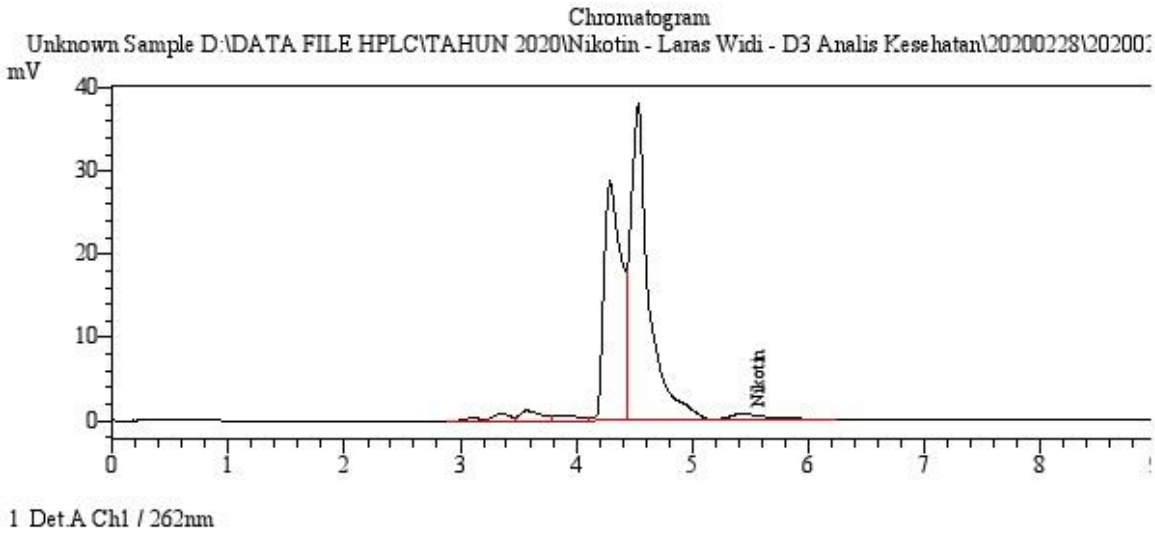
Sampel 07



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-10.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.468	18264	2.021	2.091	1.887	1707.785	0.760

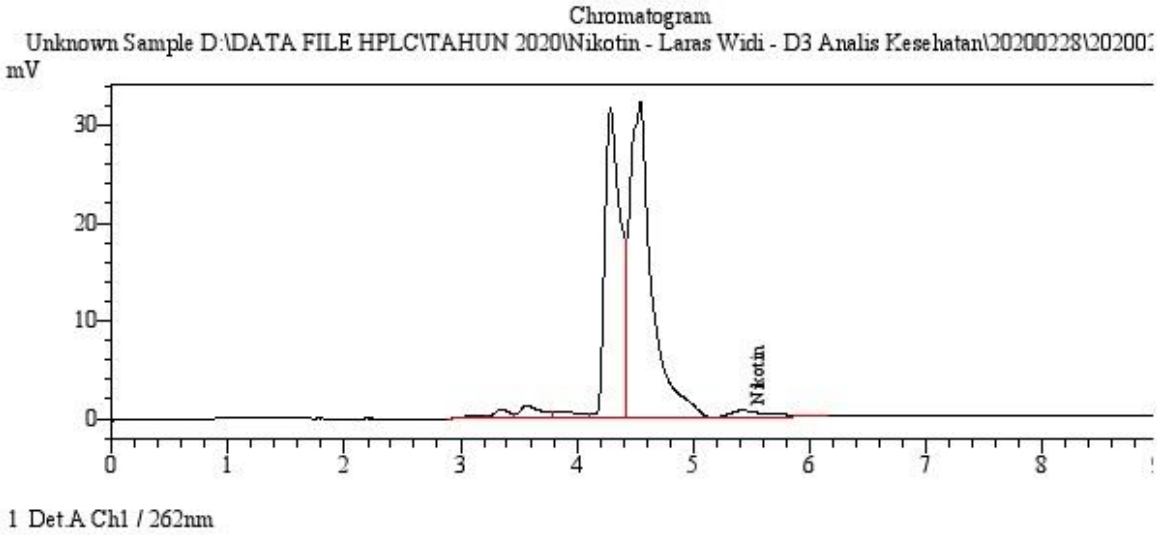
Sampel 08



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-11.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.431	19157	2.360	2.149	1.890	1570.272	0.753

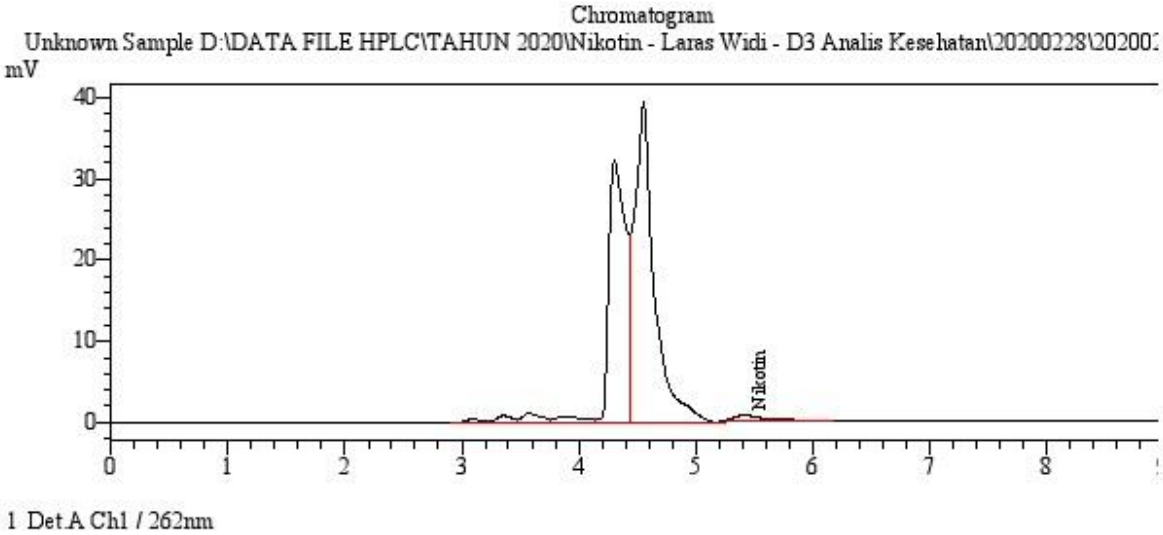
Sampel 09



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-12.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.420	17174	2.037	2.030	1.997	1753.717	0.750

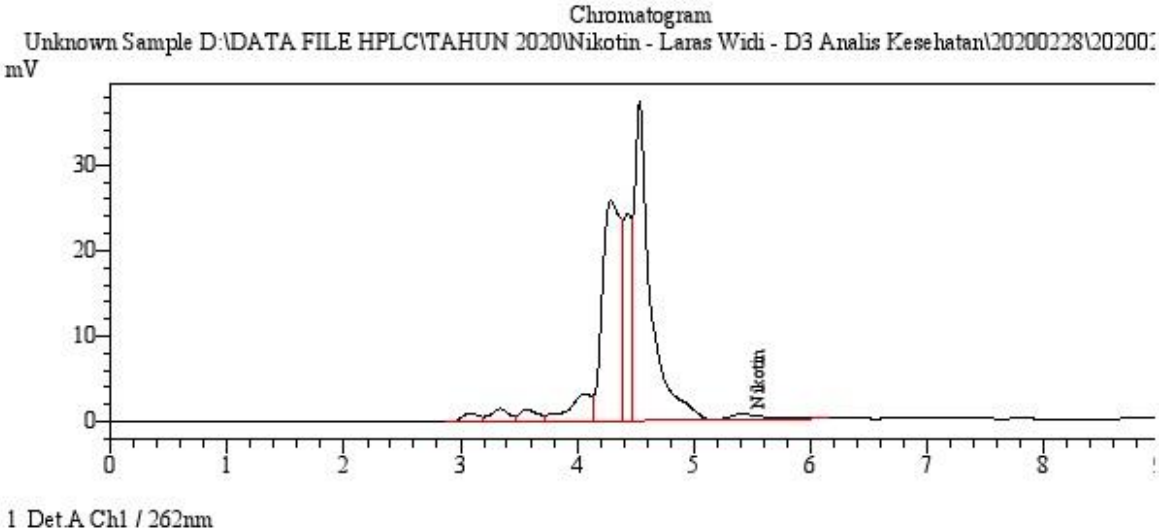
Sampel 10



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-13.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.410	19308	2.097	2.128	0.000	2011.973	0.757

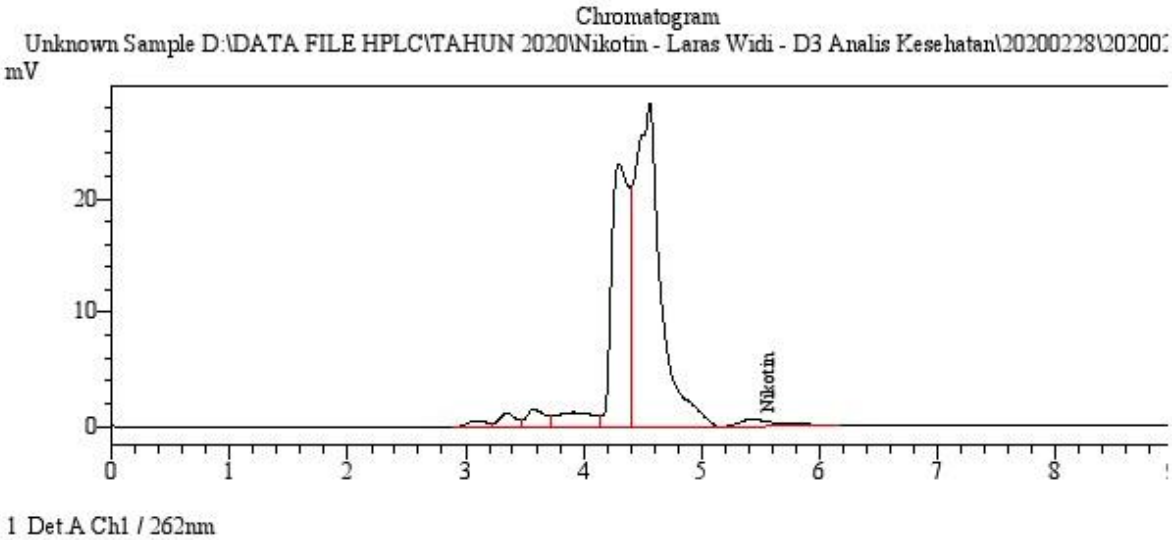
Sampel 11



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-14.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.416	15884	1.718	2.326	1.940	1903.444	0.763

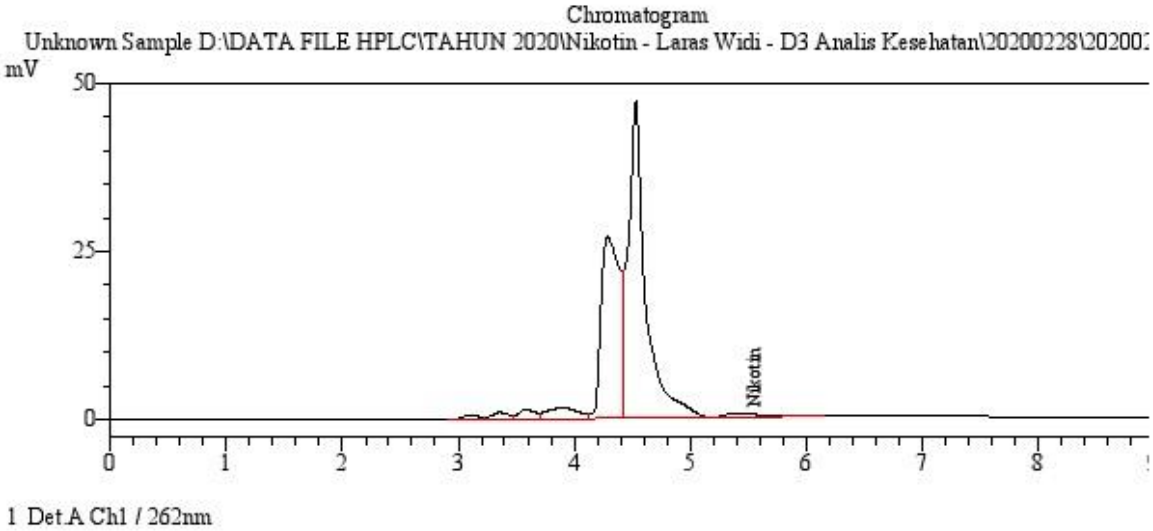
Sampel 12



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-15.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.428	15624	1.930	1.541	1.943	1778.003	0.761

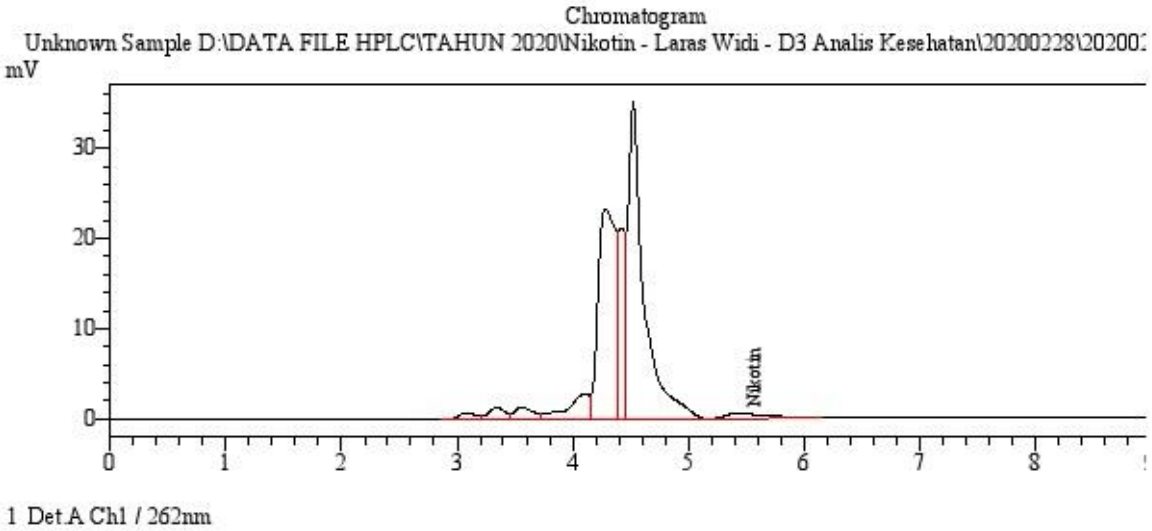
Sampel 13



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-16.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.414	15874	1.701	2.411	2.041	1889.879	0.748

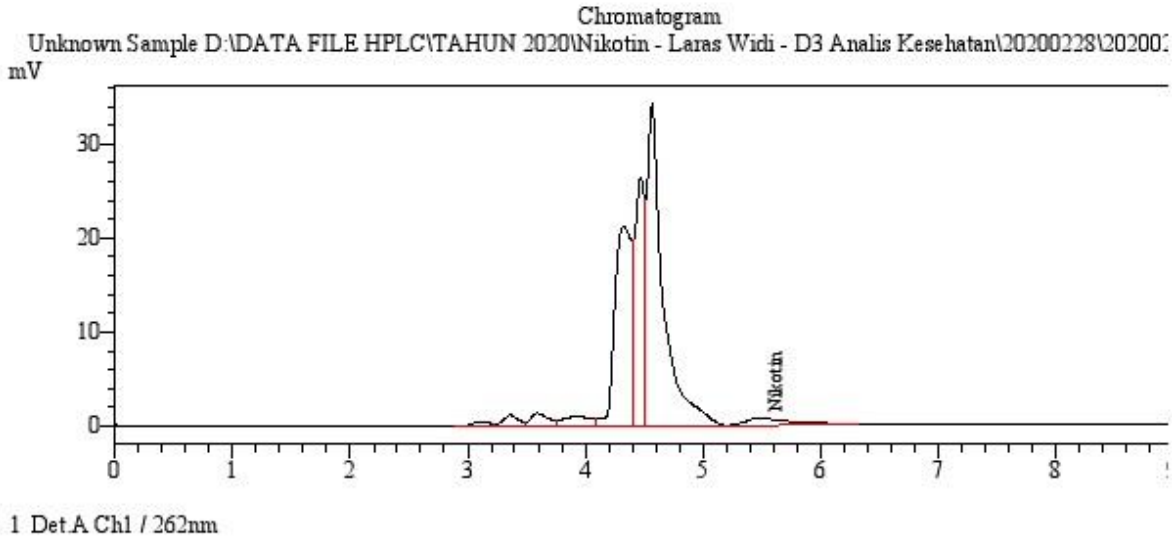
Sampel 14



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-17.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.436	16140	1.945	2.364	1.807	1689.861	0.769

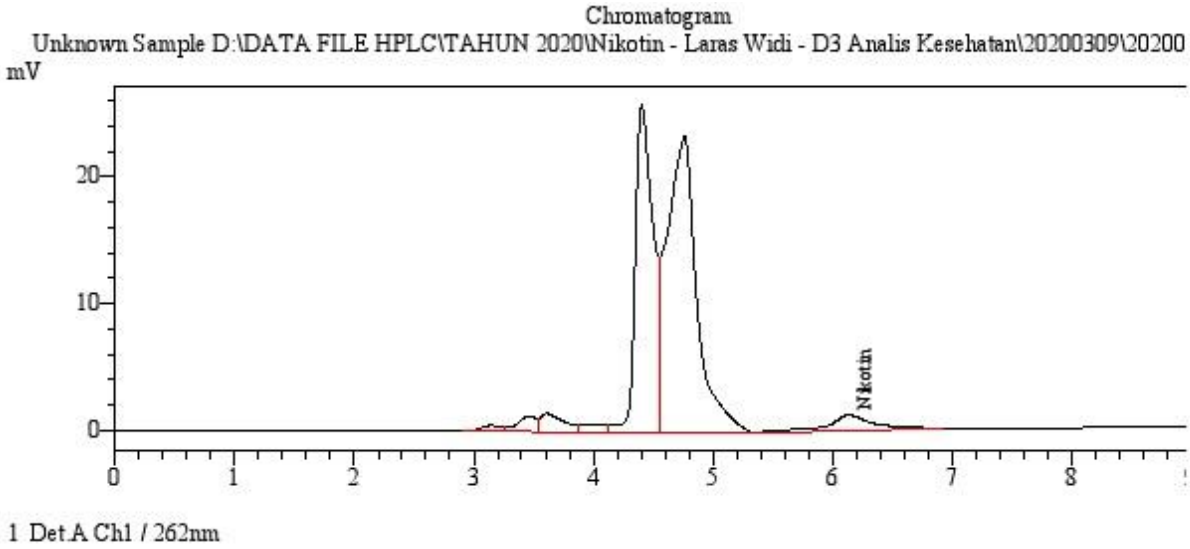
Sampel 15



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-18.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.482	23052	2.863	1.676	0.000	750.127	0.770

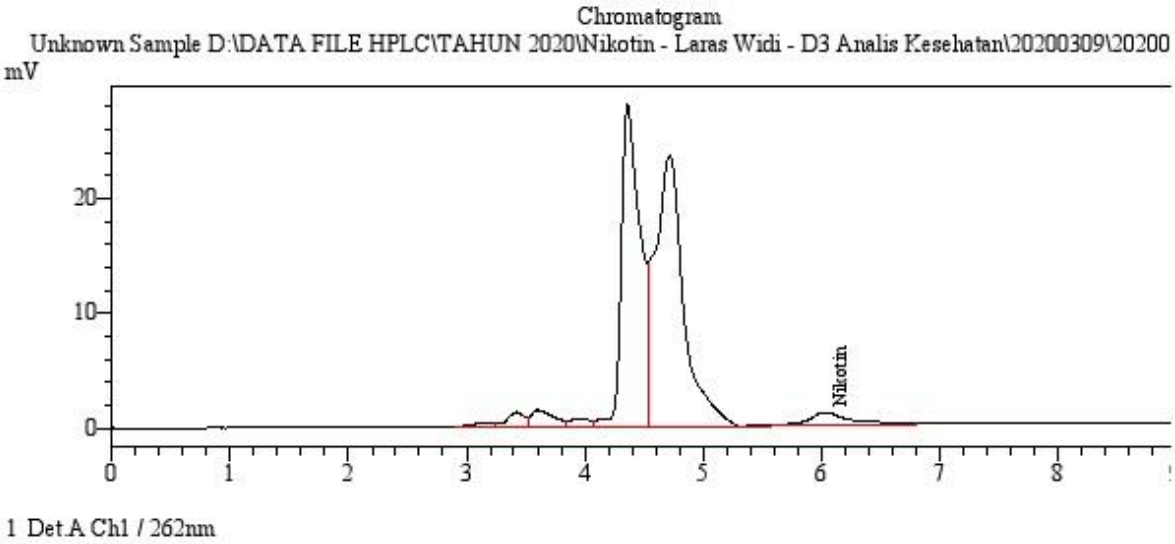
Sampel 16



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-2.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.134	35640	4.484	2.572	0.956	1984.092	0.956

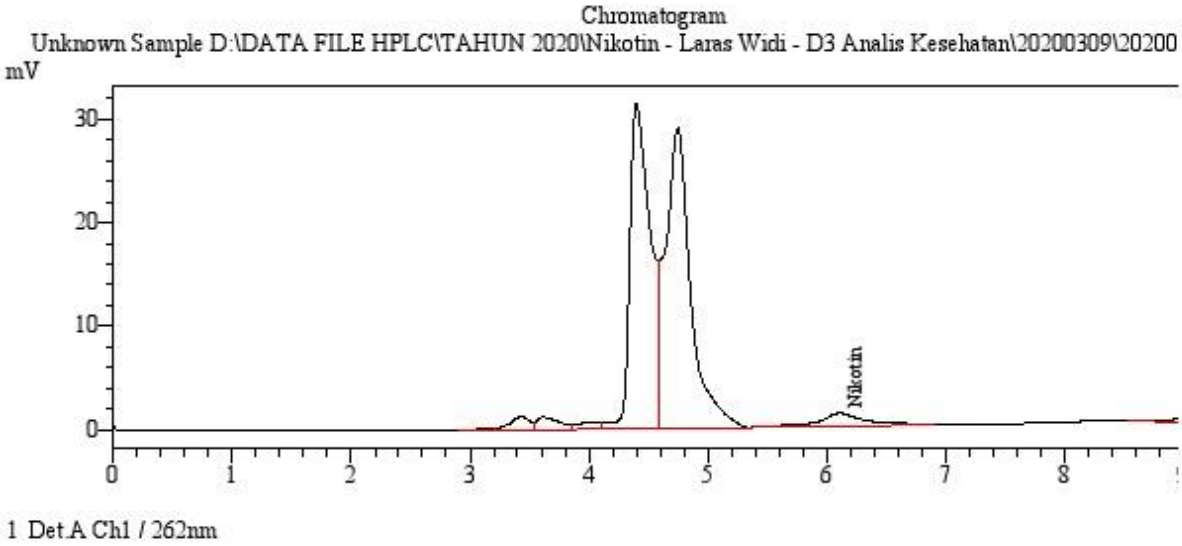
Sampel 17



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-3.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.023	30262	3.720	1.504	1.079	1962.958	0.927

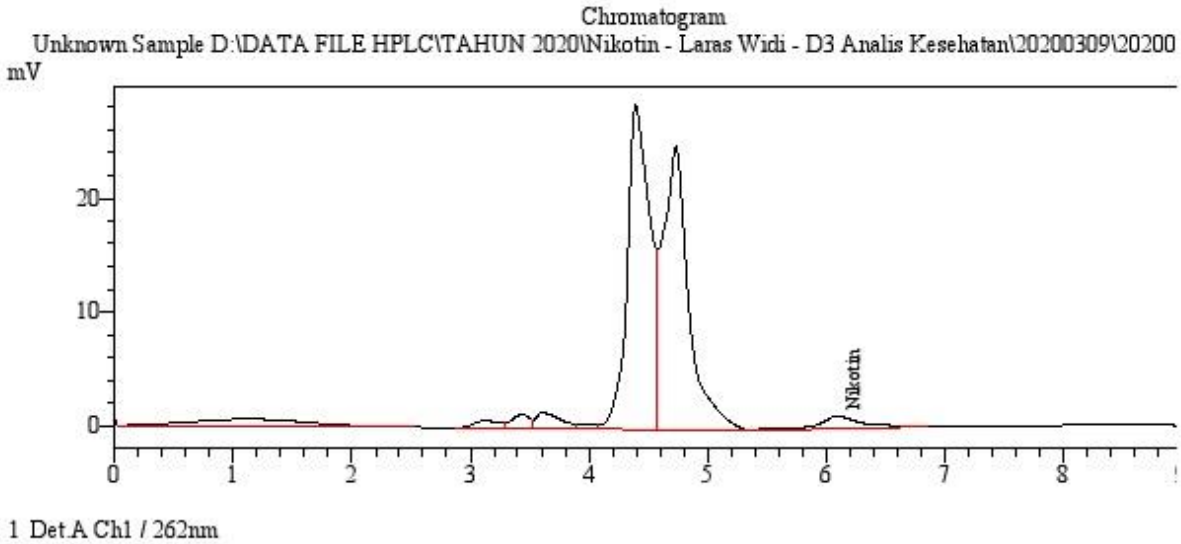
Sampel 18



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-4.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.104	36691	3.804	2.862	0.991	1824.697	0.943

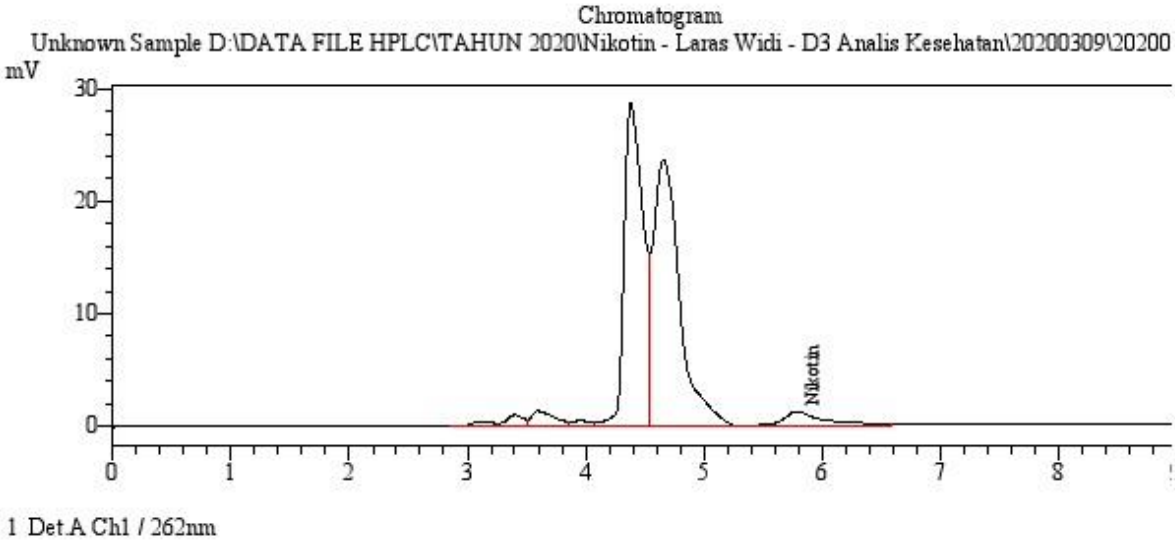
Sampel 19



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-5.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.094	29542	3.216	2.803	0.969	2100.873	4.377

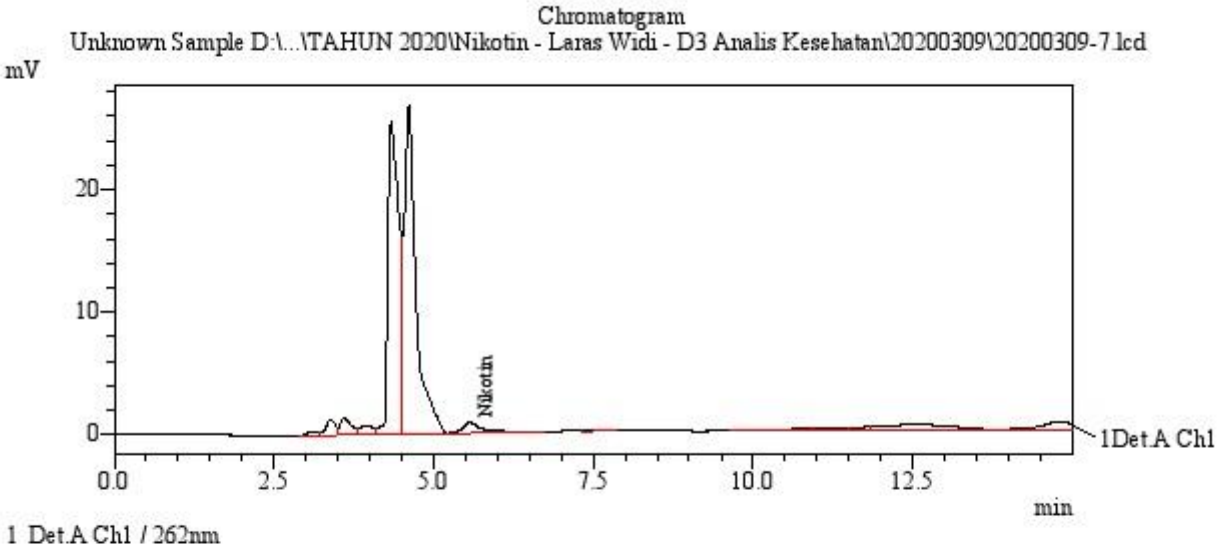
Sampel 20



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-6.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.784	32600	3.936	2.383	0.000	2200.862	0.855

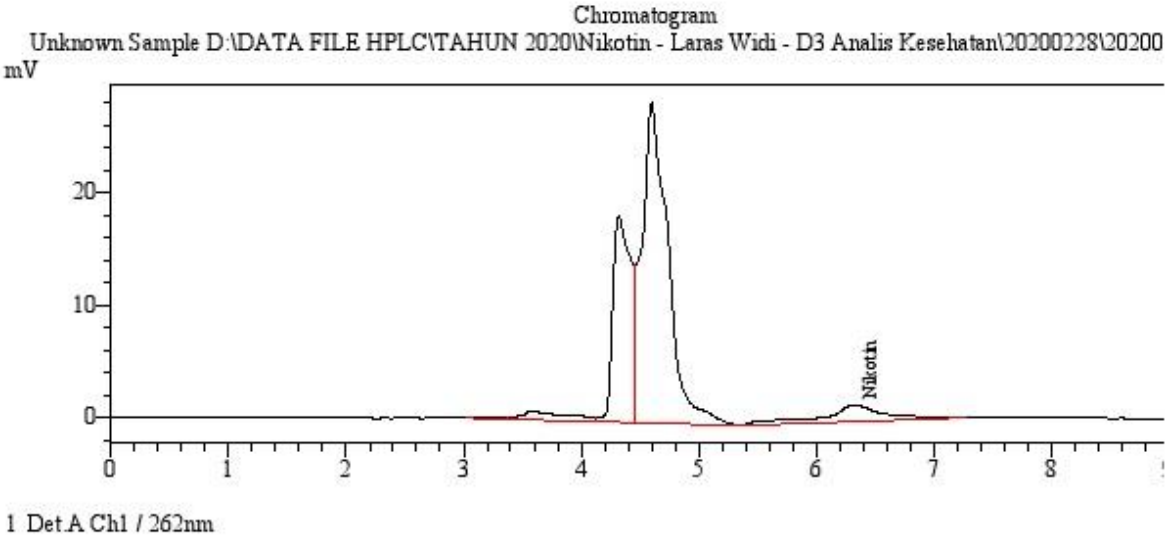
Sampel 21



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-7.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.560	20681	2.537	2.293	2.168	2202.628	0.782

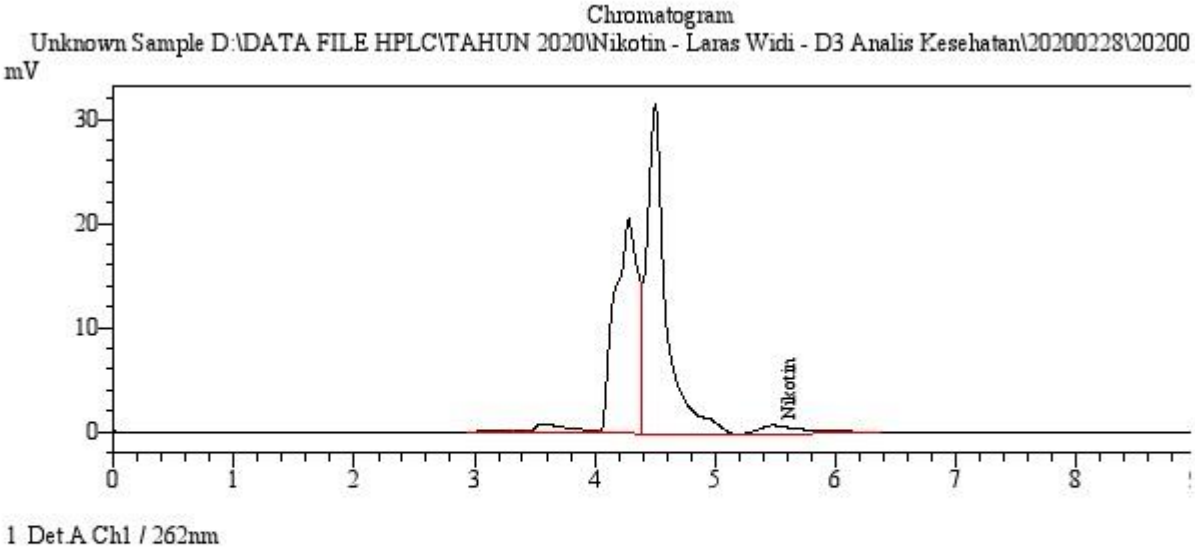
Standar awal 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-2.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	6.321	54928	7.653	3.342	0.935	1590.516	0.970

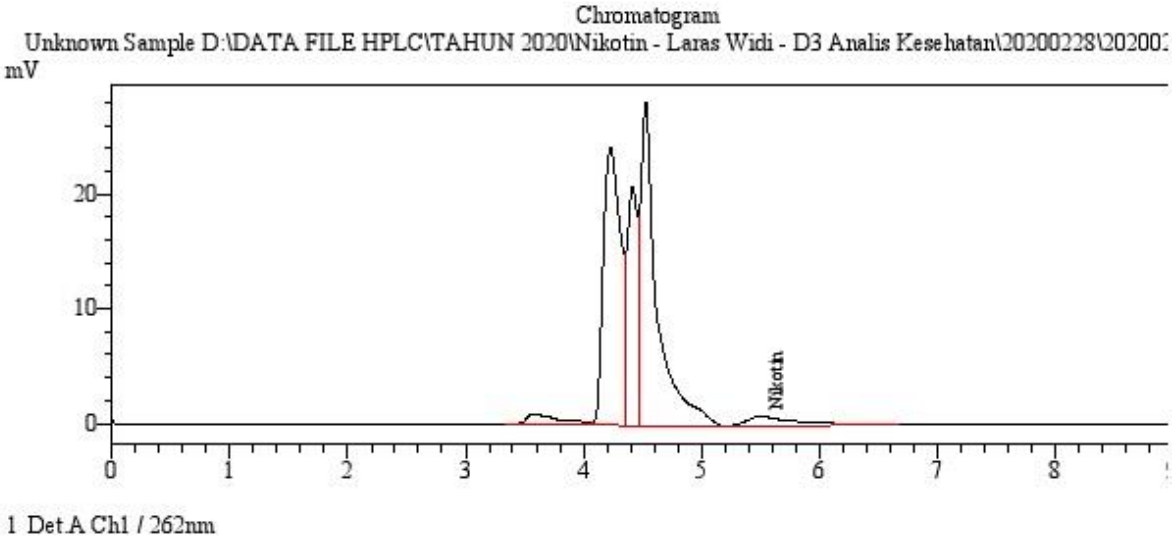
Standar tengah 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-9.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.480	24003	3.539	2.263	2.107	1400.042	0.741

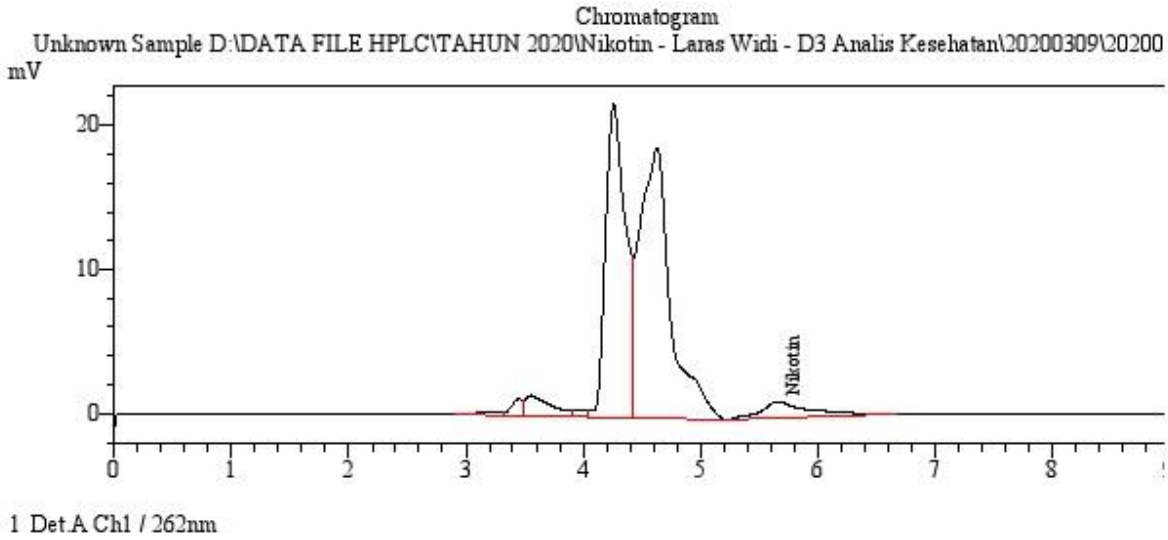
Standar akhir 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200228\20200228-21.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.499	25041	3.578	2.211	0.000	1280.236	0.544

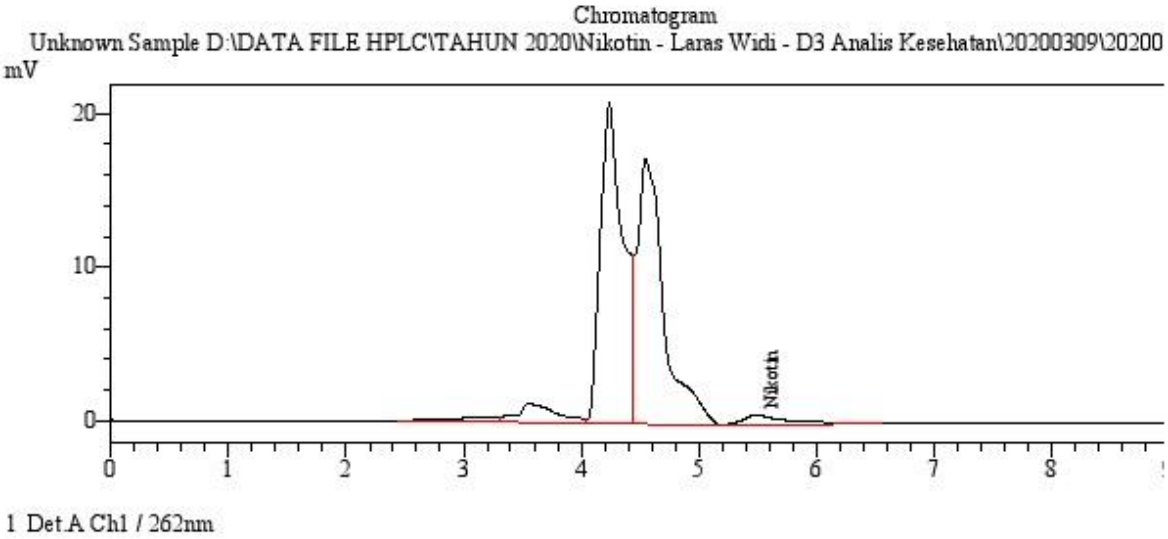
Standar awal 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-1.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.655	33145	4.914	1.840	1.617	1586.374	0.759

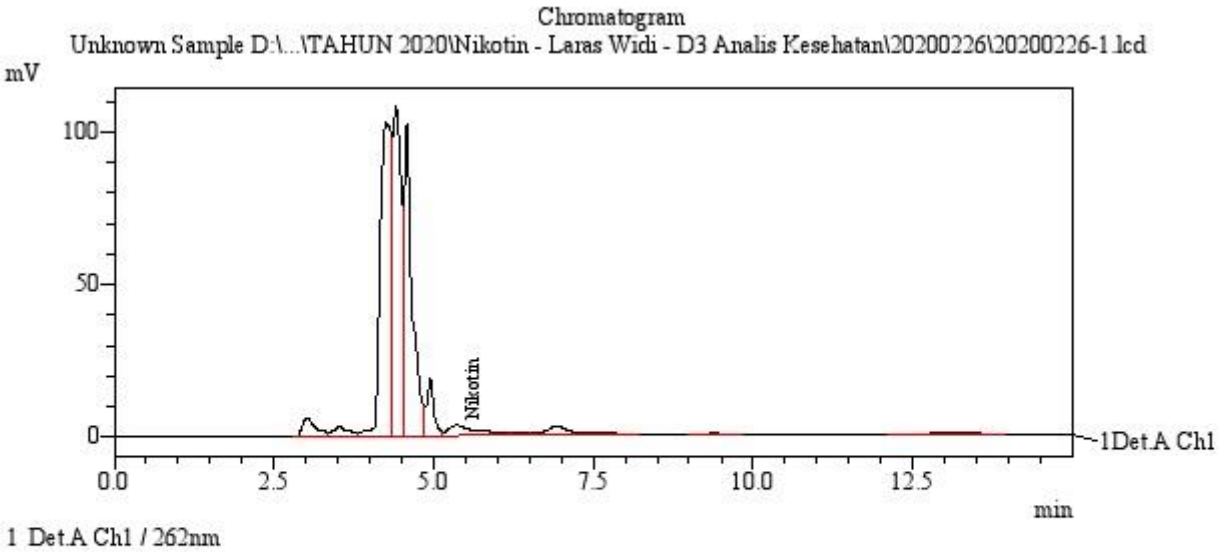
Standar Akhir 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200309\20200309-8.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.486	18155	2.969	1.734	2.264	1006.615	0.684

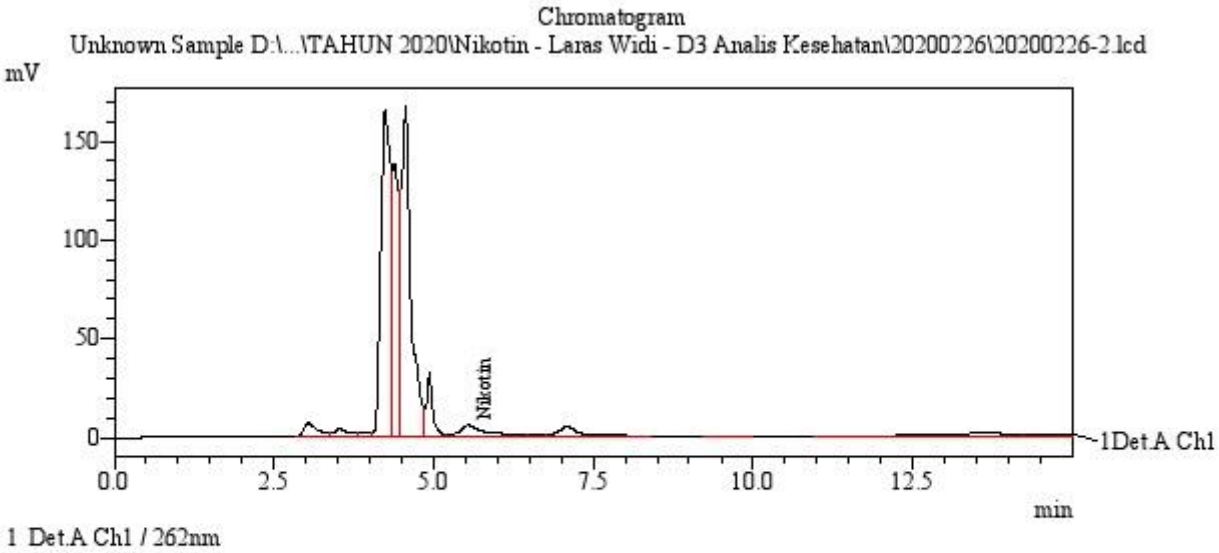
- **Kromatogram Ekstrak Rokok Filter (tanpa adisi)**



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200226\20200226-1.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.354	112795	3.042	0.956	0.000	1086.614	0.775

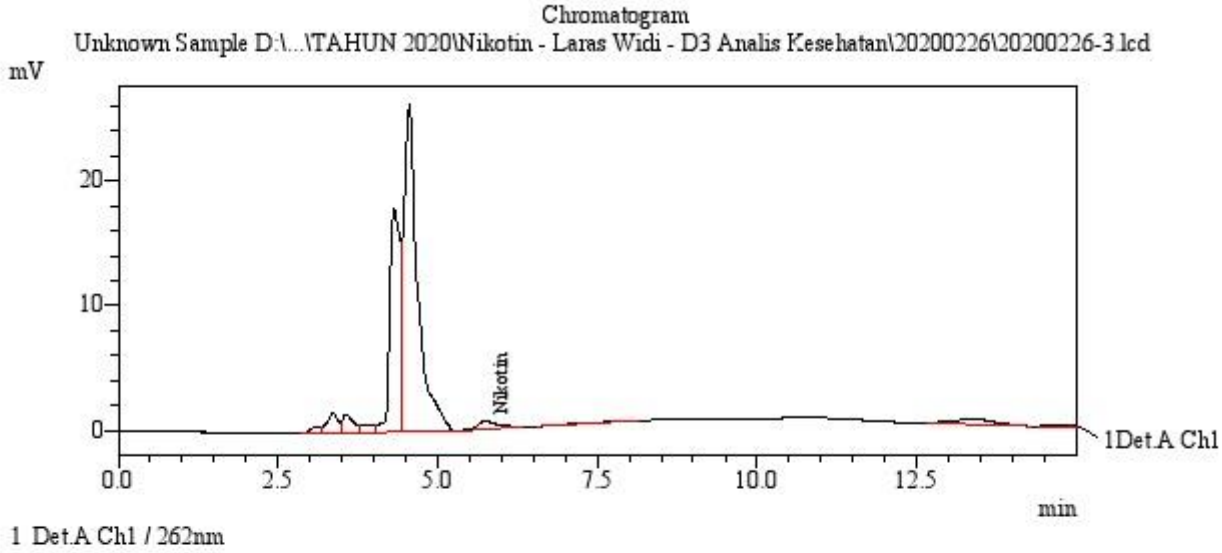
- **Kromatogram Ekstrak Rokok (adisi 2 ppm)**



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200226\20200226-2.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.537	176202	3.009	1.659	0.000	1643.110	0.818

- **Kromatogram Ekstrak Rokok Filter (adisi 1 ppm)**

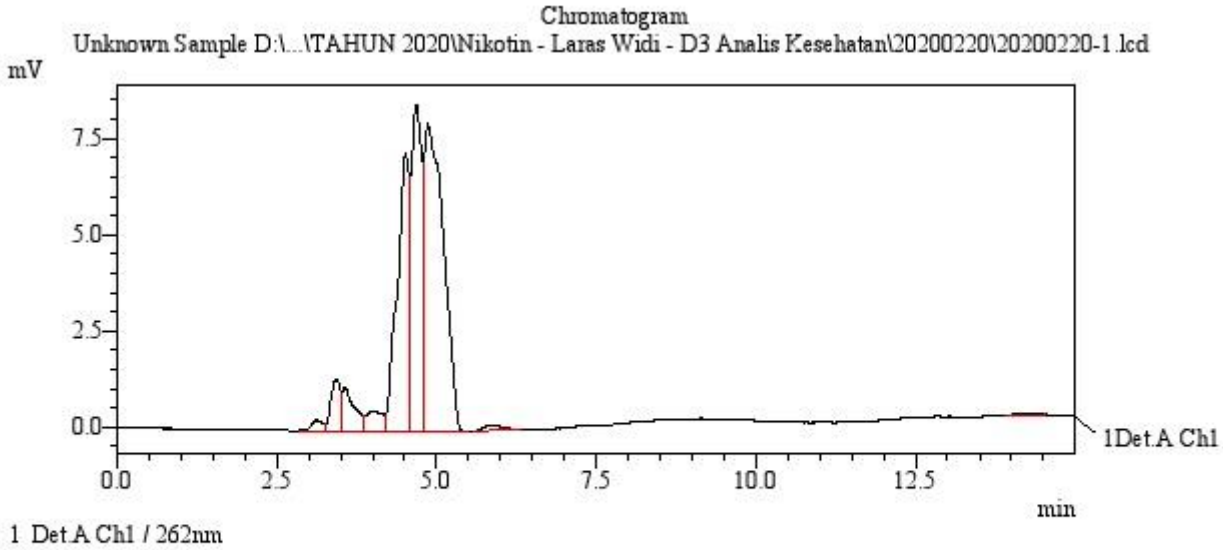


D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200226\20200226-3.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.742	14311	1.936	2.658	1.147	2138.749	0.848

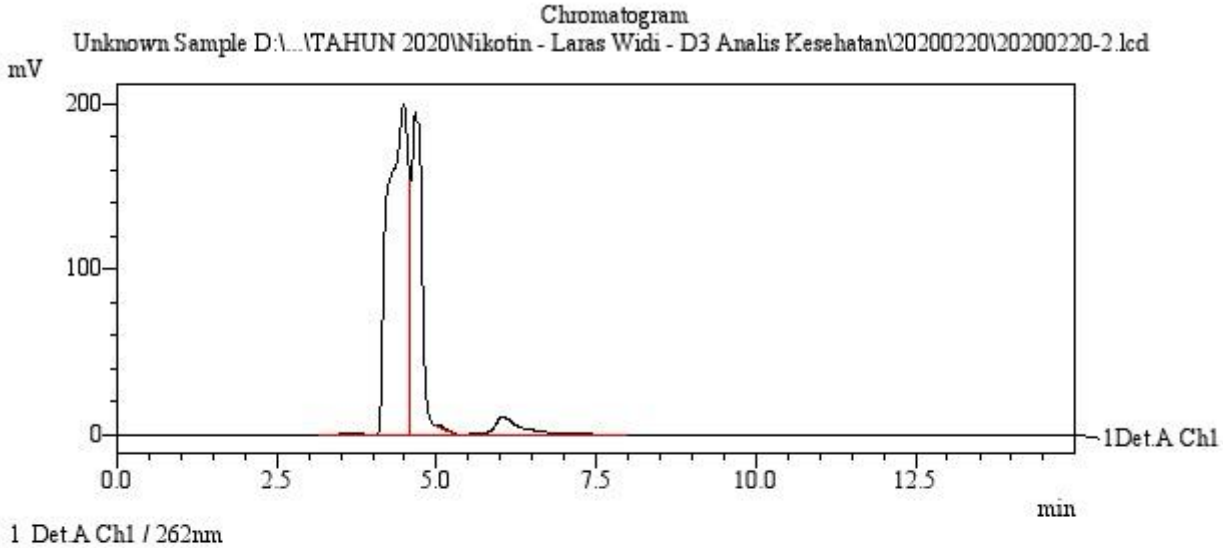
- **Kromatogram Optimasi Metode**

Sampel dalam Air : Methanol (60:40)



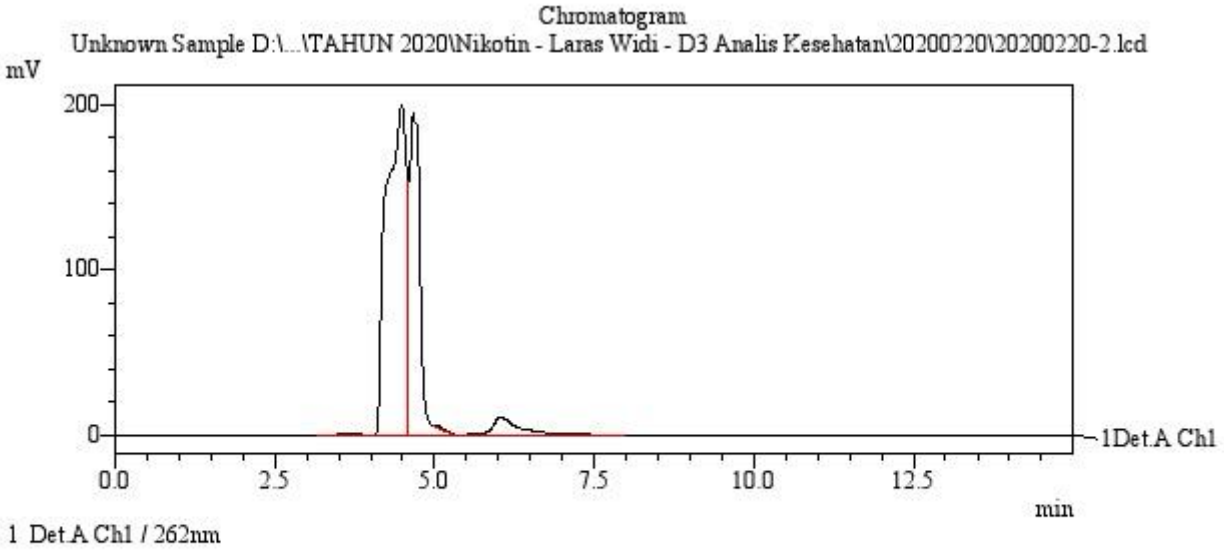
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200220\20200220-1.lcd
Detector A

Sampel dalam Air : Methanol : Buffer : Asetonitril (65:13:20:2)



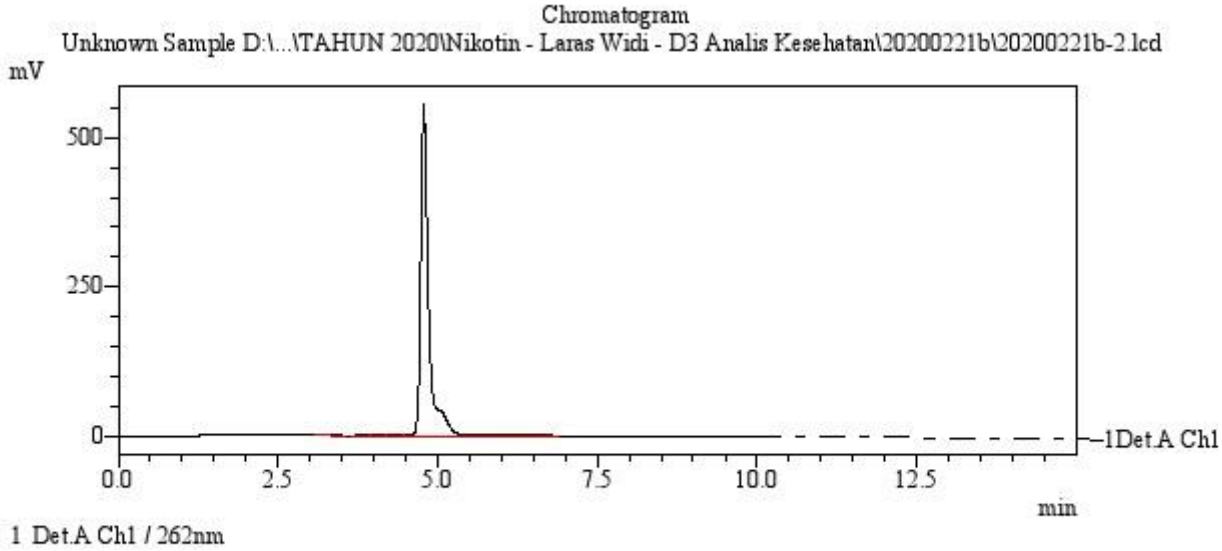
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200220\20200220-2.lcd
Detector A

Standar dalam fasa gerak air:methanol : buffer : Asetonitril (62:13:20:5)



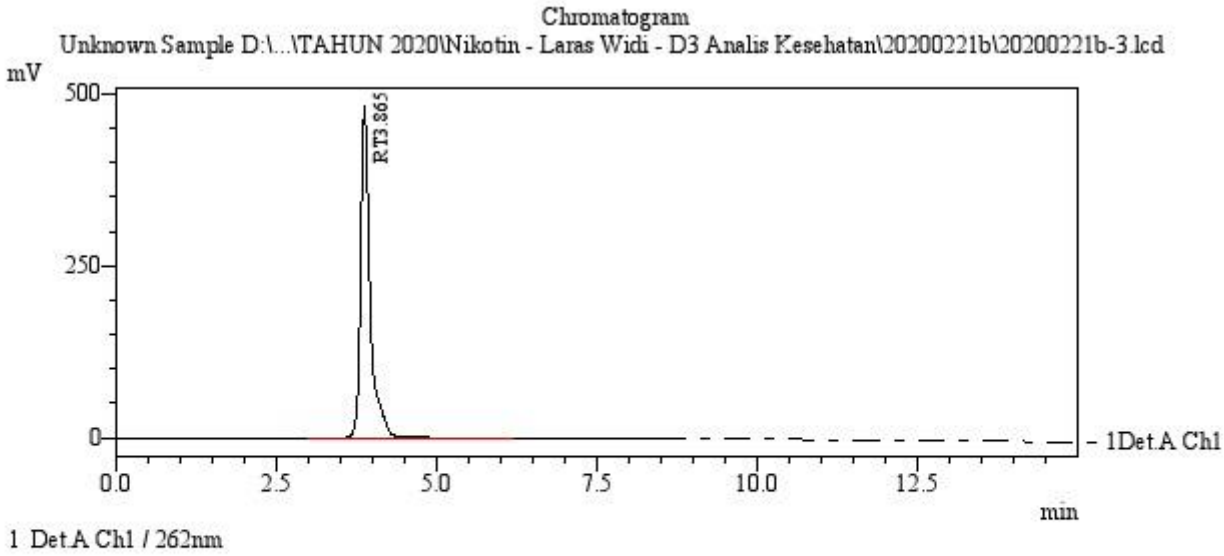
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200220\20200220-2.lcd
Detector A

Standar dalam fasa gerak air:methanol : buffer : Asetonitril (65:10:20:5)



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221b\20200221b-2.lcd
Detector A

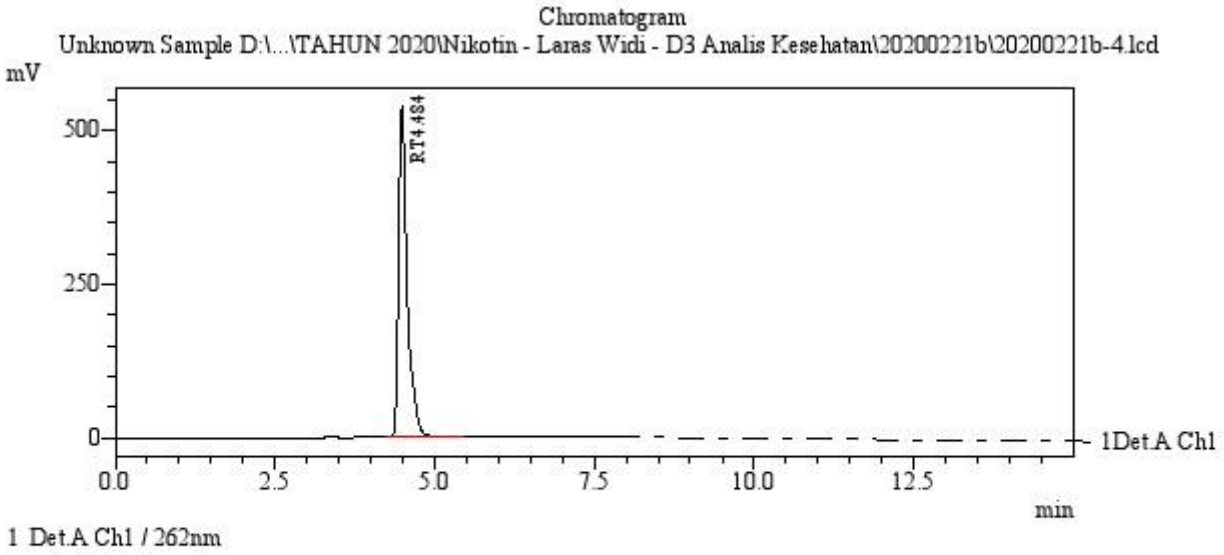
Standar dalam fasa gerak air:methanol : buffer : Asetonitril (60:10:20:10)



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221b\20200221b-3.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
RT3.865	3.865	5025543	99.940	1.606	1.686	3898.567	0.174

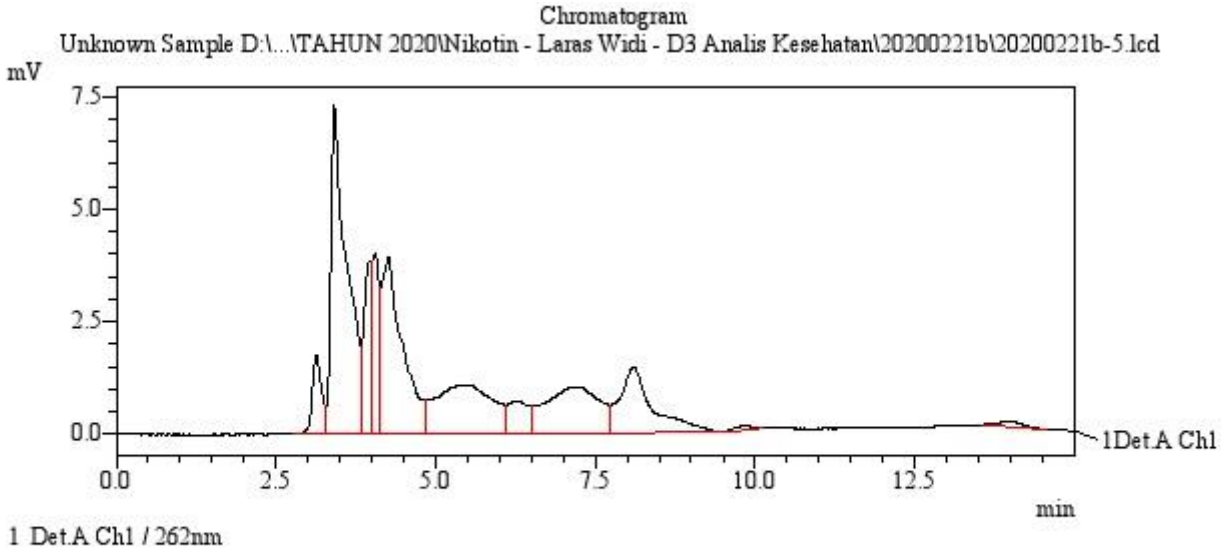
Standar dalam fasa gerak air:methanol : buffer : ACN(60:20:15:5)



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221b\20200221b-4.lcd
Detector A

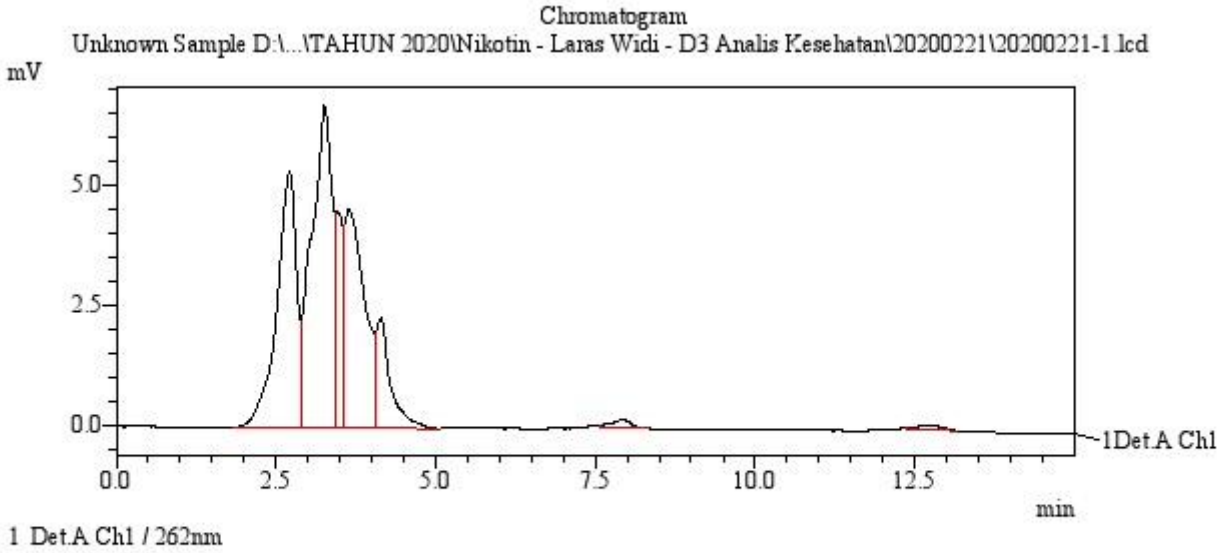
Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
RT4.484	4.484	5114103	100.000	0.000	1.759	5802.107	0.000

Sampel dalam fasa gerak air : methanol : buffer : Asetonitril (60:20:15:5)



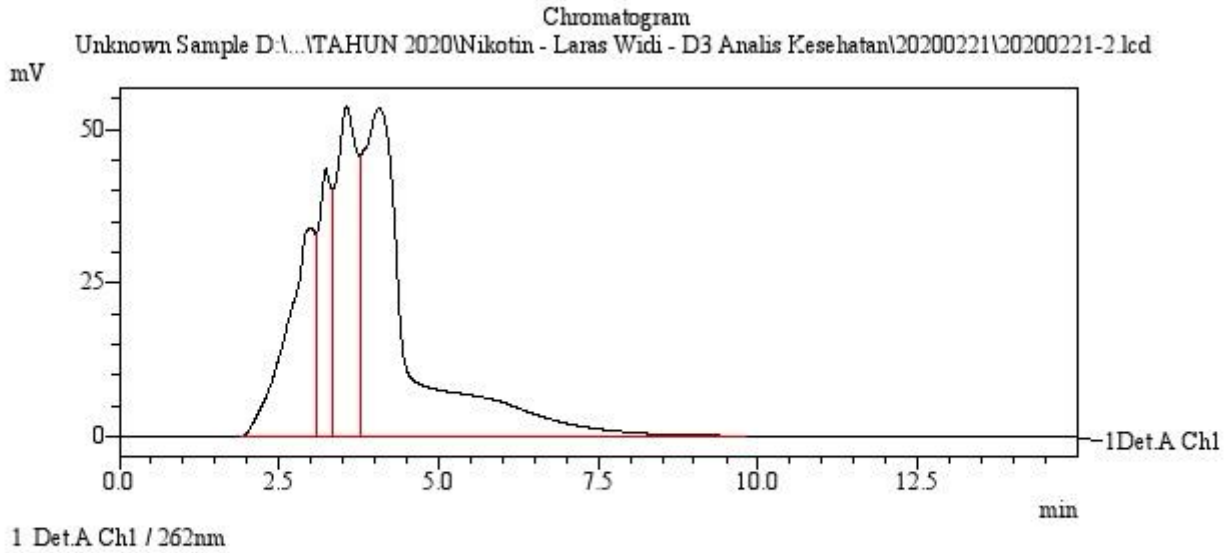
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221b\20200221b-5.lcd
Detector A

Injeksi sampel dalam fasa gerak methanol : air (60:40)



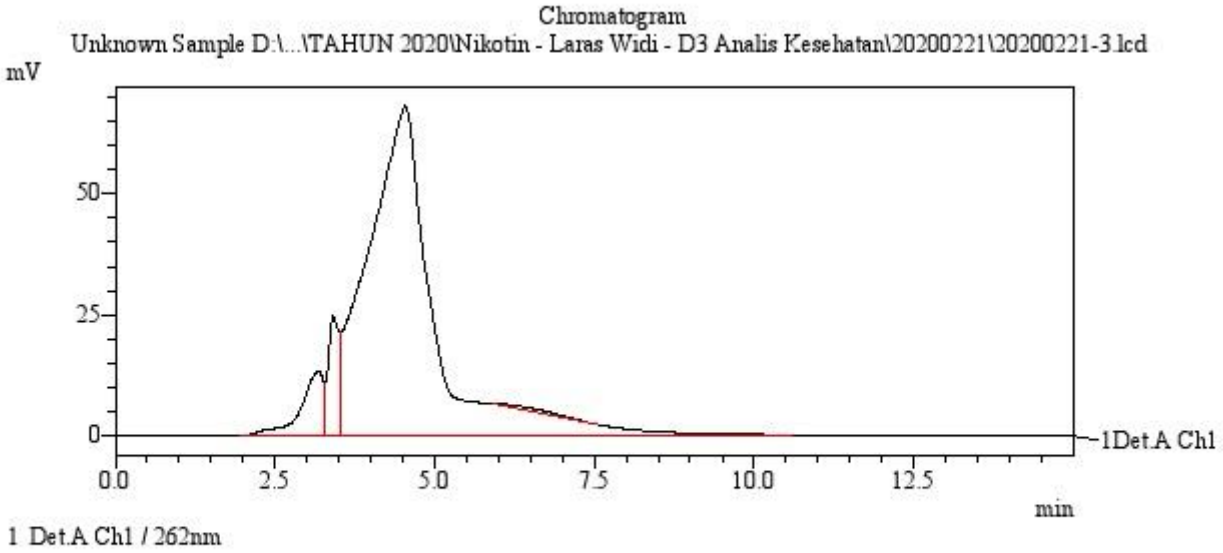
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-1.lcd
Detector A

Injeksi standar (dalam Asetonitril) dalam fasa gerak methanol : air (60:40)



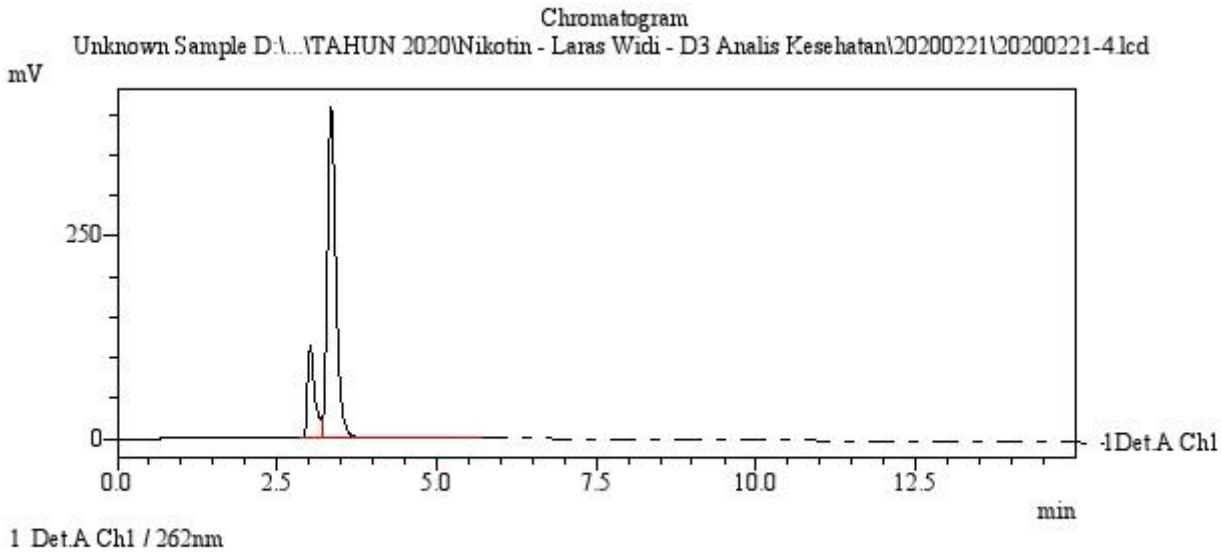
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-2.lcd
Detector A

Injeksi standar (aqua pro injection) dalam fasa gerak methanol : air (60:40)



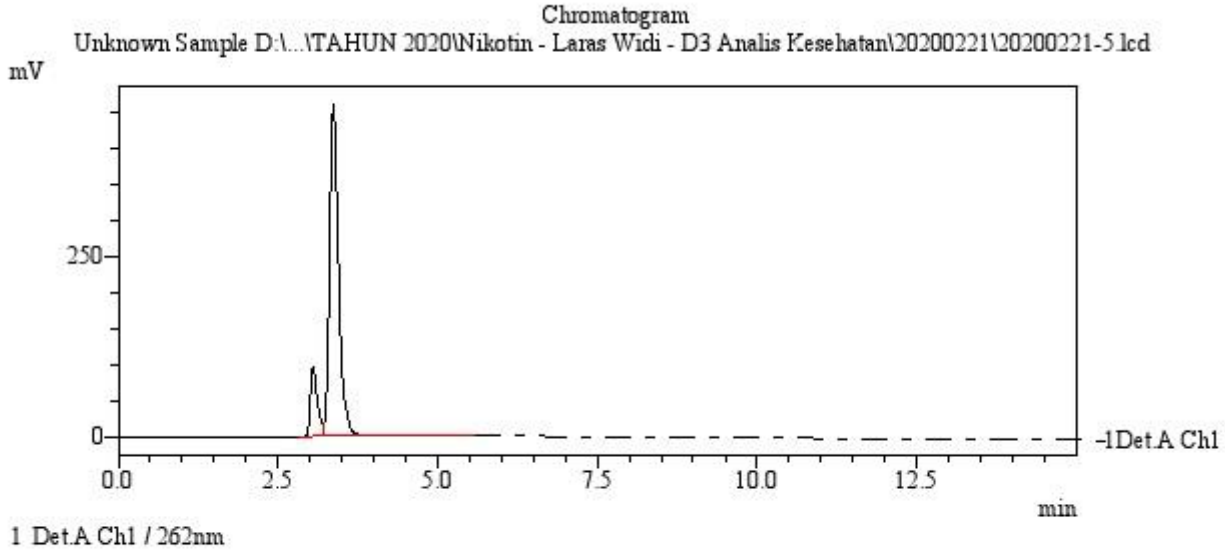
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-3.lcd
Detector A

Standar dalam fasa gerak air : methanol : buffer(10:60:15)



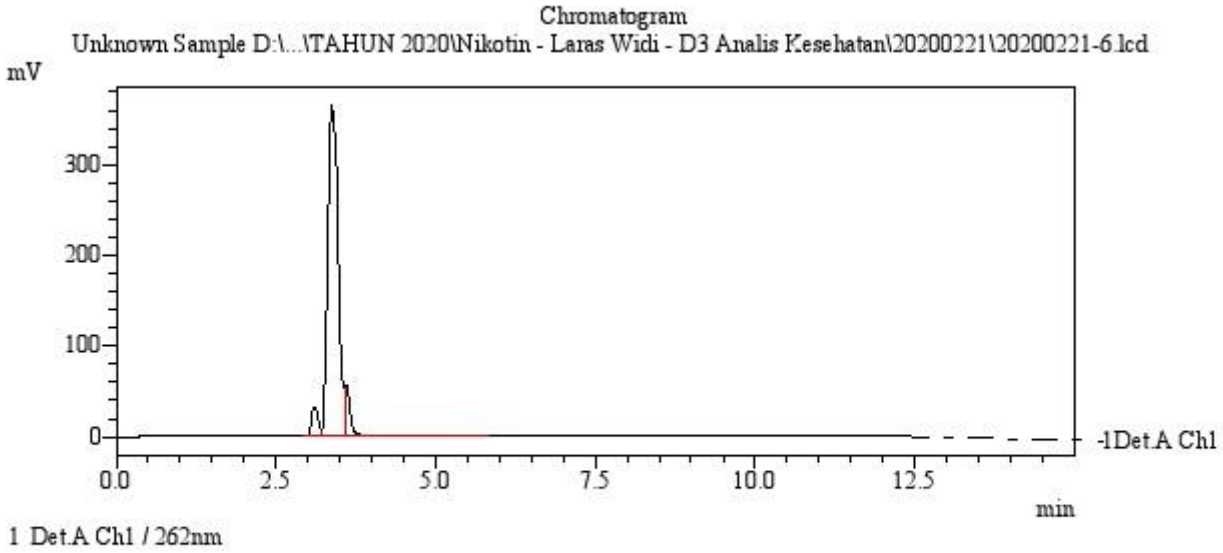
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-4.lcd
Detector A

Standar dalam fasa gerak air : methanol : buffer(10:60:20)



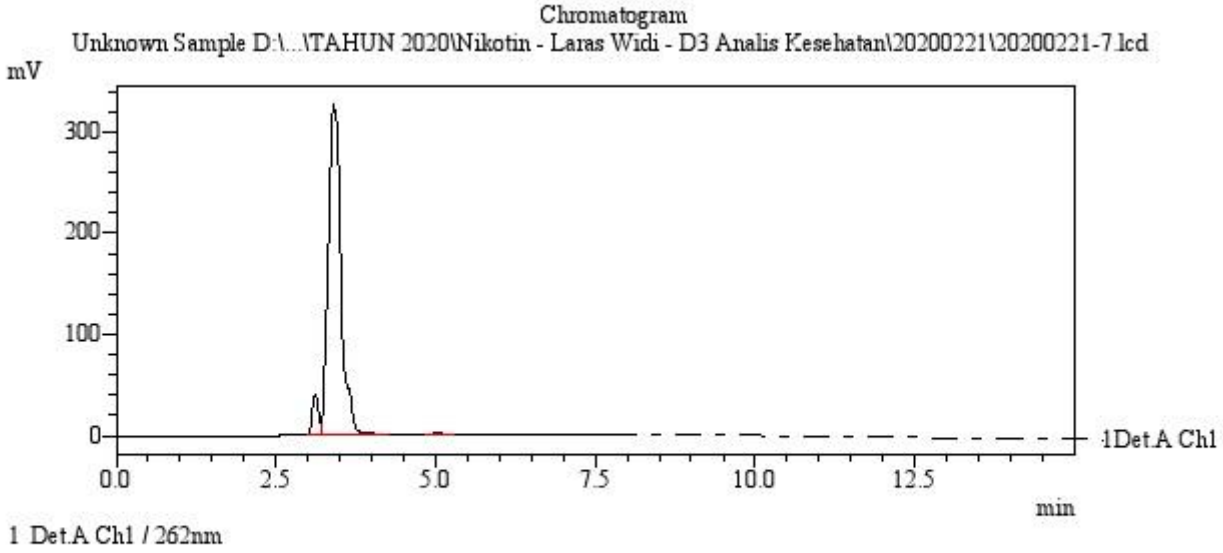
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-5.lcd
Detector A

Standar dalam fasa gerak air : methanol : buffer(10:60:30)



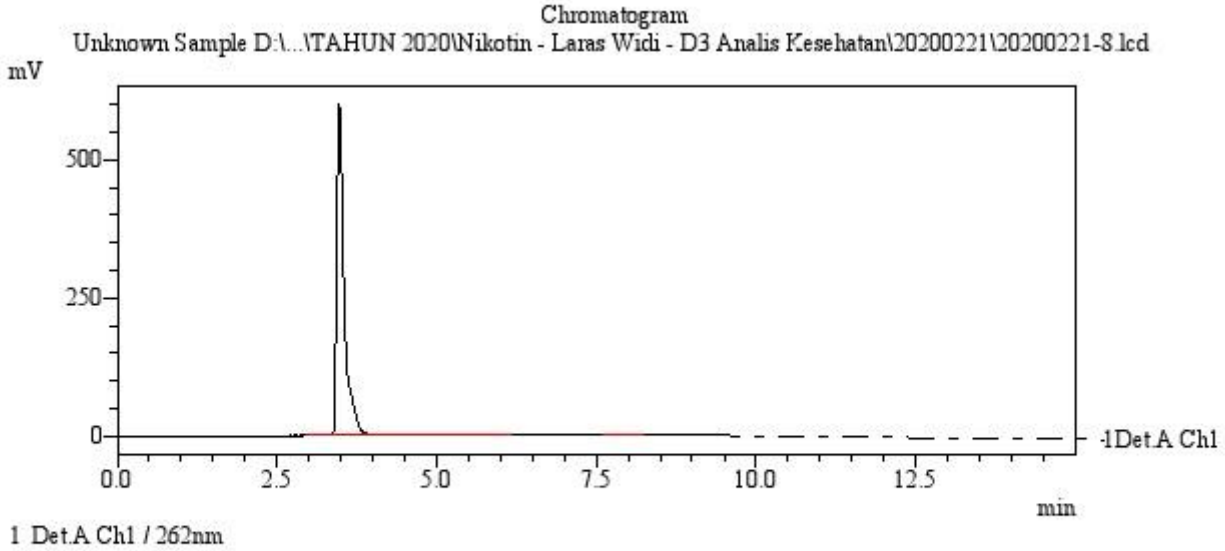
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-6.lcd
Detector A

Standar dalam fasa gerak methanol : buffer(70:30)



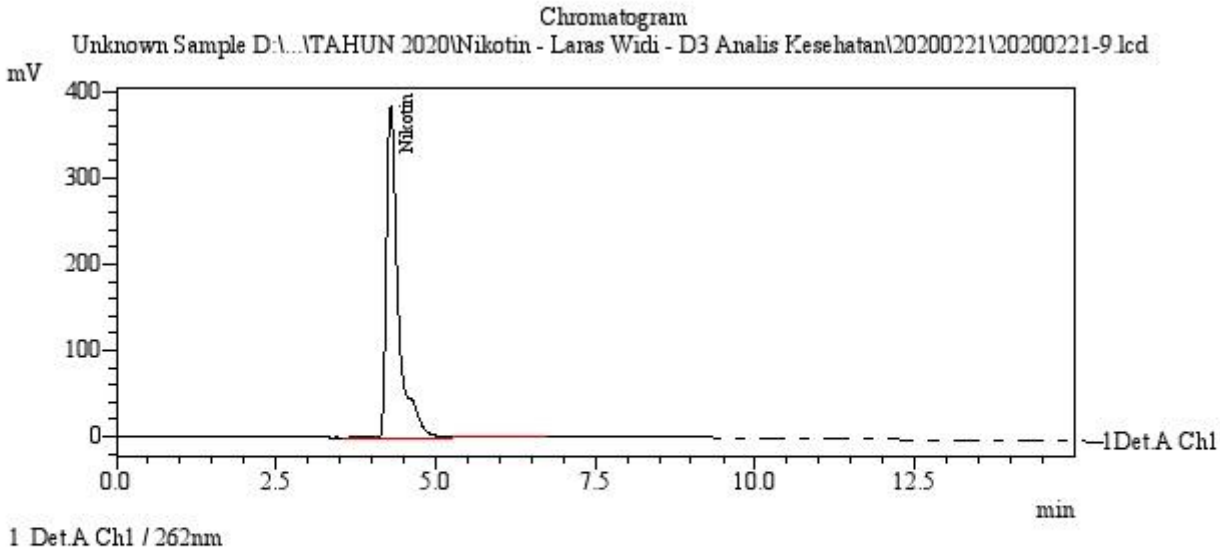
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-7.lcd
Detector A

Standar dalam fasa gerak air:methanol : buffer(40:40:20)



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-8.lcd
Detector A

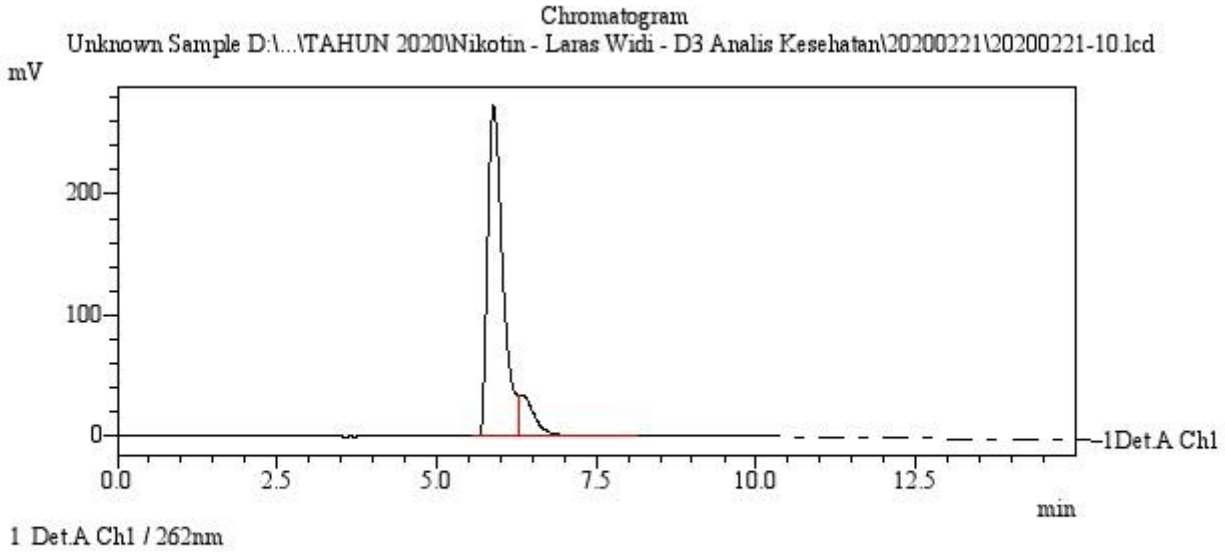
Standar dalam fasa gerak air:methanol : buffer(60:20:20)



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-9.lcd
Detector A

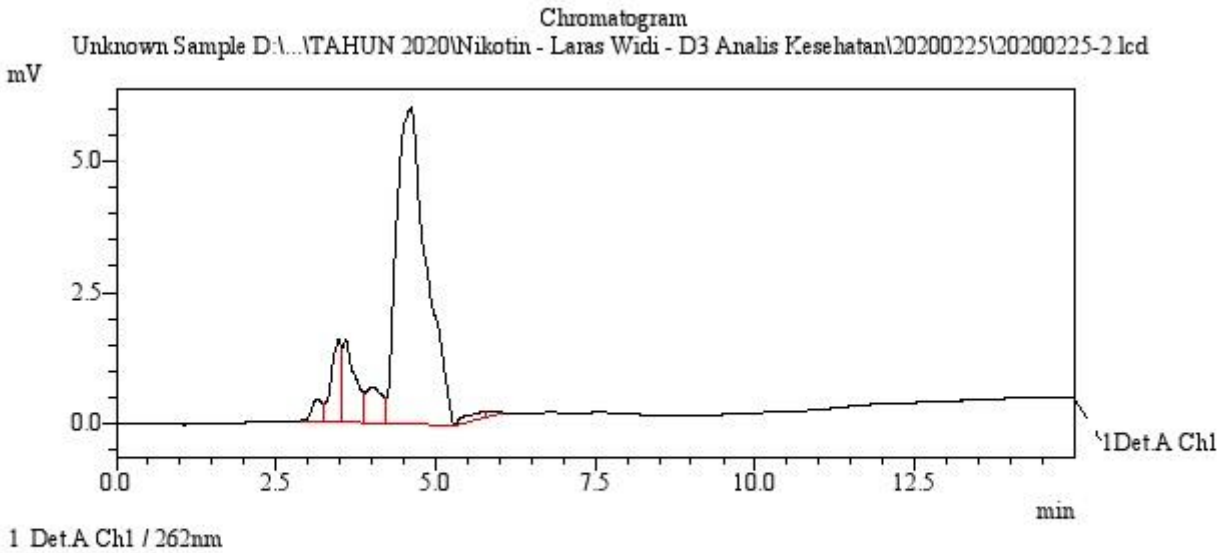
Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	4.293	4991143	99.921	0.585	2.312	3314.980	0.108

Standar dalam fasa gerak air:methanol : buffer : ACN(65:13:20:2)



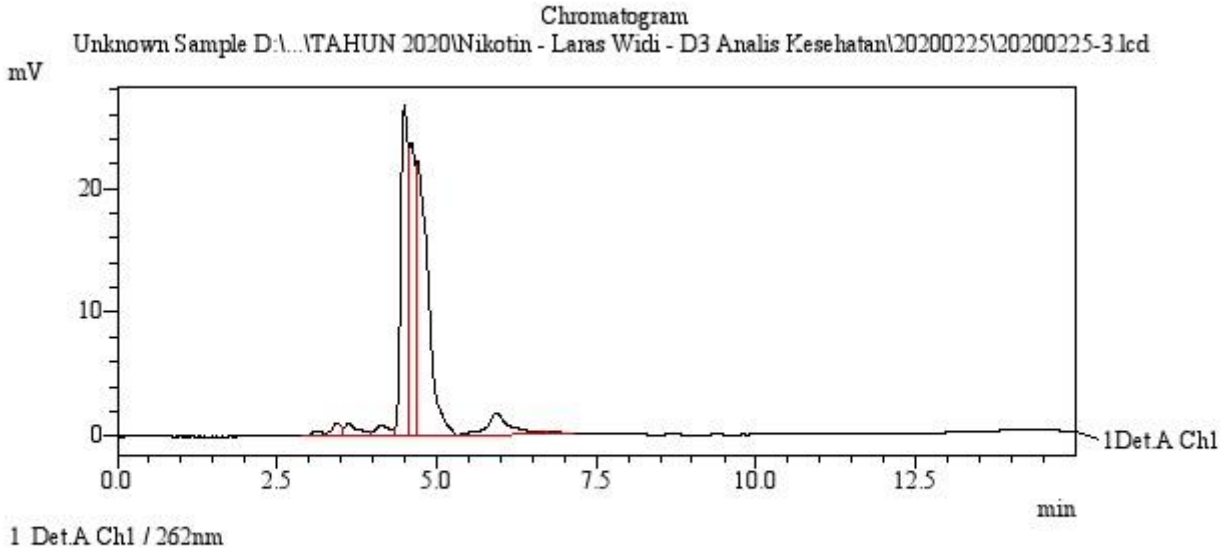
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200221\20200221-10.lcd
Detector A

Sampel Cek



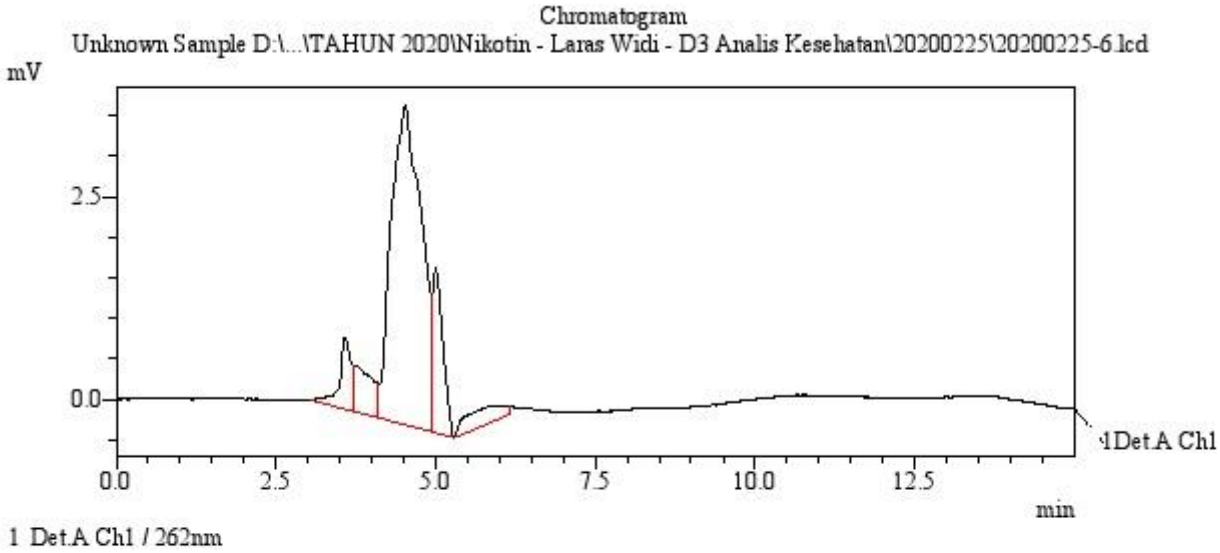
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-2.lcd
Detector A

Sampel Adisi Cek



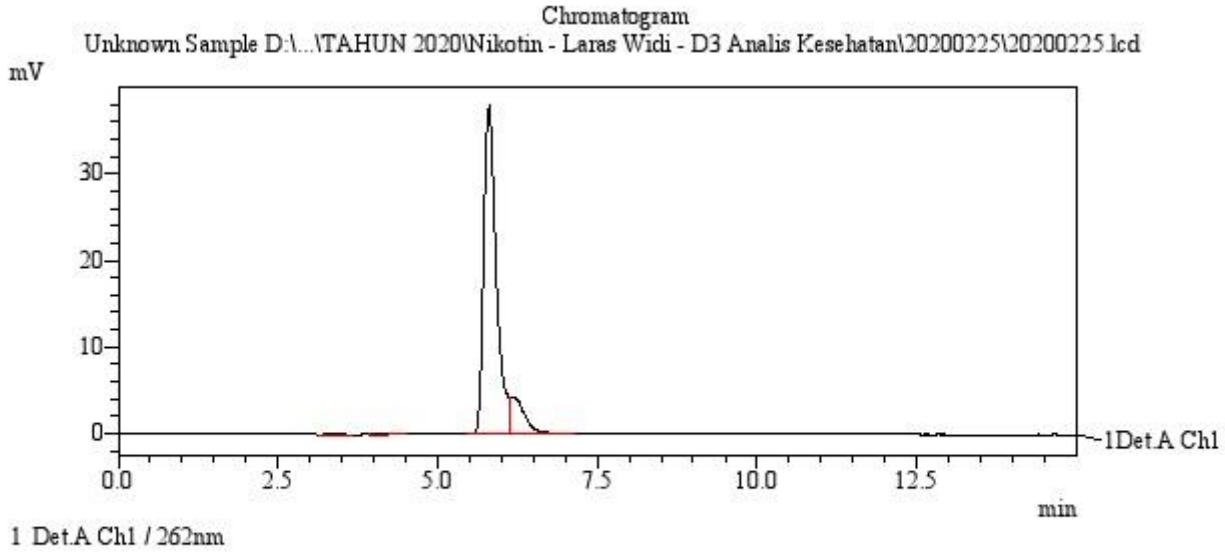
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-3.lcd
Detector A

Blanko Asetonitril



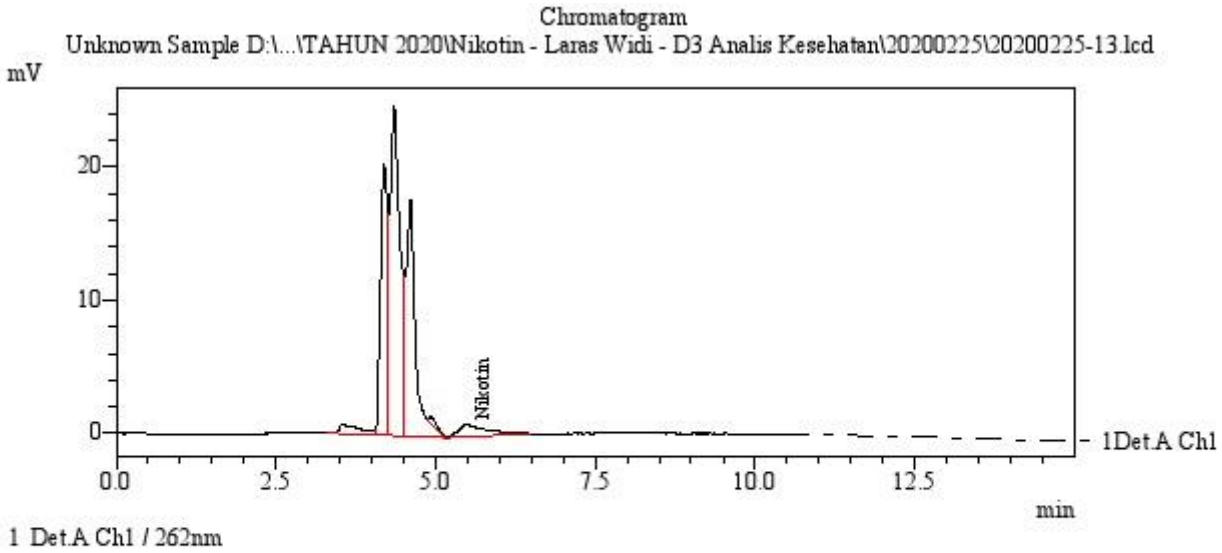
D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-6.lcd
Detector A

Standar Cek



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225.lcd
Detector A

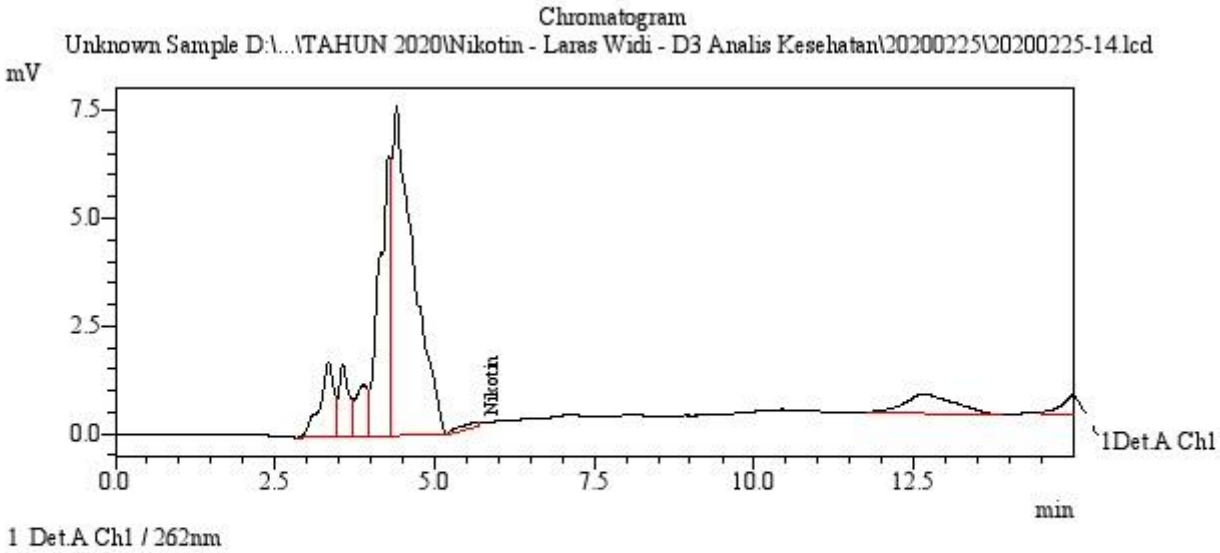
Standar 1 ppm



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-13.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.476	28364	4.316	0.884	2.188	439.132	0.546

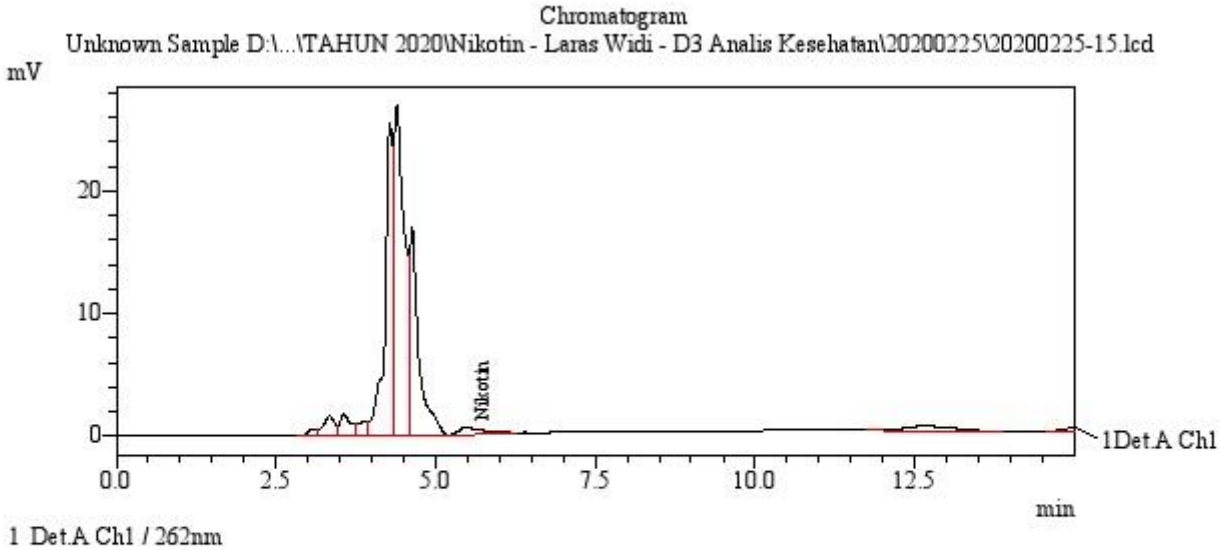
Sampel



D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-14.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.642	2745	0.727	1.514	0.000	864.188	0.693

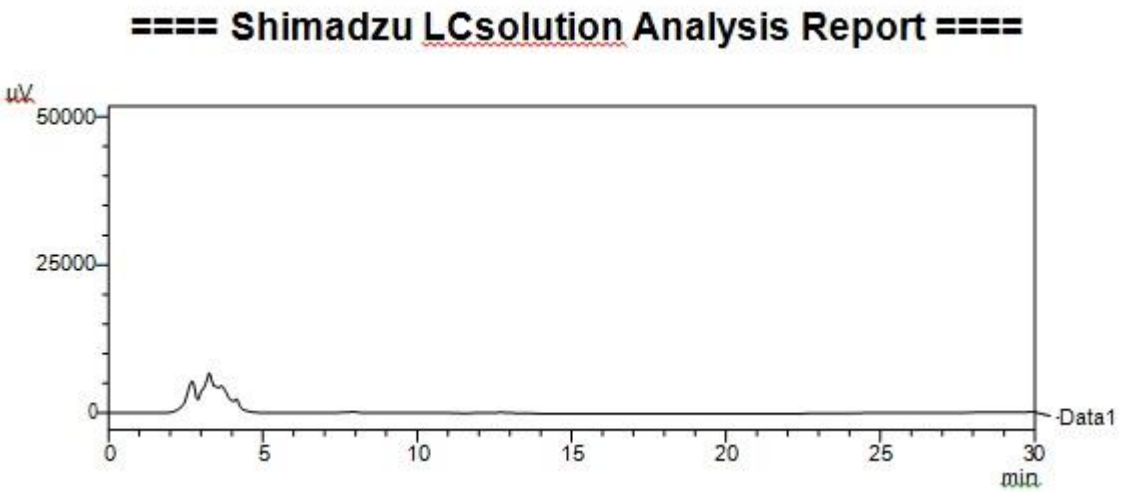
Sampel Adisi 2 ppm

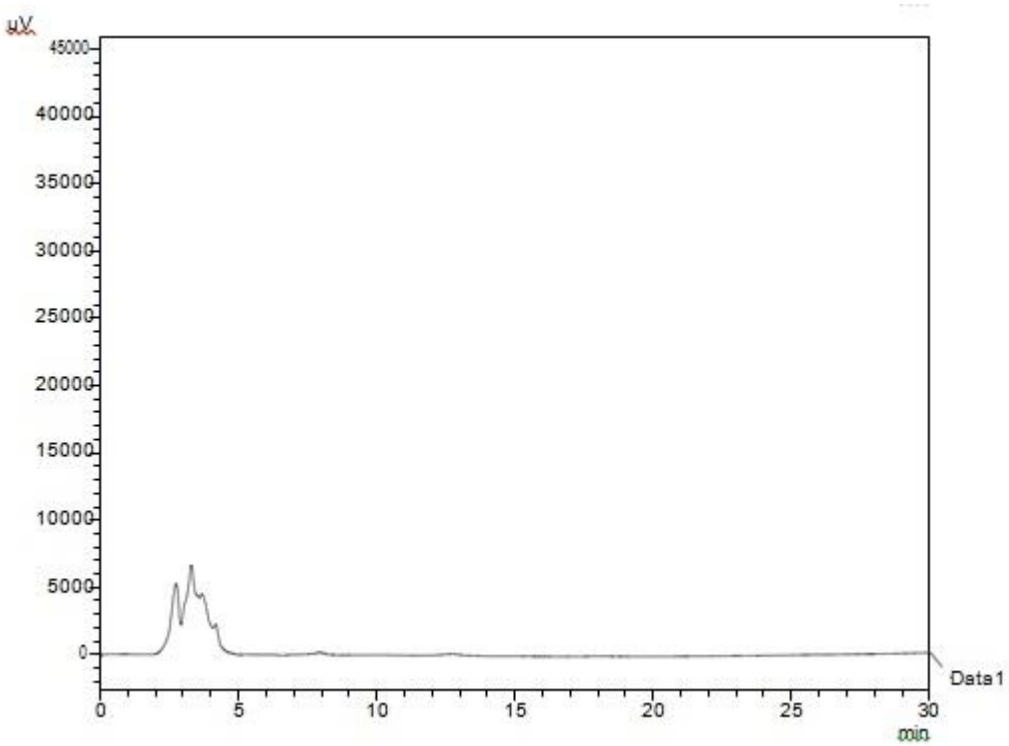


D:\DATA FILE HPLC\TAHUN 2020\Nikotin - Laras Widi - D3 Analis Kesehatan\20200225\20200225-15.lcd
Detector A

Name	Ret. Time	Area	Area %	Resolution	Tailing Factor	Theoretical Plate#	k'
Nikotin	5.472	16287	1.986	1.549	1.866	1115.608	0.764

Blanko Methanol





Lampiran 7. Data Hasil Analisis Kadar Nikotin dan Kadar Trigliserida Berdasarkan

No. Resp	Umur (tahun)	Jumlah Rokok (batang)	Lama Merokok (tahun)	Nikotin (mg/L)	Trigliserida (mg/dL)

	21-25	26-30	1-10	11-20	20-30	>30	3-5	6-10		
Resp.01	√			√			√		0	132
Resp.02		√		√				√	0	174
Resp.03	√			√				√	0,46	64
Resp.04		√		√				√	0,44	142
Resp.05	√			√				√	0,33	152
Resp.06	√			√			√		0	93
Resp.07	√			√			√		0	94
Resp.08	√			√			√		0	32
Resp.09		√		√				√	0	161
Resp.10	√			√				√	0	123
Resp.11		√		√				√	0	117
Resp.12	√			√			√		0	72
Resp.13	√			√				√	0	280
Resp.14	√			√				√	0	129
Resp.15	√			√				√	0	45
Resp.16		√		√				√	0,26	151
Resp.17		√		√				√	0,09	523
Resp.18		√		√				√	0,29	208
Resp.19	√			√			√		0,07	77
Resp.20		√		√				√	0,17	120
Resp.21	√			√			√		0	73
Jumlah	13	8	0	21	0	0	7	14	2,11	2962
				Rata – rata					0,10	141,05

Kelompok Umur, Jumlah Rokok yang Dihisap Per Hari, dan Lama Merokok

Lampiran 8. Uji Korelasi Rank Spearman dengan SPSS

UJI KORELASI RANK SPEARMAN DENGAN SPSS

Oleh: Sahid Raharjo, S.Pd

Situs SPSS : www.konsistensi.com | www.spssindonesia.com

KONSEP DASAR UJI KORELASI SPEARMAN

- Merupakan bagian dari statistik non parametrik (tidak memerlukan asumsi normalitas dan linearitas)
- Bertujuan untuk mengetahui hubungan antar variabel
- Arah hubungan anar variabel dapat bersifat positif dan negatif
- Data penelitian berbentuk peringkat, sehingga disebut korelasi *rank* spearman
- Data yang digunakan harus berskala ordinal
- Tidak ada istilah variabel bebas (X) maupun variabel terikat (Y)

PENAFSIRAN ANALISIS KORELASI

- Melihat signifikansi hubungan
- Melihat kekuatan hubungan
- Melihat arah hubungan

DASAR PENGAMBILAN KEPUTUSAN

- Jika nilai signifikansi < 0,05, maka berkorelasi
- Jika nilai signifikansi > 0,05, maka tidak berkorelasi

PEDOMAN KEKUATAN HUBUNGAN (*Correlation Coefficient*)

- 0,00 – 0,25 = korelasi sangat lemah
- 0,26 – 0,50 = korelasi cukup
- 0,51 – 0,75 = korelasi kuat
- 0,76 – 0,99 = korelasi sangat kuat
- 1,00 = korelasi sempurna

KRITERIA ARAH HUBUNGAN

- Arah korelasi dilihat pada angka correlation coefficient
- Besarnya nilai correlation coefficient antara +1 s/d –1
- Nilai correlation coefficient bernilai positif, maka hubungan kedua variabel searah
- Nilai correlation coefficient bernilai negatif, maka hubungan kedua variabel tidak searah

Raharjo, Sahid, 2014, *Uji Korelasi Rank Spearman dengan SPSS*, dalam web www.spssindonesia.com yang diakses pada 1 Juli 2020.

Lampiran 9. Data Hasil Analisis SPSS

- **Uji Normalitas dengan metode *Kolmogorov - Smirnov***

One-Sample Kolmogorov-Smirnov Test

		Nikotin	Trigliserida
N		21	21
Normal Parameters[a,b]	Mean	,1005	141,05
	Std. Deviation	,15743	104,410
Most Extreme Differences	Absolute	,357	,234
	Positive	,357	,234
	Negative	-,262	-,148
Kolmogorov-Smirnov Z		1,638	1,071
Asymp. Sig. (2-tailed)		,009	,201

a. Test distribution is Normal.

b. Calculated from data

- **Uji Korelasi Kadar Nikotin dan Kadar Trigliserida dalam Darah Perokok Aktif Berdasarkan Kelompok Umur**

Correlations

			Kadar_Nikotin	Kadar_Trigliserida	Kelompok_Umur
Spearman's rho	Kadar_Nikotin	Correlation Coefficient	1,000	,224	,398
		Sig. (2-tailed)	.	,328	,074
		N	21	21	21
	Kadar_Trigliserida	Correlation Coefficient	,224	1,000	,439*
		Sig. (2-tailed)	,328	.	,046
		N	21	21	21
	Kelompok_Umur	Correlation Coefficient	,398	,439*	1,000
		Sig. (2-tailed)	,074	,046	.
		N	21	21	21

*. Correlation is significant at the 0.05 level (2-tailed).

- **Uji Korelasi Kadar Nikotin dan Kadar Trigliserida dalam Darah Perokok Aktif Berdasarkan Jumlah Rokok yang Dihisap Per Hari**

Correlations

			Kadar_Nikotin	Kadar_Trigliserida	Jumlah_Rokok
Spearman's rho	Kadar_Nikotin	Correlation Coefficient	1,000	,224	.
		Sig. (2-tailed)	.	,328	.
		N	21	21	21
	Kadar_Trigliserida	Correlation Coefficient	,224	1,000	.
		Sig. (2-tailed)	,328	.	.
		N	21	21	21
	Jumlah_Rokok	Correlation Coefficient	.	.	.
		Sig. (2-tailed)	.	.	.
		N	21	21	21

- **Uji Korelasi Kadar Nikotin dan Kadar Trigliserida dalam Darah Perokok Aktif Berdasarkan Lama Merokok**

Correlations

			Kadar_Nikotin	Kadar_Trigliserida	Lama_Merokok
Spearman's rho	Kadar_Nikotin	Correlation Coefficient	1,000	,224	,401
		Sig. (2-tailed)	.	,328	,072
		N	21	21	21
	Kadar_Trigliserida	Correlation Coefficient	,224	1,000	,551**
		Sig. (2-tailed)	,328	.	,010
		N	21	21	21
	Lama_Merokok	Correlation Coefficient	,401	,551**	1,000
		Sig. (2-tailed)	,072	,010	.
		N	21	21	21

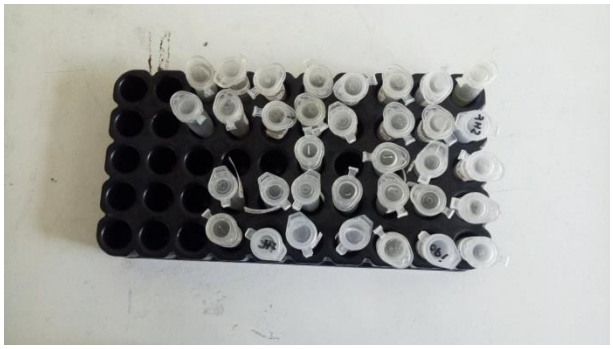
**. Correlation is significant at the 0.01 level (2-tailed).

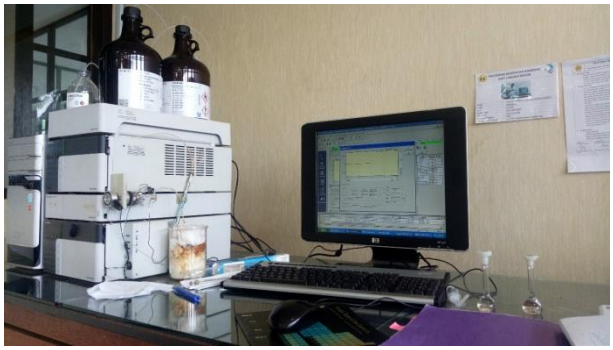
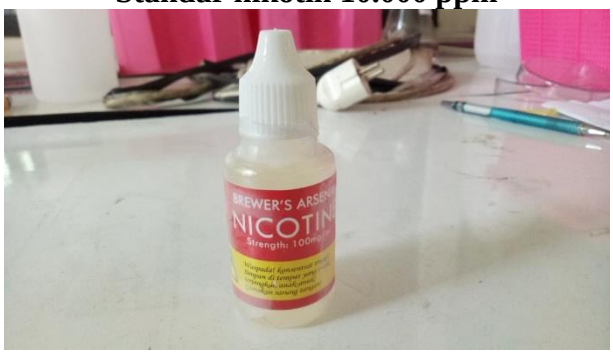
- **Uji Korelasi Kadar Nikotin dan Kadar Trigliserida dalam Darah Perokok Aktif**

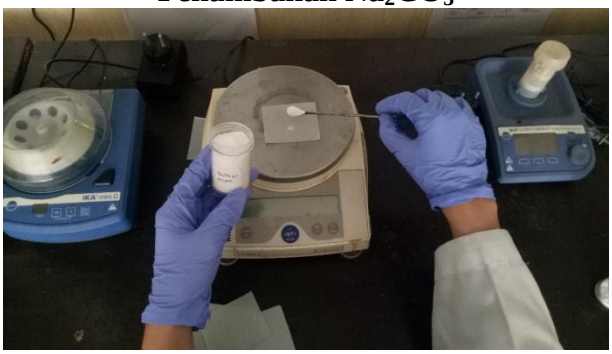
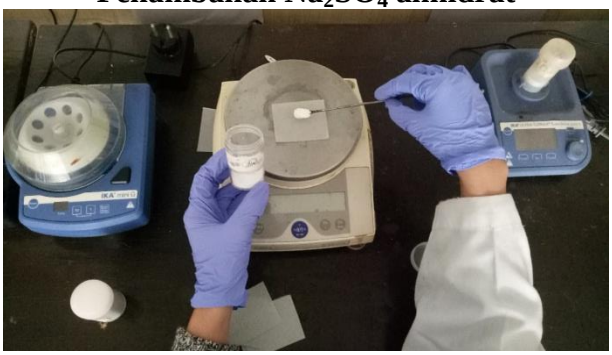
Correlations

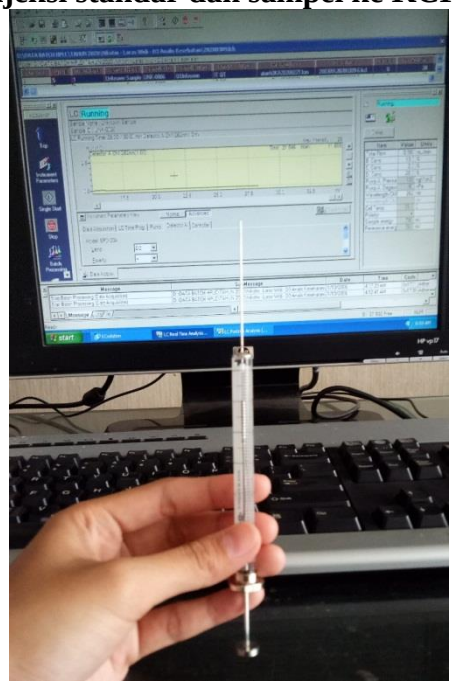
			Kadar_Nikotin	Kadar_Trigliserida
Spearman's rho	Kadar_Nikotin	Correlation Coefficient	1,000	,224
		Sig. (2-tailed)	.	,328
		N	21	21
	Kadar_Trigliserida	Correlation Coefficient	,224	1,000
		Sig. (2-tailed)	,328	.
		N	21	21

Lampiran 10. Dokumentasi Penelitian

No.	Tampilan Gambar	Keterangan Gambar
1		**Persiapan sampel plasma dan pemberian identitas sampel**
2		**Pembuatan fasa gerak buffer asetat pH 4,0**
3		**Persiapan fasa gerak pada KCKT methanol, air, buffer, asetonitril (13:65:20:2)**

No.	Tampilan Gambar	Keterangan Gambar
4		**Pengondisian sistem KCKT**
5	**Standar nikotin 10.000 ppm**  **Pembuatan deret standar nikotin**  **Pemipetan sampel** 	**Pemeriksaan Kadar Nikotin**

No.	Tampilan Gambar	Keterangan Gambar
	Penambahan Na_2CO_3  **Penambahan Na_2SO_4 anhidrat**  **Proses ekstrasi dengan menggunakan vortex**  	**Pemeriksaan Kadar Nikotin**

No.	Tampilan Gambar	Keterangan Gambar
	Pembuatan sampel adisi 1 ppm  **Injeksi standar dan sampel ke KCKT** 	**Pemeriksaan Kadar Nikotin**
6	**Pengondisian standar dan reagen trigliserida pada suhu kamar** 	**Pemeriksaan Kadar Trigliserida**

	Pengondisian fotometer  **Preparasi dan inkubasi sampel dan standar pada suhu kamar selama 10 menit**  **Pembacaan kadar pada fotometer**  	**Pemeriksaan Kadar Trigliserida**

Lampiran 11. Rencana Jadwal Penelitian dan Rencana Anggaran

Rencana Jadwal Penelitian

Kegiatan	Okt	Nov	Des	Jan	Feb	Mar	Apr	Mei
Penelusuran Pustaka								
Konsultasi dan Bimbingan								
Pengumpulan Data								
Penyusunan Proposal								
Sidang Proposal								
Pelaksanaan Penelitian								
Penyusunan KTI								
Sidang KTI								

Rencana Anggaran Biaya Penelitian

No	Jenis Kegiatan	Jumlah	
1	Pembuatan Proposal	Rp.	100,000,00
2	Alat dan Bahan Penelitian	Rp.	1,500,000,00
3	Penyusunan KTI	Rp.	100,000,00
4	Lain – lain	Rp.	200,000,00
	Jumlah	**Rp.**	**1,900,000,00**

Lampiran 12. Lembar Bimbingan Karya Tulis Ilmiah

	POLITEKNIK KESEHATAN BANDUNG	
	LEMBAR BIMBINGAN KARYA TULIS ILMIAH	

Nama : **Laras Eka Fitriana**

NIM : **P17334117050**

Nama Pembimbing : **Dra. Ira Gustira Rahayu, M.Kes**

No.	Materi Bimbingan	Waktu	TTD Pembimbing
1	Pendahuluan	18 Desember 2019	
2	Revisi proposal bab 1 dan 2	20 Desember 2019	
3	Revisi proposal bab 1 dan 2	27 Desember 2019	
4	Revisi proposal bab 2 dan 3	7 Januari 2020	
5	Revisi proposal bab 3	10 Januari 2020	
6	Revisi proposal keseluruhan	31 Januari 2020	
7	Revisi proposal dan PPT	3 Februari 2020	
8	Revisi proposal dan PPT	5 Februari 2020	
9	Konsultasi hasil penelitian	2 Juni 2020	
10	Konsultasi pengolahan data	19 Juni 2020	
11	Konsultasi pengolahan data	24 Juni 2020	
12	Bimbingan bab 4 dan 5	30 Juni 2020	
13	Bimbingan bab 4 dan 5	7 Juli 2020	
14	Revisi bab 4, 5, dan abstrak	26 Juli 2020	
15	Revisi KTI keseluruhan	4 Agustus 2020	
16	Revisi KTI keseluruhan	6 Agustus 2020	

Lampiran 13. Logbook Kegiatan Penelitian

No.	Hari / Tanggal	Waktu	Tempat	Kegiatan
1	Rabu 19 Februari 2020	09.00 - 15.00	Laboratorium Terpadu Laboratorium Hematologi	- Persiapan alat dan bahan - Pembuatan fasa gerak - Persiapan sampel untuk optimasi metode HPLC
2	Kamis 20 Februari 2020	15.00 – 17.50	Laboratorium Terpadu	Optimasi metode HPLC terhadap sampel dan standar
3	Jumat 21 Februari 2020	09.30 – 17.40	Laboratoium Terpadu	Optimasi metode HPLC terhadap komposisi fasa gerak yang digunakan
4	Selasa 25 Februari 2020	10.00 – 17.45	Laboratorium Terpadu	Optimasi metode HPLC terhadap standar dan sampel adisi
5	Rabu 26 Februari 2020	11.30 – 15.25	Laboratorium Terpadu	Optimasi metode HPLC terhadap ekstrak rokok filter dan ekstrak rokok filter adisi
6	Kamis 27 Februari 2020	09.00 – 21.00	Laboratoium Hematologi	Pengambilan sampel dan pembuatan plasma
7	Jumat 28 Februari 2020	07.00 – 18.40	Laboratorium Terpadu	Pemeriksaan Kadar Nikotin dan Trigliserida
8	Senin 9 Maret 2020	13.00 – 17.20	Laboratorium Hematologi Laboratorium Terpadu	Pengambilan sampel dan pembuatan plasma Pemeriksaan Kadar Nikotin dan Trigliserida

No.	Hari / Tanggal	Waktu	Tempat	Kegiatan
9	Senin 15 Juni 2020	09.00 – 14.00	Laboratorium Terpadu	Pengumpulan data hasil analisis
10	Selasa 16 Juni 2020	09.00 – 14.30	Laboratorium Terpadu	Pengumpulan data hasil analisis
11	Rabu 17 Juni 2020	09.00 – 13.30	Laboratorium Terpadu	Pengumpulan data hasil analisis
12	Rabu 29 Juni 2020	09.00 – 12.00	Laboratorium Terpadu	Membereskan alat dan bahan yang telah dipakai