

Lampiran 1. Kuesioner untuk penjual dan pembeli

Umur : th

Berat badan : kg

Jns kelamin : L / P

1. Apakah anda menyukai mie ayam / bakso ?

.....

2. Berapa kali anda mengkonsumsi mie ayam / bakso dalam satu minggu ?

.....

3. Setiap makan makanan tersebut, apakah anda selalu menggunakan saus tomat ?

.....

4. Berapa kali anda mengkonsumsi saus tomat dalam satu minggu ?

.....

5. Berapa banyak saus tomat yang anda makan dalam 1 kali konsumsi ?

..... sdk mkn

6. Merek saus tomat apa yang anda suka ?

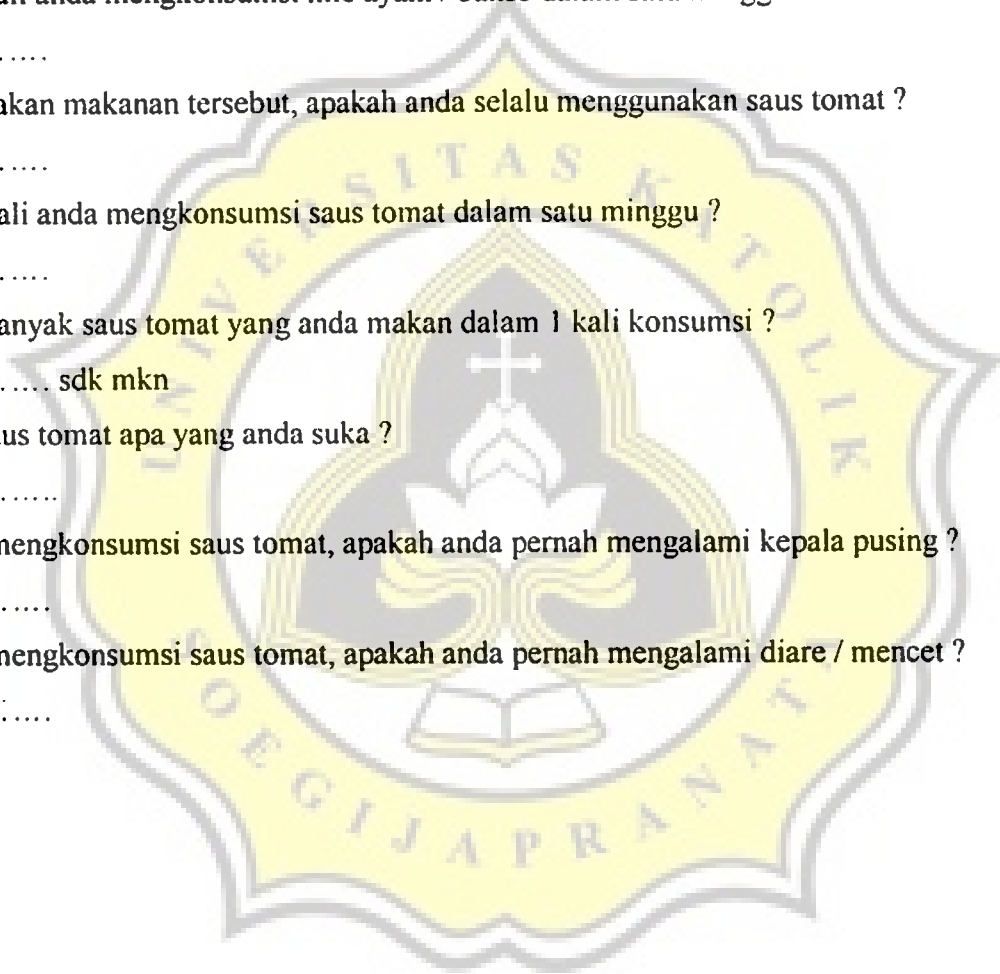
.....

7. Setelah mengkonsumsi saus tomat, apakah anda pernah mengalami kepala pusing ?

.....

8. Setelah mengkonsumsi saus tomat, apakah anda pernah mengalami diare / mencet ?

.....



KUESIONER

Nama :

1. Berapa banyak mie / bakso yang anda jual setiap hari ?
.....
 2. Berapa banyak pengunjung yang datang setiap hari ?
.....
 3. Berapa banyak saus tomat yang dibutuhkan dalam satu hari ?
.....
 4. Merek saus tomat apa yang digunakan ?
.....
 5. Darimana saus tomat yang anda pergunakan didapat (dari pasar atau dipasok produsen) ?
.....
-

KUESIONER

Nama :

1. Berapa banyak mie / bakso yang anda jual setiap hari ?
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3. Berapa banyak saus tomat yang dibutuhkan dalam satu hari ?
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.....

Lampiran 2. Persamaan Regresi Linear Ponceau

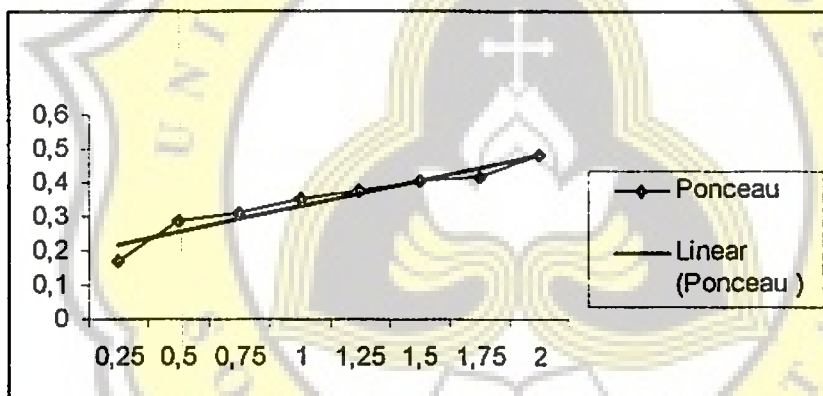
Kurva Standar Ponceau

Konsentrasi	0.25	0.5	0.75	1	1.25	1.5	1.75	2
Absorbansi	0.17	0.29	0.31	0.352	0.377	0.405	0.416	0.483

Persamaan regresi linear :

$$y = 0,0373x + 0,1826$$

R square = 0,9204



Lampiran 3. Persamaan Regresi Linear Amaranth

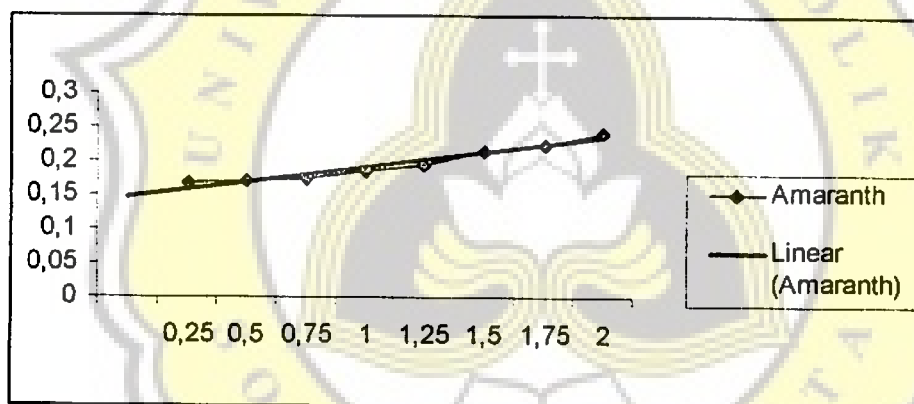
Kurva Standar Amaranth

Konsentrasi	0.25	0.5	0.75	1	1.25	1.5	1.75	2
Absorbansi	0.168	0.17	0.173	0.186	0.195	0.214	0.223	0.242

Persamaan Regresi Linear :

$$y = 0,0109x + 0,1365$$

R square = 0,9478



Lampiran 4. Persamaan Regresi Linear Tomat

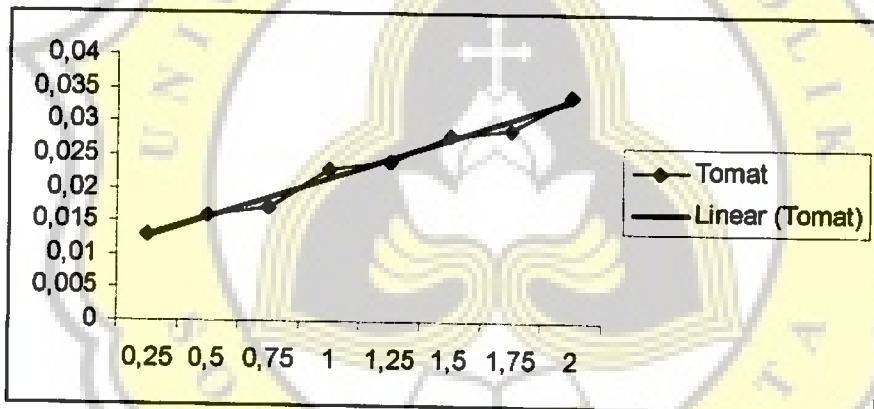
Kurva Standar Tomat

Konsentrasi (ppm)	0,25	0,5	0,75	1	1,25	1,5	1,75	2
Absorbansi	0,013	0,016	0,017	0,023	0,024	0,028	0,029	0,034

Persamaan Regresi Linear :

$$Y = 0,0029x + 0,0098$$

R square = 0,9788



ABC

3 Tomat

Sasa

Nikisari

Suiz

Delmonte

Tomato

Hunts

Indofood

Tomat



requencies

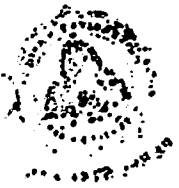
Statistics

		UMUR	BB	GENDER
N	Valid	50	50	50
	Missing	0	0	0
Mean		22,5600	51,4000	
Std. Error of Mean		1,3044	1,4314	
Std. Deviation		9,2232	10,1217	

requency Table

UMUR

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 13,00	3	6,0	6,0	6,0
14,00	6	12,0	12,0	18,0
15,00	2	4,0	4,0	22,0
16,00	3	6,0	6,0	28,0
17,00	2	4,0	4,0	32,0
19,00	2	4,0	4,0	36,0
20,00	8	16,0	16,0	52,0
21,00	6	12,0	12,0	64,0
22,00	2	4,0	4,0	68,0
23,00	1	2,0	2,0	70,0
24,00	2	4,0	4,0	74,0
25,00	5	10,0	10,0	84,0
34,00	1	2,0	2,0	86,0
38,00	1	2,0	2,0	88,0
39,00	2	4,0	4,0	92,0
40,00	1	2,0	2,0	94,0
42,00	2	4,0	4,0	98,0
55,00	1	2,0	2,0	100,0
Total	50	100,0	100,0	



BB

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 30,00	1	2,0	2,0	2,0
35,00	2	4,0	4,0	6,0
40,00	2	4,0	4,0	10,0
41,00	1	2,0	2,0	12,0
42,00	4	8,0	8,0	20,0
44,00	4	8,0	8,0	28,0
45,00	3	6,0	6,0	34,0
46,00	1	2,0	2,0	36,0
47,00	1	2,0	2,0	38,0
48,00	2	4,0	4,0	42,0
50,00	5	10,0	10,0	52,0
51,00	2	4,0	4,0	56,0
52,00	2	4,0	4,0	60,0
53,00	4	8,0	8,0	68,0
54,00	1	2,0	2,0	70,0
55,00	2	4,0	4,0	74,0
57,00	1	2,0	2,0	76,0
60,00	2	4,0	4,0	80,0
63,00	2	4,0	4,0	84,0
64,00	1	2,0	2,0	86,0
65,00	3	6,0	6,0	92,0
70,00	2	4,0	4,0	96,0
72,00	1	2,0	2,0	98,0
75,00	1	2,0	2,0	100,0
Total	50	100,0	100,0	

GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid l	15	30,0	30,0	30,0
p	35	70,0	70,0	100,0
Total	50	100,0	100,0	

requencies

Statistics

Valid	44
Missing	6
Mean	1,8636
Standard Error of Mean	,1798
Standard Deviation	1,1928



KONS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	22	44,0	50,0
	2,00	12	24,0	77,3
	3,00	7	14,0	93,2
	4,00	2	4,0	97,7
	7,00	1	2,0	100,0
Total	44	88,0	100,0	
Missing System	6	12,0		
Total	50	100,0		

Frequencies

Statistics

Valid	41
Missing	9
Mean	2,2195
Standard Error of Mean	,1991
Standard Deviation	1,2750

SAUS

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1,00	14	28,0	34,1
	2,00	15	30,0	70,7
	3,00	5	10,0	82,9
	4,00	3	6,0	90,2
	5,00	4	8,0	100,0
Total	41	82,0	100,0	
Missing System	9	18,0		
Total	50	100,0		

Frequencies

Statistics

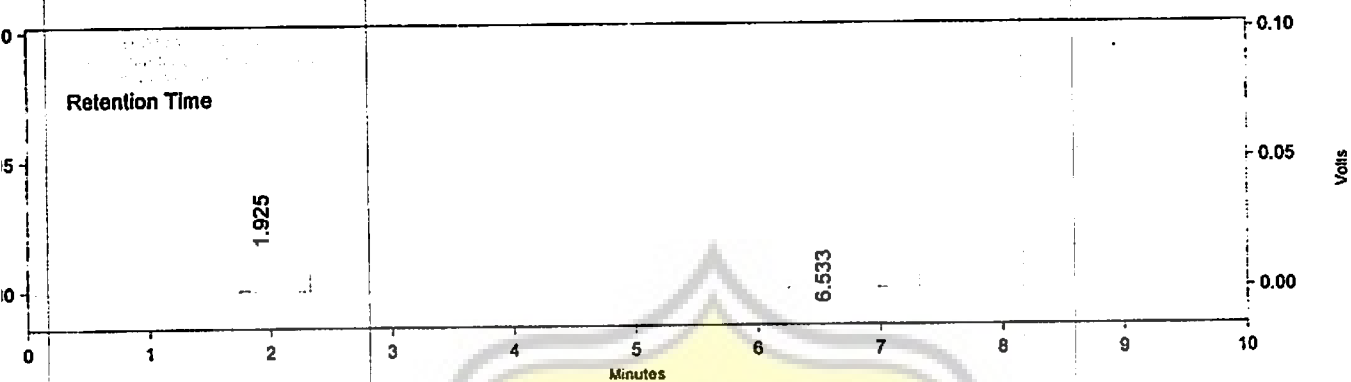
Valid	41
Missing	9
Mean	2,2195
Standard Deviation	1,2750
Minimum	1,00
Maximum	5,00

JML

		Frequency	Percent	Valid Percent	Cumulative Percent
id	1,00	14	28,0	34,1	34,1
	2,00	15	30,0	36,6	70,7
	3,00	5	10,0	12,2	82,9
	4,00	3	6,0	7,3	90,2
	5,00	4	8,0	9,8	100,0
	Total	41	82,0	100,0	
sing	System	9	18,0		
al		50	100,0		

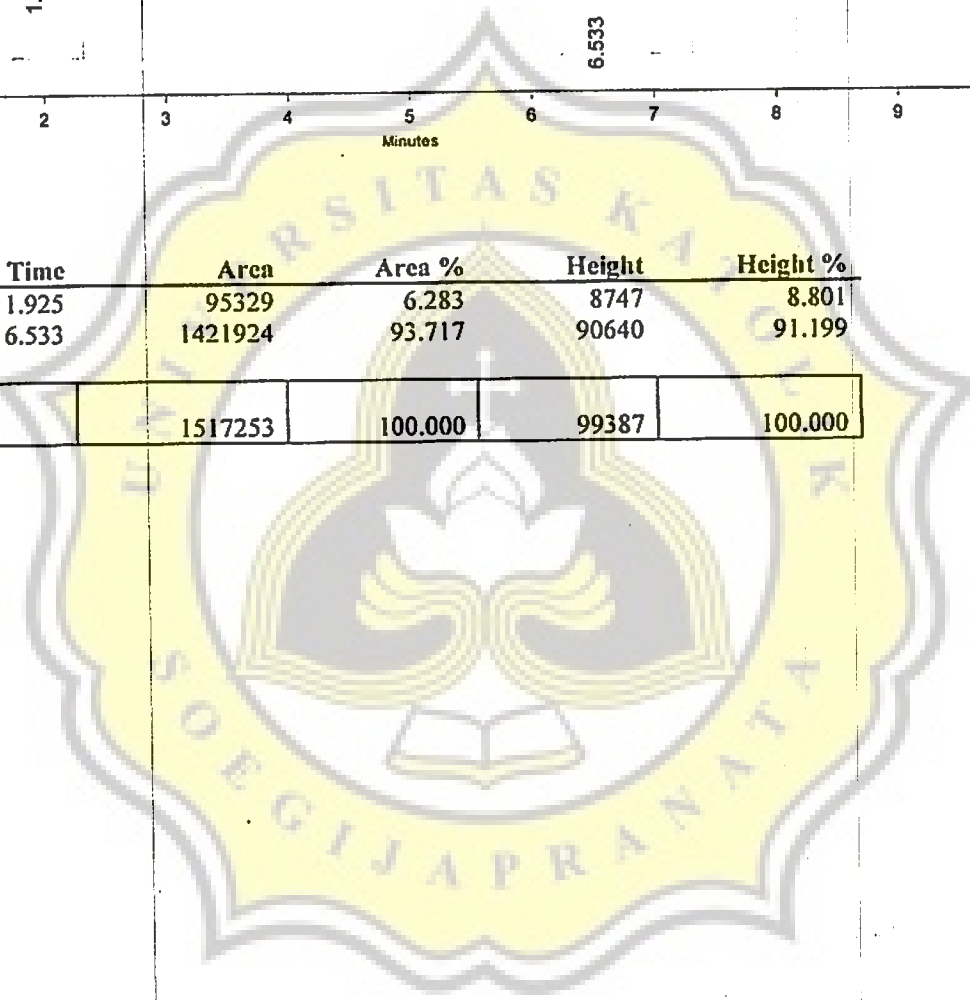


Name: C:\CLASS-VP\Methods\benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Windi std 10 ppm
 Institution: UNIKA SOEGIJAPRANATA
 Date: 2/16/2004 10:53:35 AM
 Time: 2/19/2004 12:30:23 PM

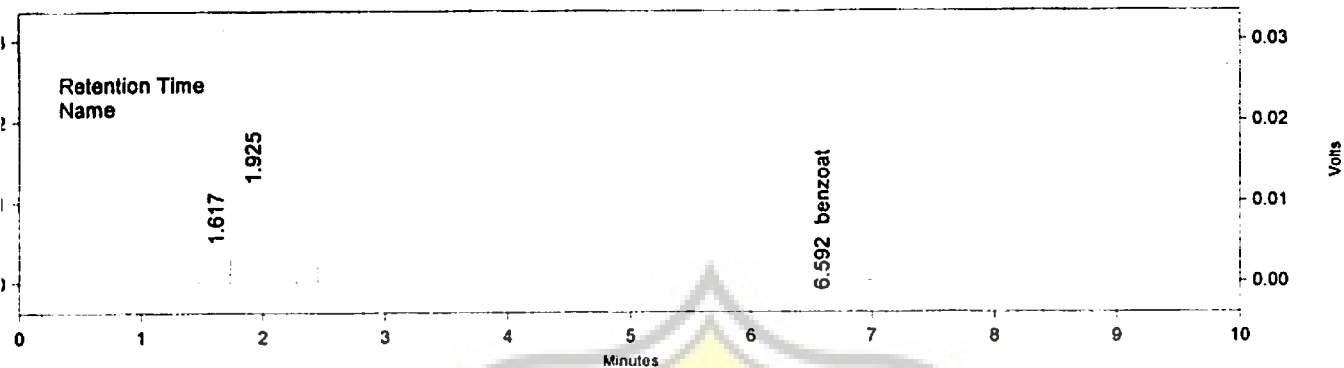


0Avp (225nm)

Peak #	Retention Time	Area	Area %	Height	Height %
1	1.925	95329	6.283	8747	8.801
2	6.533	1421924	93.717	90640	91.199
Totals		1517253	100.000	99387	100.000

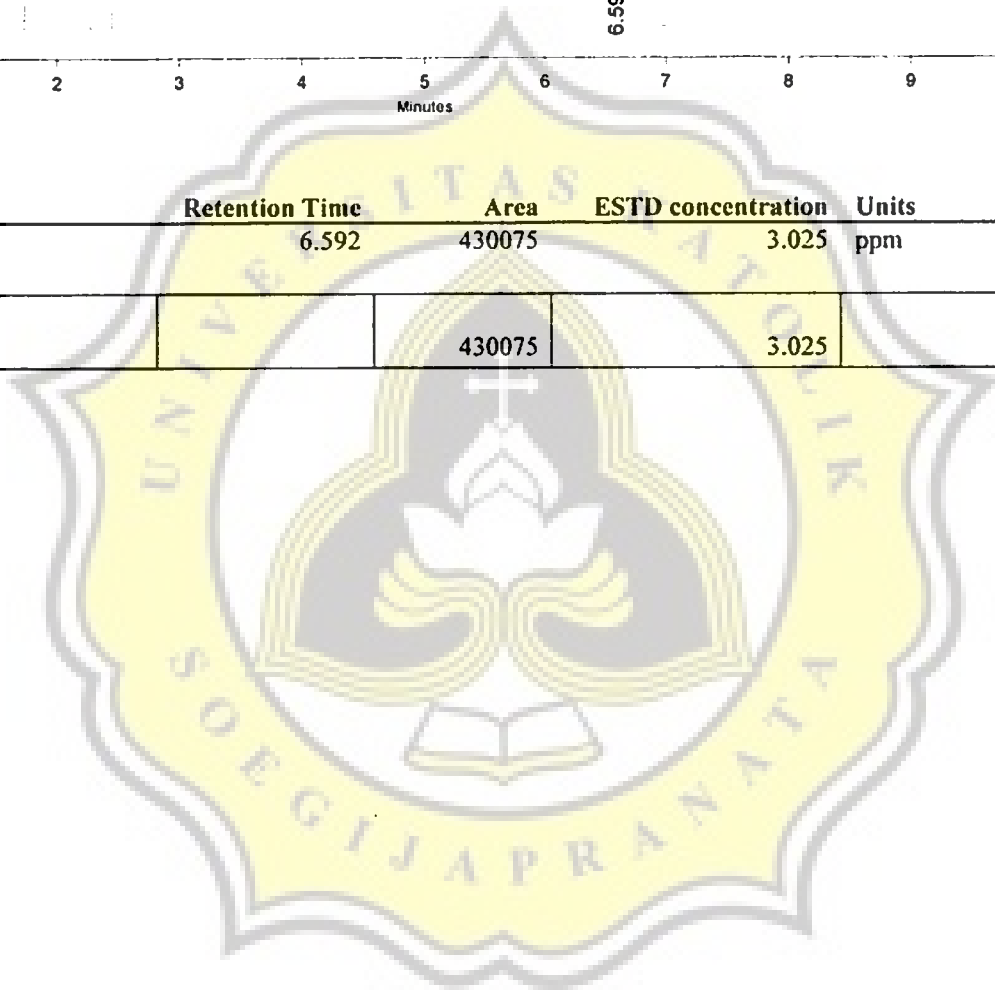


Name: C:\CLASS-VP\Methods\Benzoat.mel
Name: C:\CLASS-VP\Saos Tomat Windi tmt 5x
UNIKA SOEGIJAPRANATA
Date: 2/16/2004 11:21:25 AM
Time: 2/20/2004 1:59:15 PM

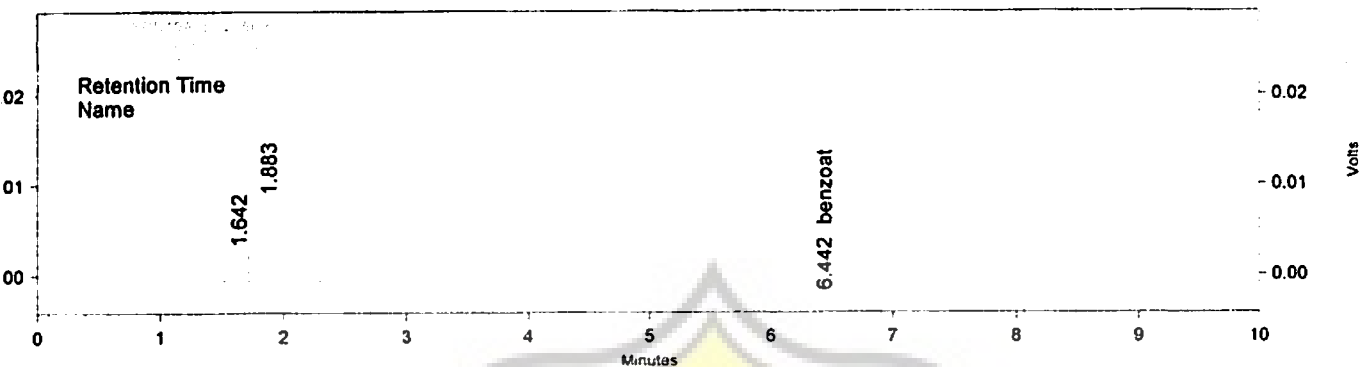


Avp (225nm)

Name	Retention Time	Area	ESTD concentration	Units
benzoat	6.592	430075	3.025	ppm
		430075	3.025	

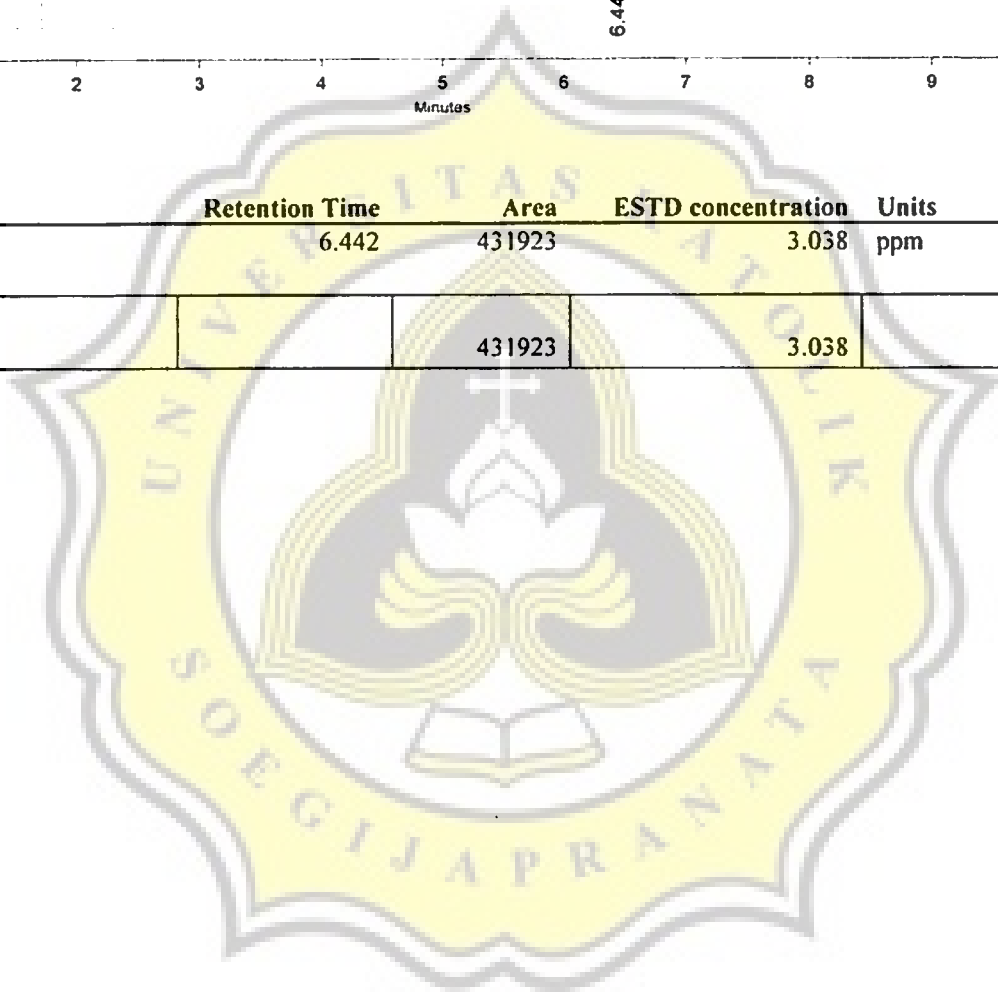


Method Name: C:\CLASS-VP\Methods\Benzoat.mct
 Sample Name: C:\CLASS-VP\Saos Tomat Windi tmt 5x ul 2
 Institution: UNIKA SOEGIJAPRANATA
 Date: 2/17/2004 6:15:53 PM
 Time: 2/20/2004 1:58:07 PM

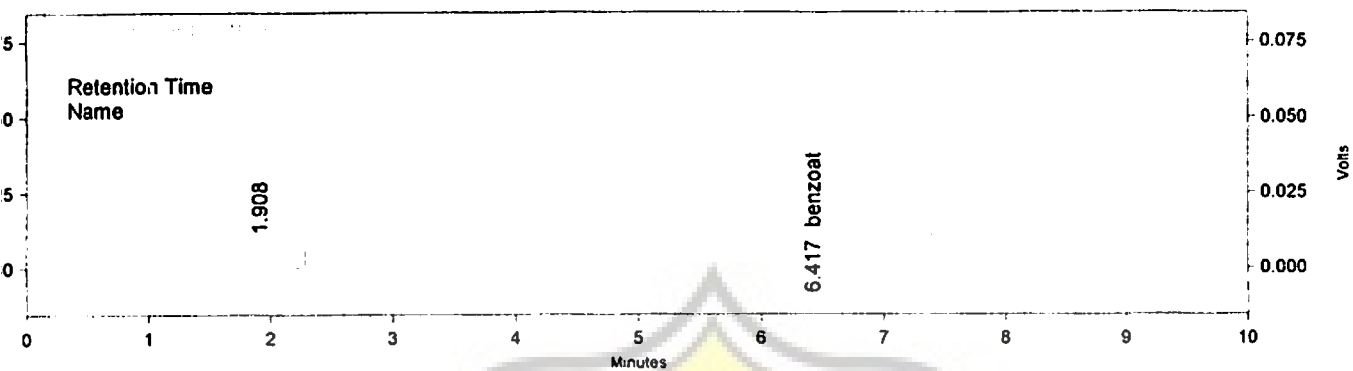


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.442	431923	3.038	ppm
Is			431923	3.038	

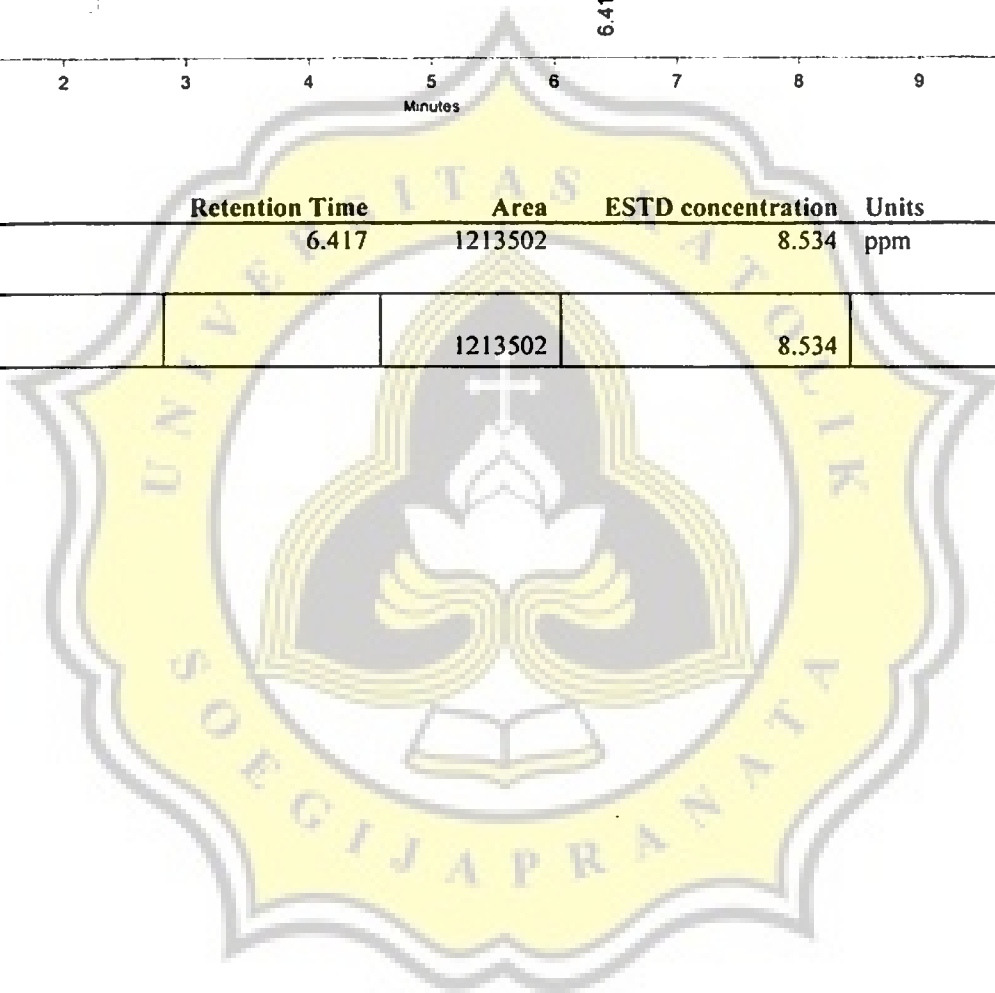


Name: C:\CLASS-VP\Methods\Benzoat.mci
 Sample Name: C:\CLASS-VP\Saos Tomat Windi nikisari 5x ul 1
 Institution: UNIKA SOEGIJAPRANATA
 Date: 2/17/2004 5:53:07 PM
 Time: 2/20/2004 1:52:59 PM

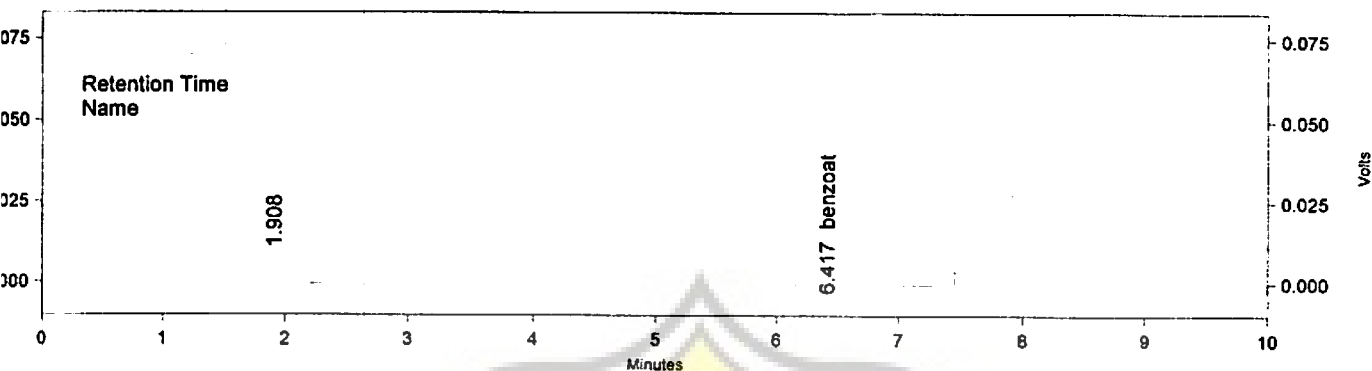


0Avp (225nm)

Name	Retention Time	Area	ESTD concentration	Units
benzoat	6.417	1213502	8.534	ppm
		1213502	8.534	

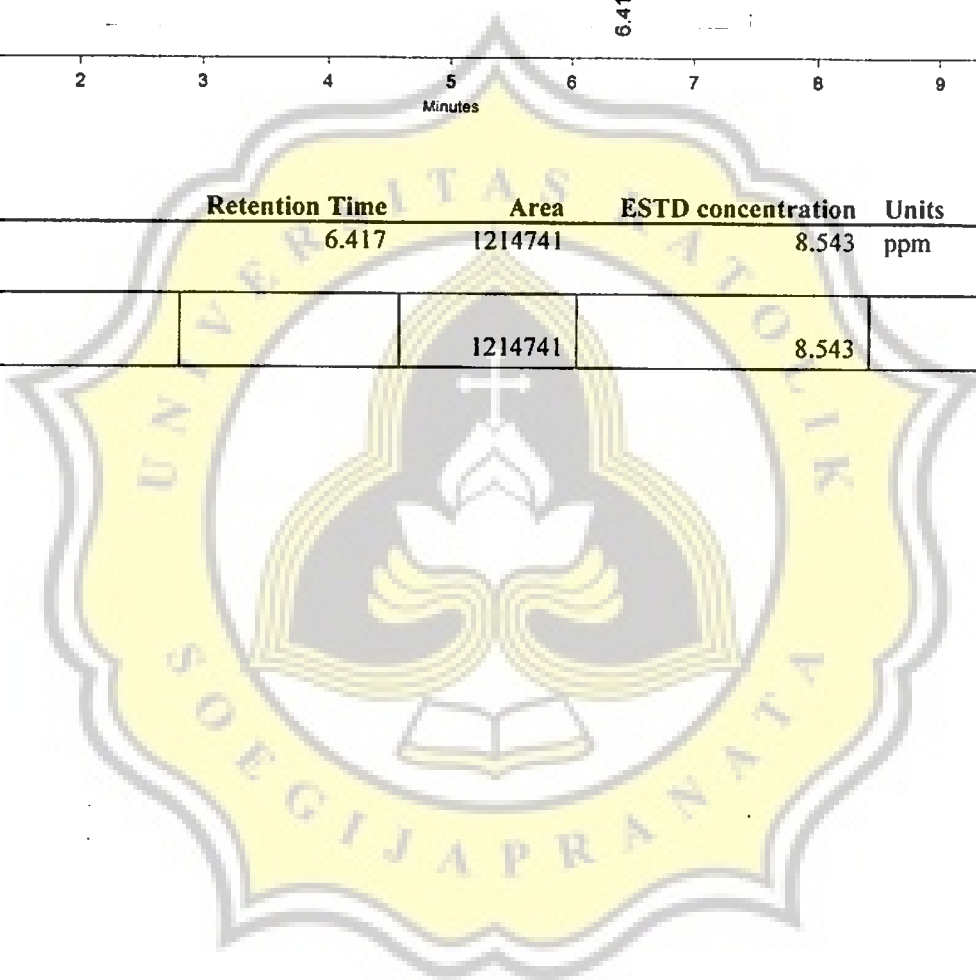


od Name: C:\CLASS-VP\Methods\Benzoat.mxd
 Name: C:\CLASS-VP\Saos Tomat Windi nikisari 5x ul 2
 UNIKA SOEGIJAPRANATA
 ired: 2/17/2004 6:04:37 PM
 ed: 2/20/2004 1:53:41 PM

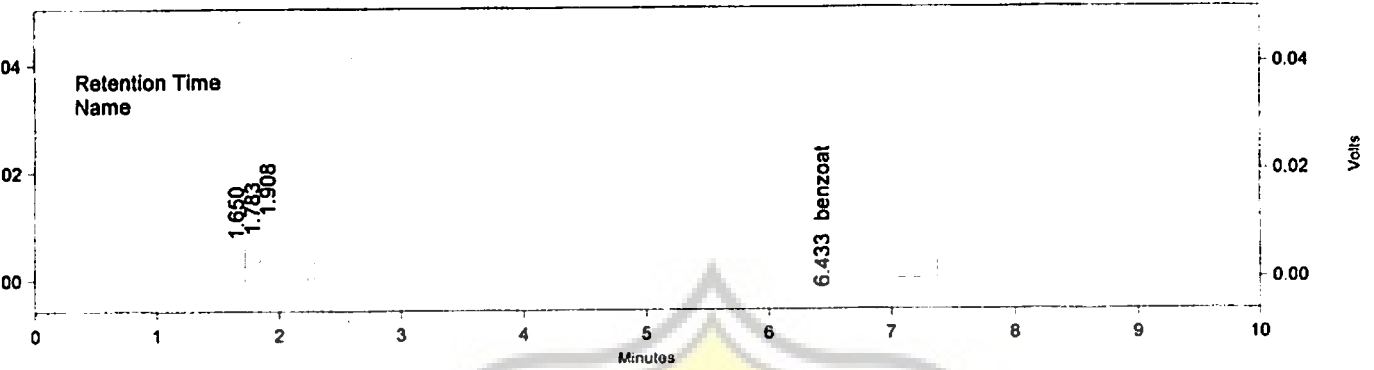


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
2	benzoat	6.417	1214741	8.543	ppm
ls			1214741	8.543	

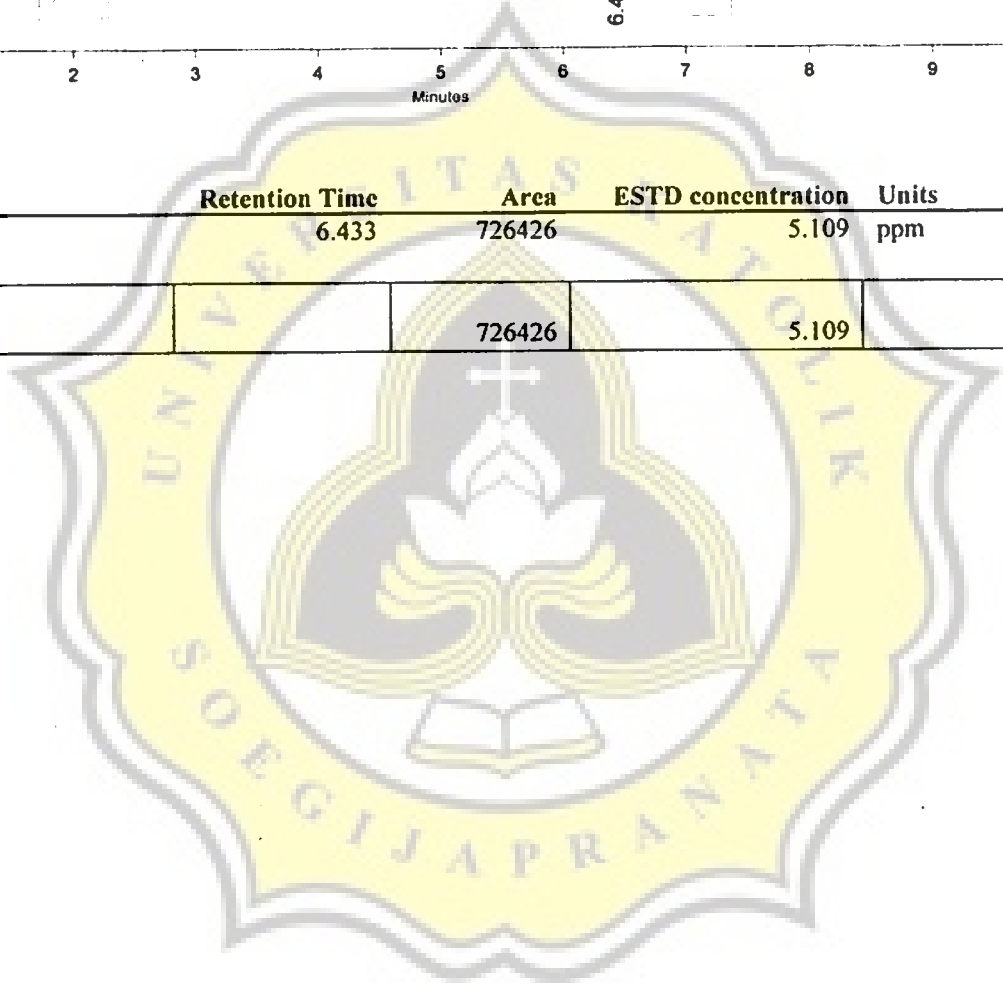


Method Name: C:\CLASS-VP\Methods\Benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Windi 3 tomat 5x ul 1
 Institution: UNIKA SOEGIJAPRANATA
 Date: 2/17/2004 5:30:48 PM
 Time: 2/20/2004 1:49:56 PM

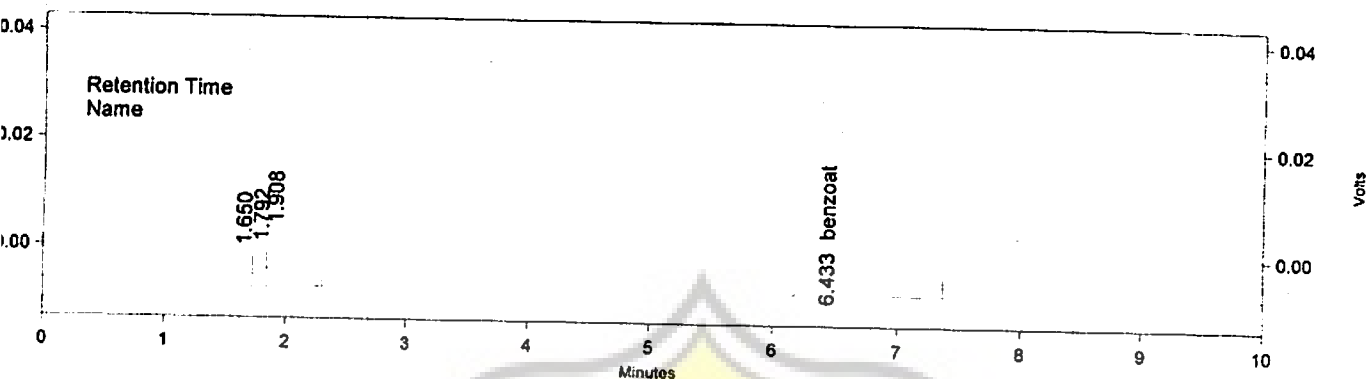


10Ayp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
4	benzoat	6.433	726426	5.109	ppm
Is			726426	5.109	

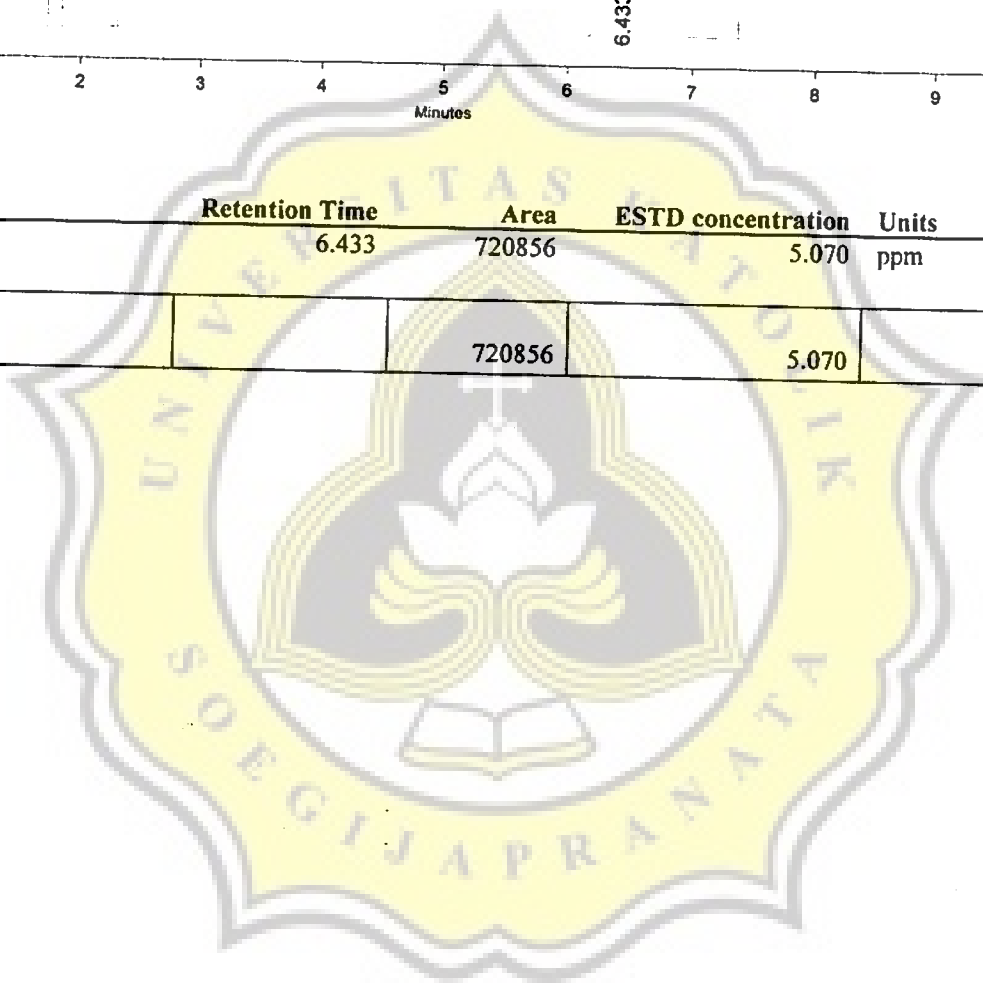


Method Name: C:\CLASS-VP\Methods\Benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Windi 3 tomat 5x ul 2
 : UNIKA SOEGIJAPRANATA
 Acquired: 2/17/2004 5:41:56 PM
 Date: 2/20/2004 1:50:21 PM

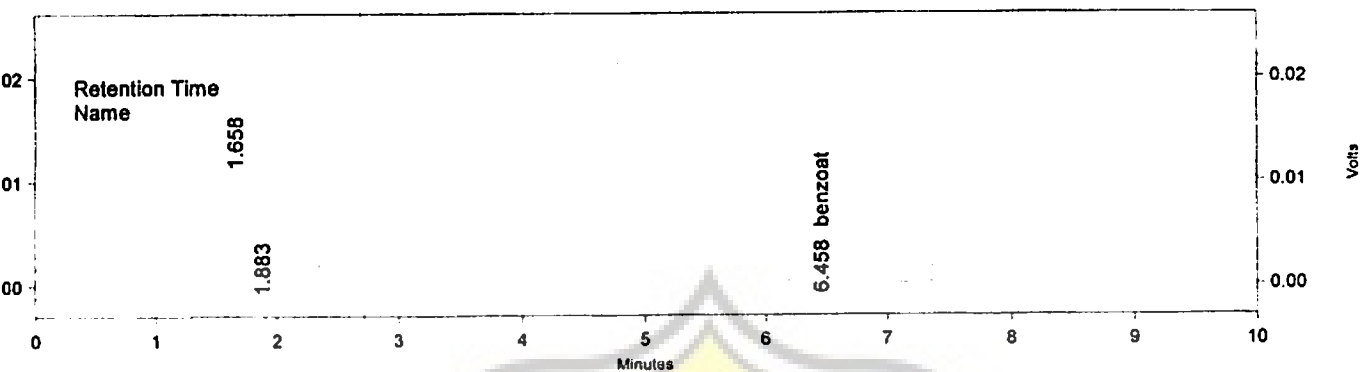


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
4	benzoat	6.433	720856	5.070	ppm
			720856	5.070	

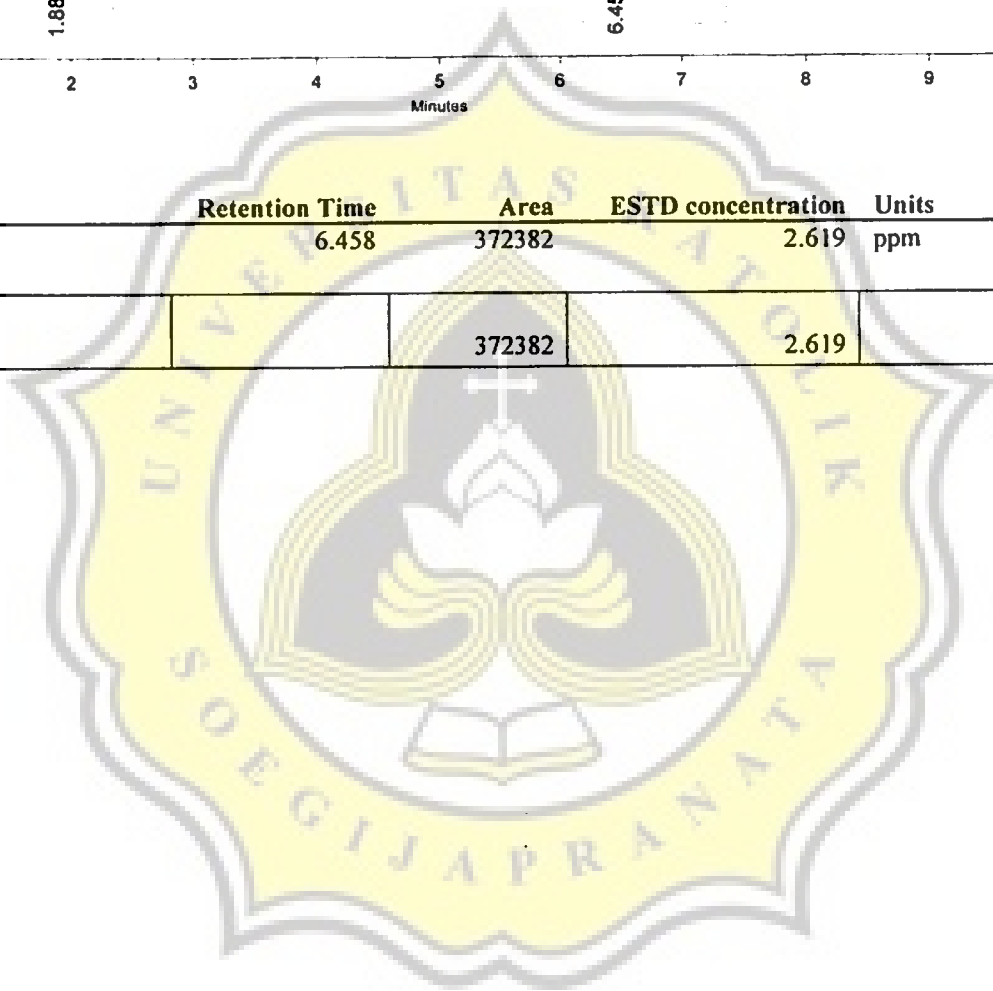


Method Name: C:\CLASS-VP\Methods\benzoat.met
Sample Name: C:\CLASS-VP\Saos Tomat Windi sasa 5x ul 1
UNIKA SOEGIJAPRANATA
Acquired: 2/17/2004 5:08:33 PM
Printed: 2/20/2004 1:54:26 PM

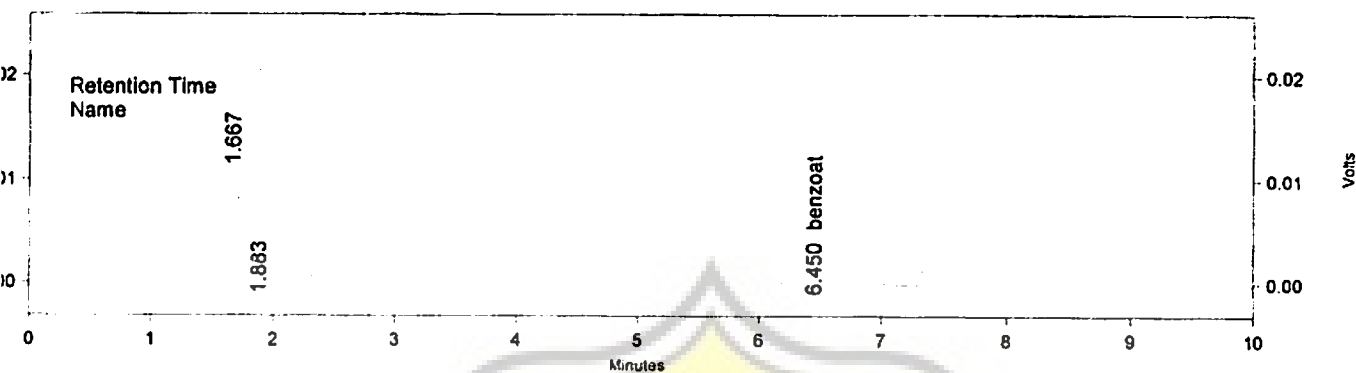


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.458	372382	2.619	ppm
Is			372382	2.619	

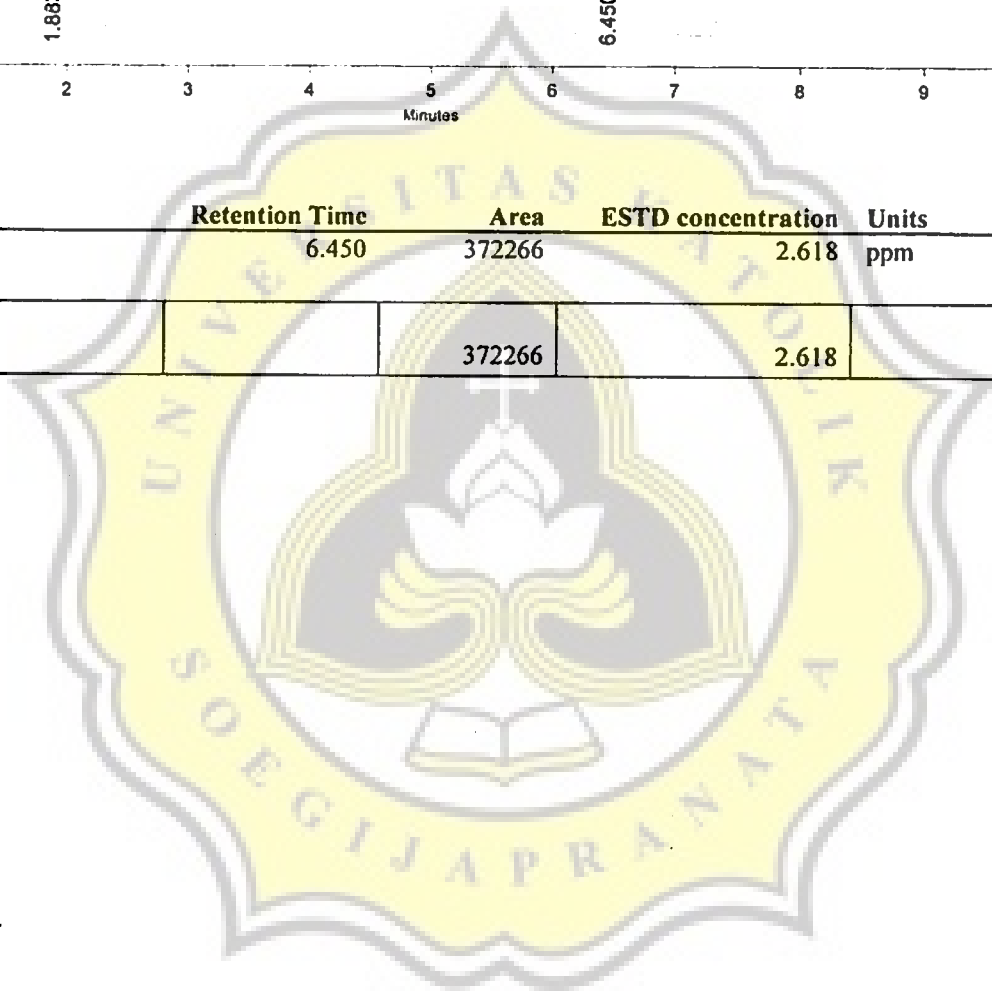


Method Name: C:\CLASS-VP\Methoos\Benzoat.met
Sample Name: C:\CLASS-VP\Saos Tomat Windi sasa 5x ul 2
UNIKA SOEGIJAPRANATA
Acquired: 2/17/2004 5:19:37 PM
Printed: 2/20/2004 1:55:17 PM

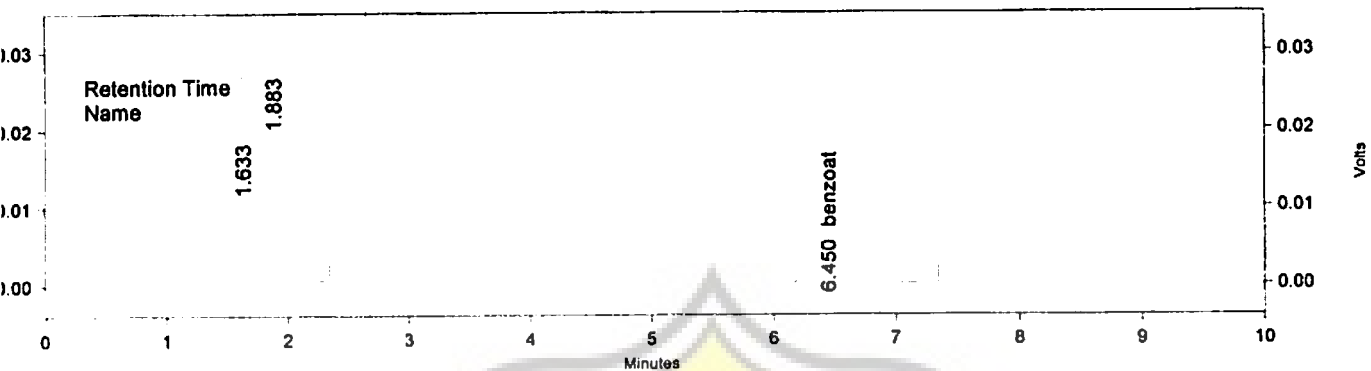


0Avp (225nm)

Name	Retention Time	Area	ESTD concentration	Units
benzoat	6.450	372266	2.618	ppm
		372266	2.618	

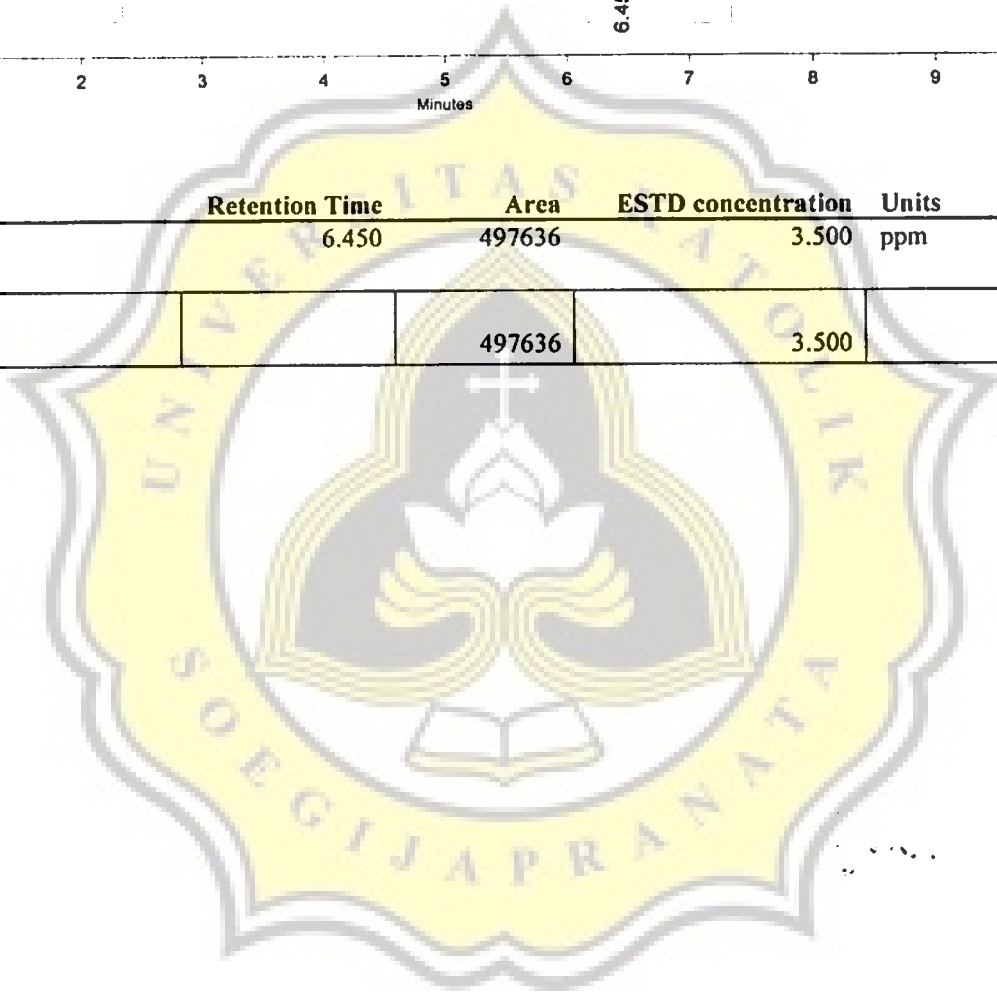


od Name: C:\CLASS-VP\Methods\Benzoat.met
 Name: C:\CLASS-VP\Saos Tomat Windi suizzz 5x ul 1
 UNIKA SOEGIJAPRANATA
 ired: 2/17/2004 4:45:38 PM
 ed: 2/20/2004 1:56:13 PM

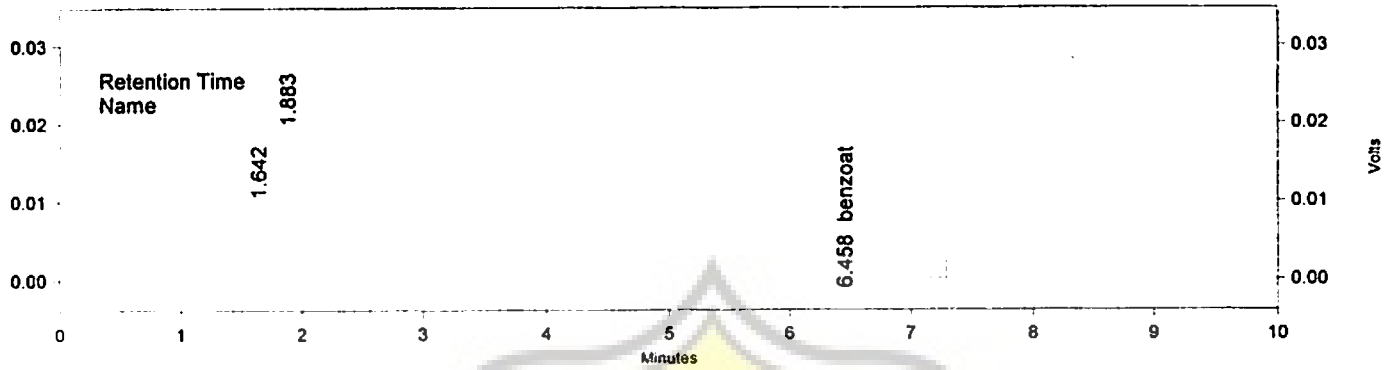


010Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.450	497636	3.500	ppm
als			497636	3.500	



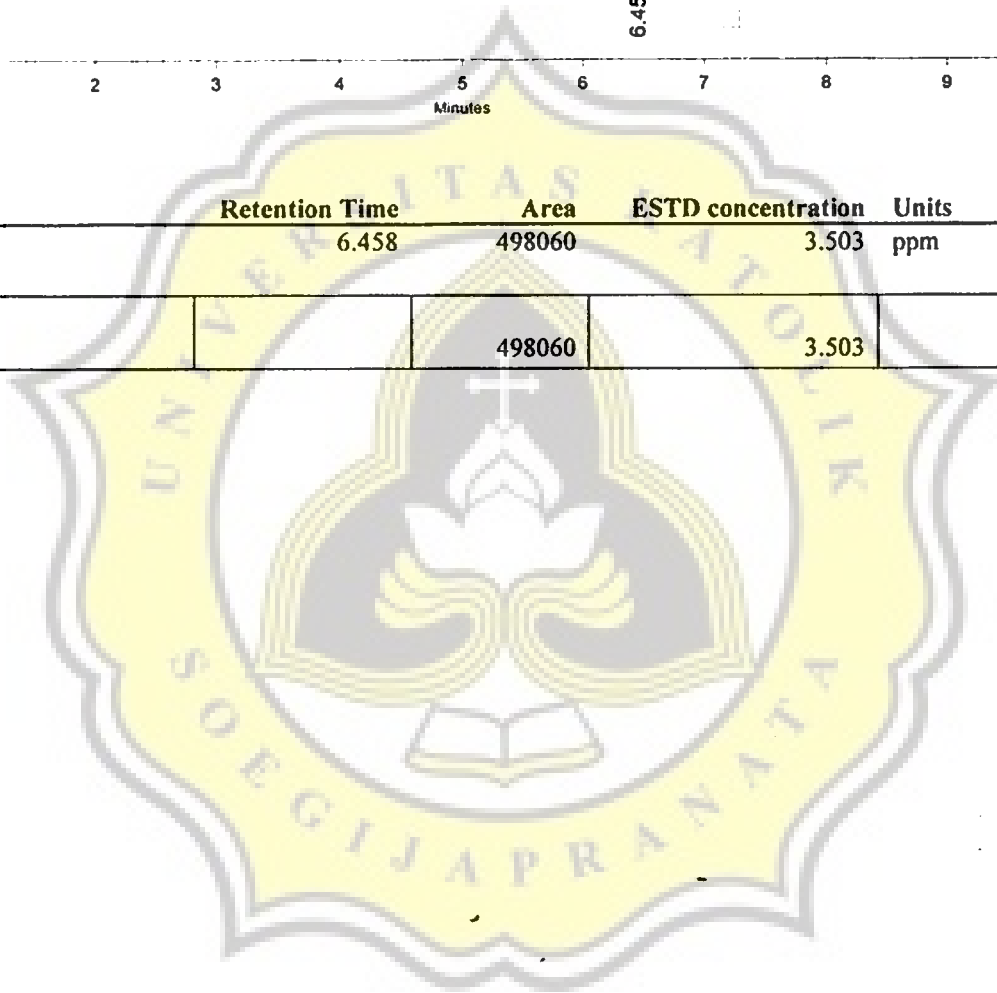
Method Name: C:\CLASS-VP\Methods\Benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Windi suizzz 5x ul 2
 Institution: UNIKA SOEGIJAPRANATA
 Acquired: 2/17/2004 4:57:02 PM
 Printed: 2/20/2004 1:57:18 PM



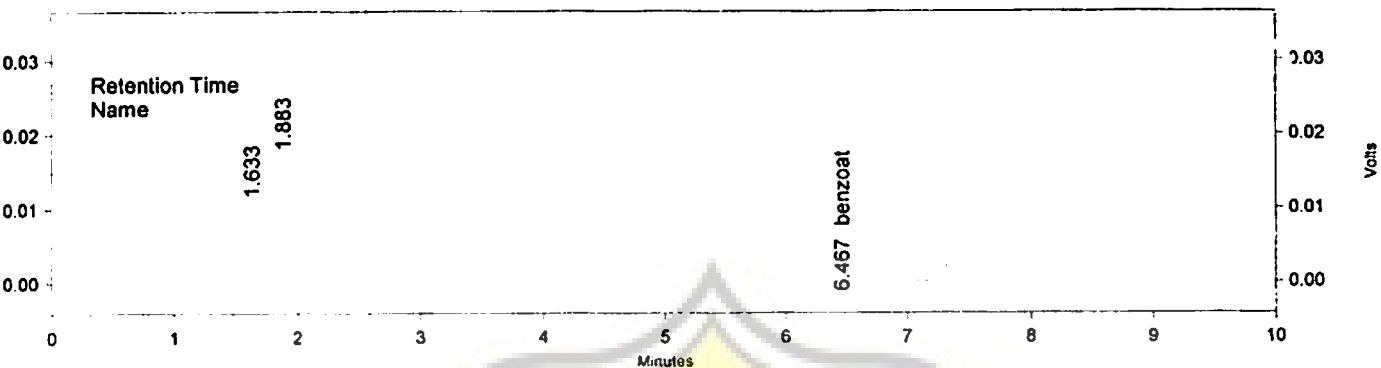
D10Avp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.458	498060	3.503	ppm

totals			498060	3.503	
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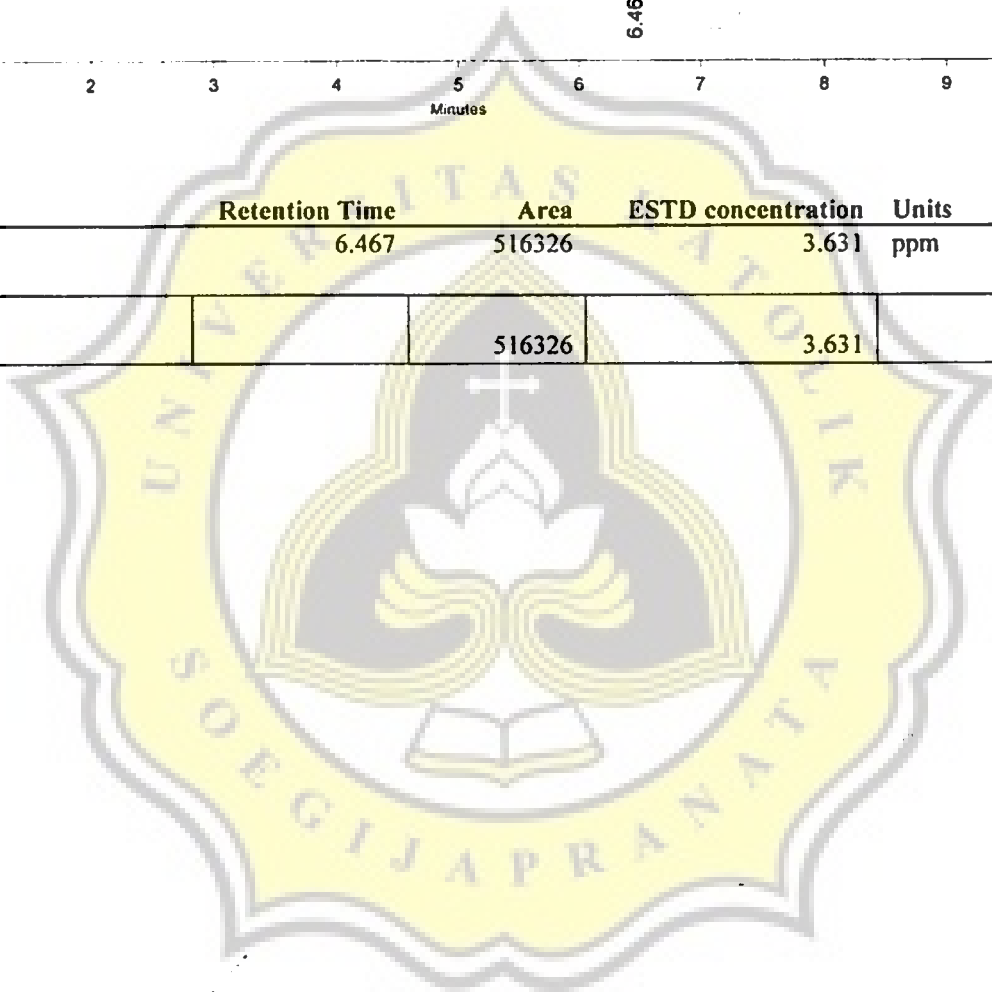
od Name: C:\CLASS-VP\Methods\Benzoat.met
 Name: C:\CLASS-VP\Saos Tomat Windi indofoo 5x ul 1
 : UNIKA SOEGIJAPRANATA
 ired: 2/17/2004 4:22:11 PM
 ted: 2/20/2004 1:51:28 PM



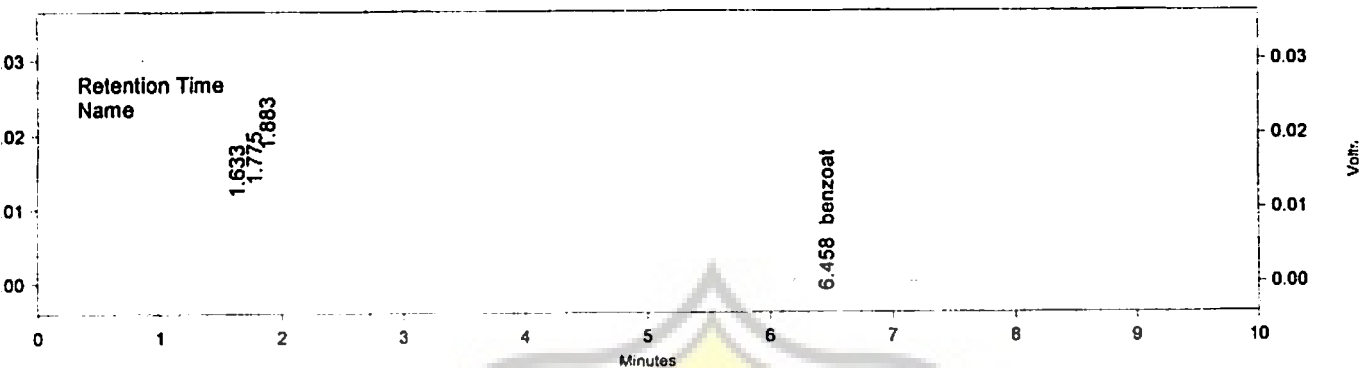
10Ayp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.467	516326	3.631	ppm

als			516326	3.631	
-----	--	--	--------	-------	--

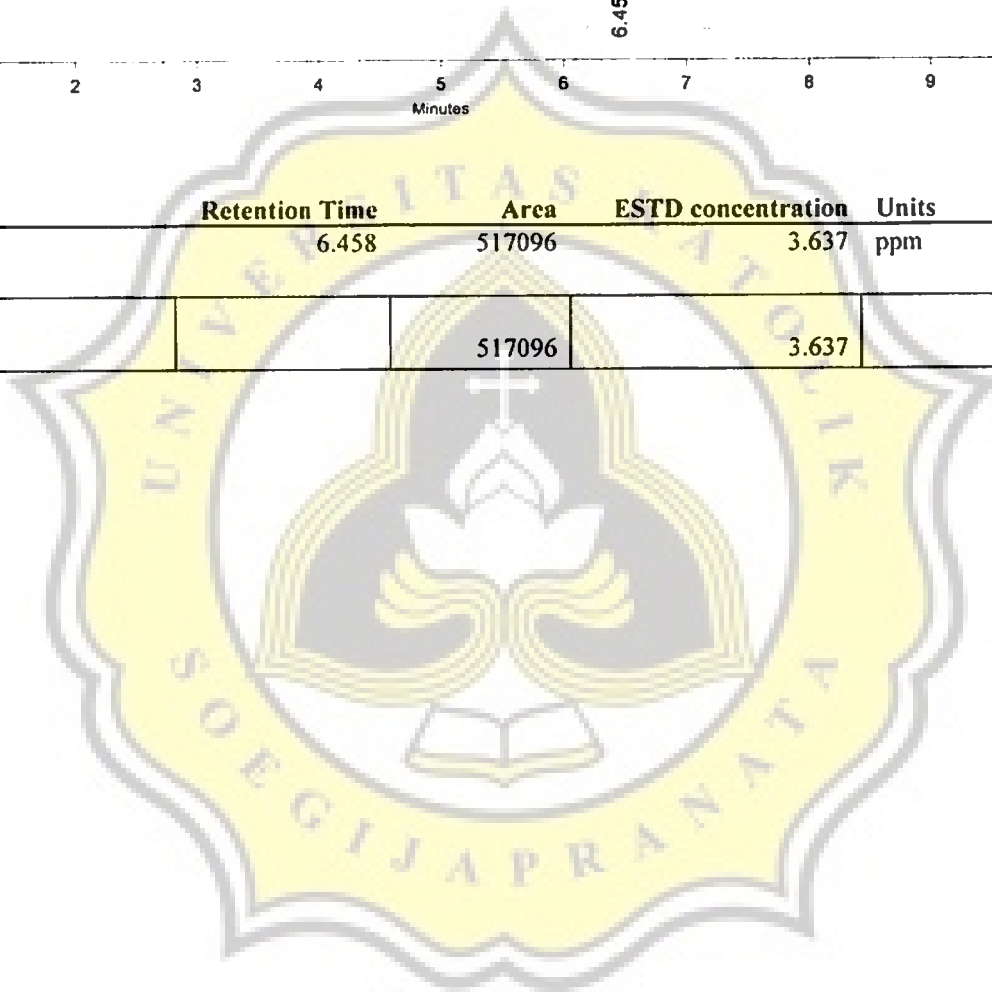


Method Name: C:\CLASS-VP\Methods\benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Windi indofoo 5x ul 2
 Institution: UNIKA SOEGIJAPRANATA
 Date: 2/17/2004 4:33:59 PM
 Time: 2/20/2004 1:51:53 PM

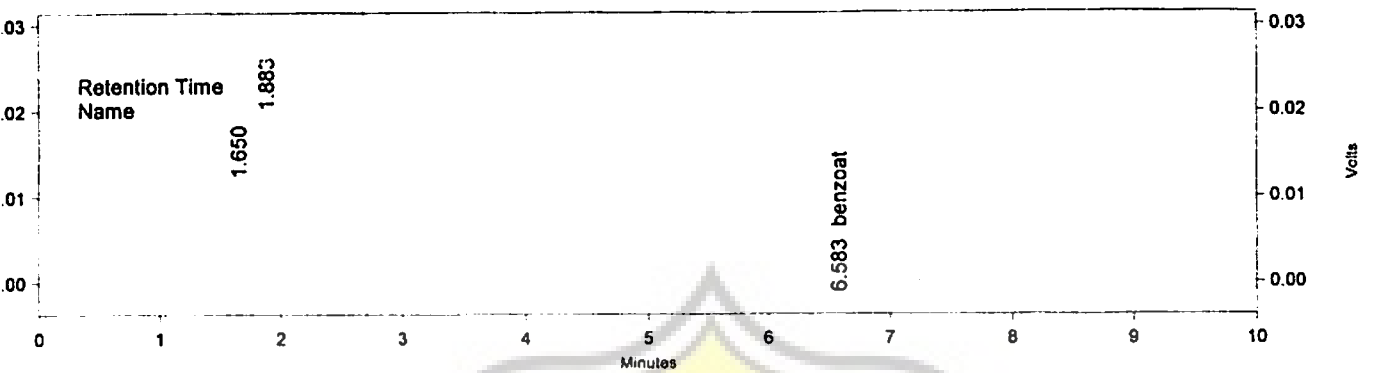


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
4	benzoat	6.458	517096	3.637	ppm
Is			517096	3.637	

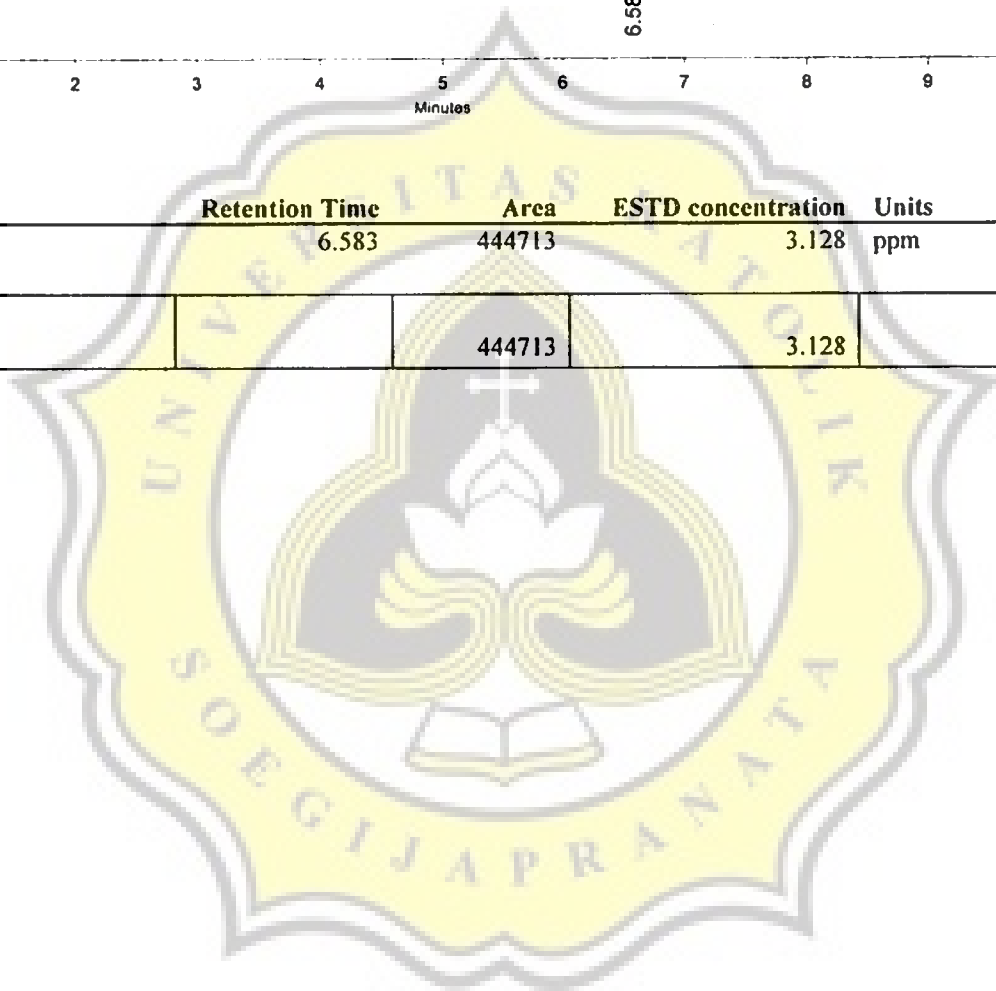


di Name: C:\CLASS-VP\Methods\Benzoat.met
 Name: C:\CLASS-VP\Saos Tomat Windi abc 5x ul 1
 UNIKA SOEGIJAPRANATA
 red: 2/17/2004 3:35:33 PM
 d: 2/20/2004 2:00:24 PM

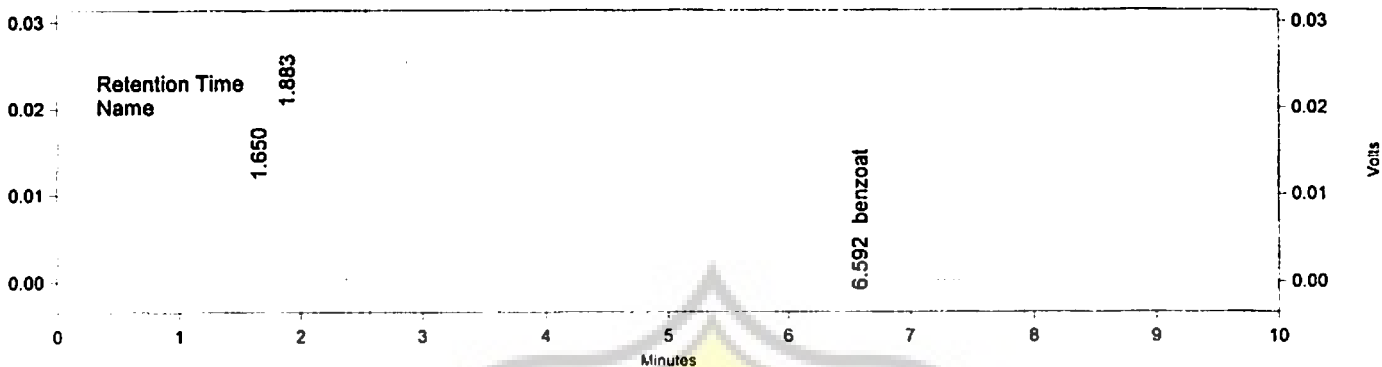


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.583	444713	3.128	ppm
Is			444713	3.128	



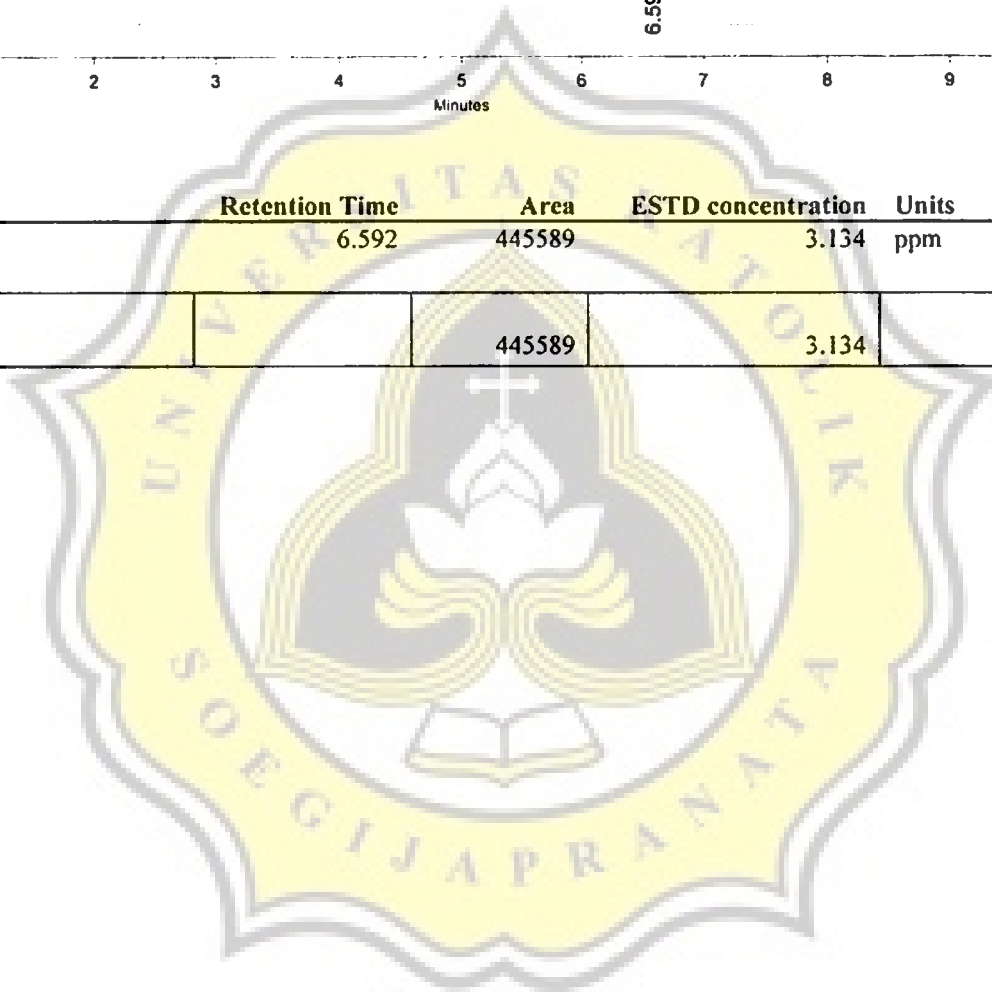
Method Name: C:\CLASS-VP\Methods\Benzoat.mci
 Sample Name: C:\CLASS-VP\Saos Tomat Windi abc 5x ul 2
 Institution: UNIKA SOEGIJAPRANATA
 Acquired: 2/17/2004 3:47:23 PM
 Reported: 2/20/2004 2:01:15 PM



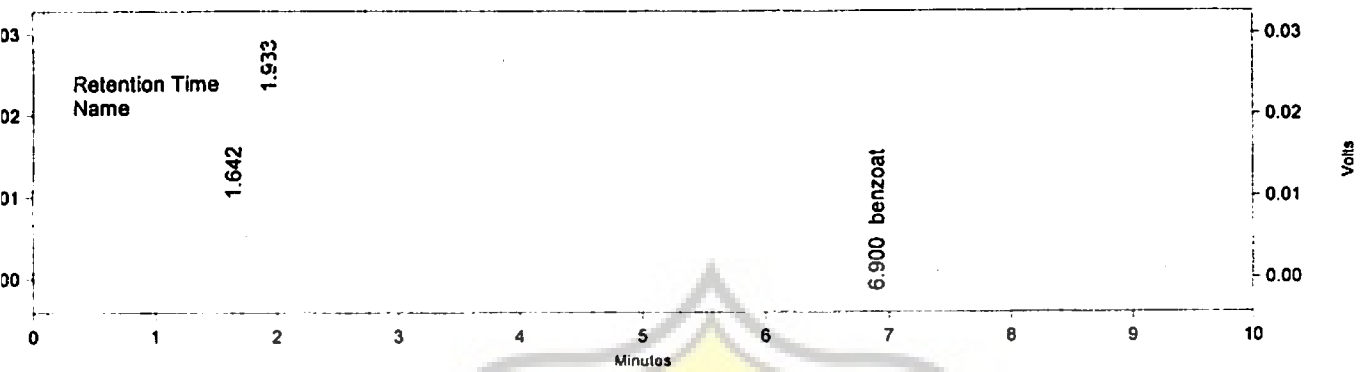
D10Avp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.592	445589	3.134	ppm

Totals			445589	3.134	
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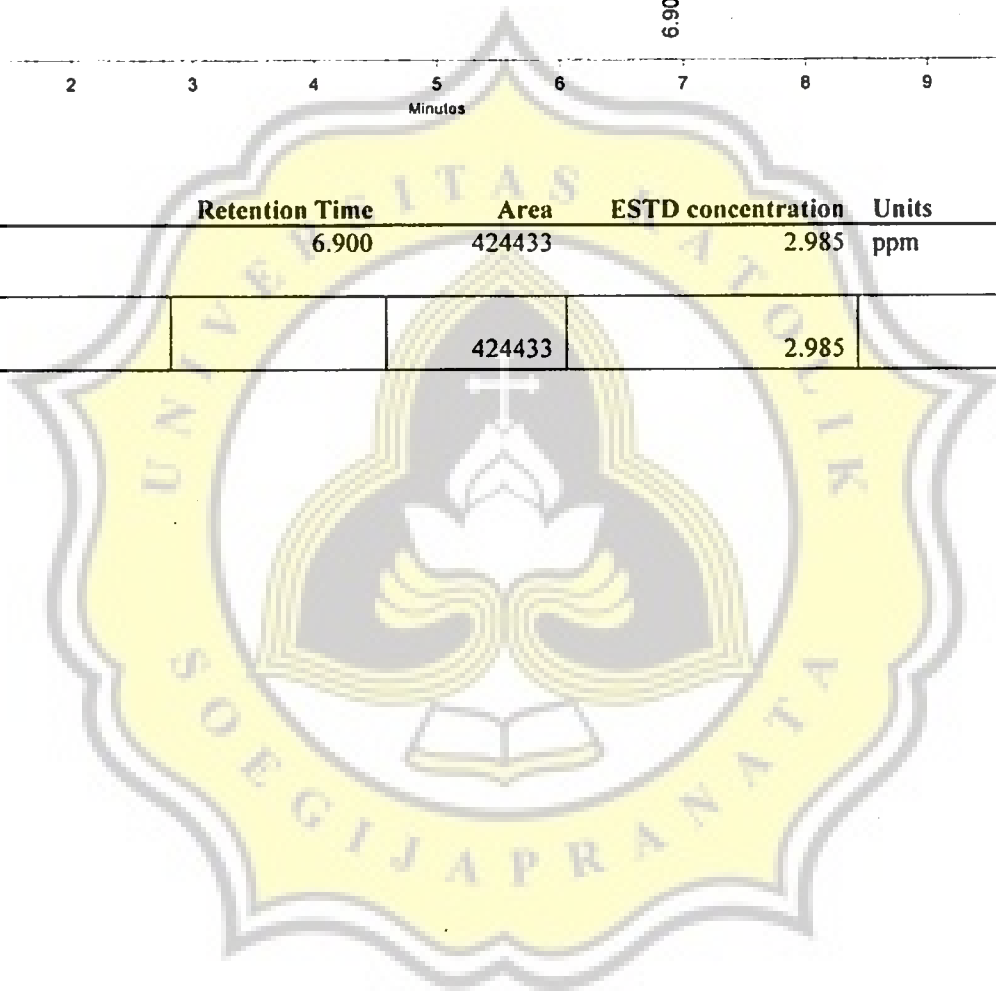


id Name: C:\CLASS-VP\Methods\Benzoar.mct
 Name: C:\CLASS-VP\Saos Tomat Windi han 5x ul 1
 UNIKA SOEGIJAPRANATA
 red: 2/17/2004 3:11:32 PM
 d: 2/20/2004 2:04:29 PM

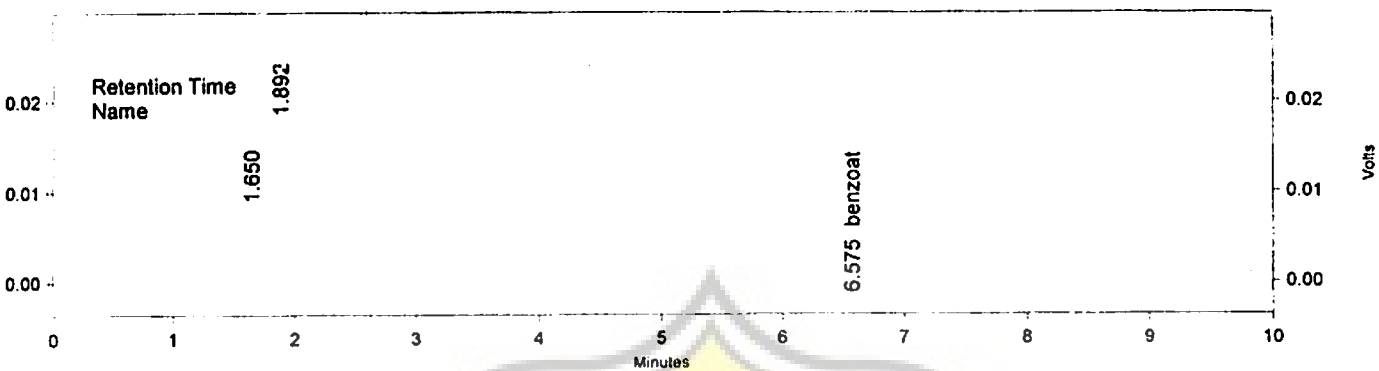


10Avp (225nm)

#	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.900	424433	2.985	ppm
s			424433	2.985	



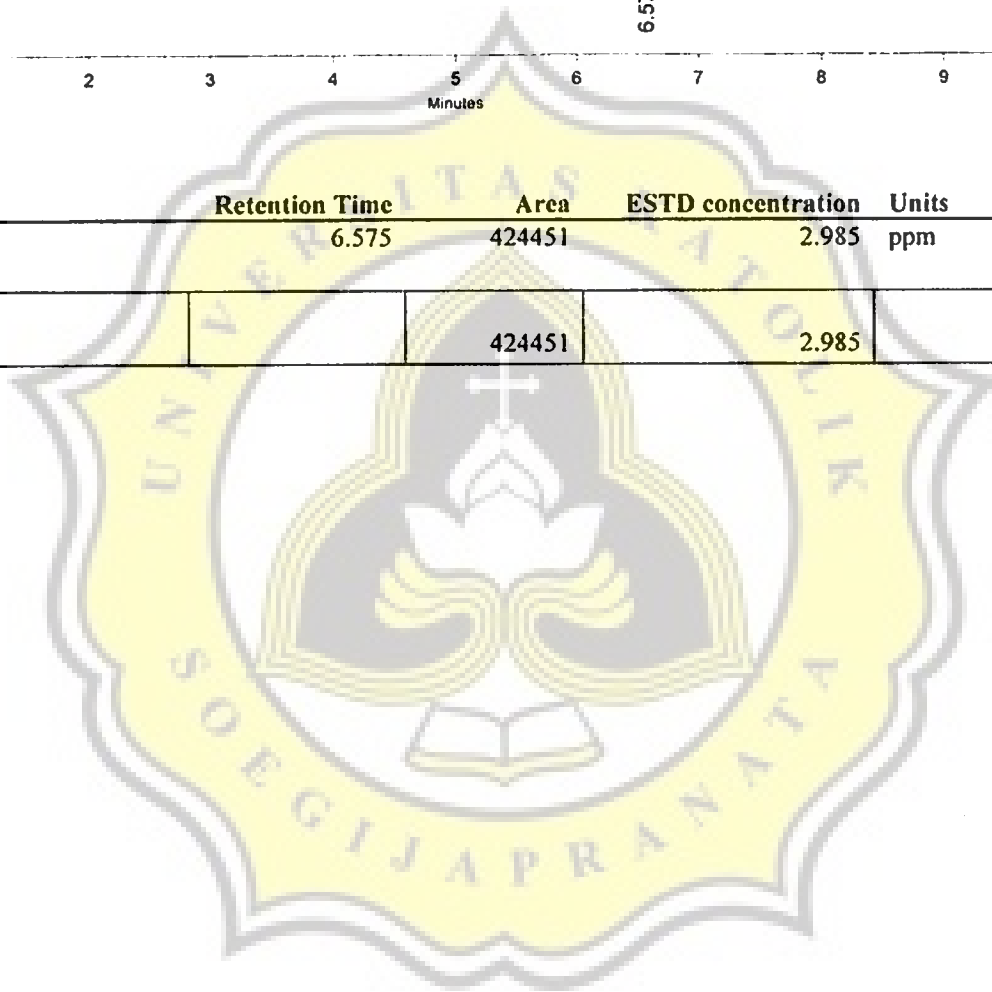
Method Name: C:\CLASS-VP\Methods\Benzoat.met
 Sample Name: C:\CLASS-VP\Saos Tomat Winda han 5x ul 2
 Institution: UNIKA SOEGIJAPRANATA
 Acquired: 2/17/2004 3:23:37 PM
 Printed: 2/20/2004 2:05:29 PM



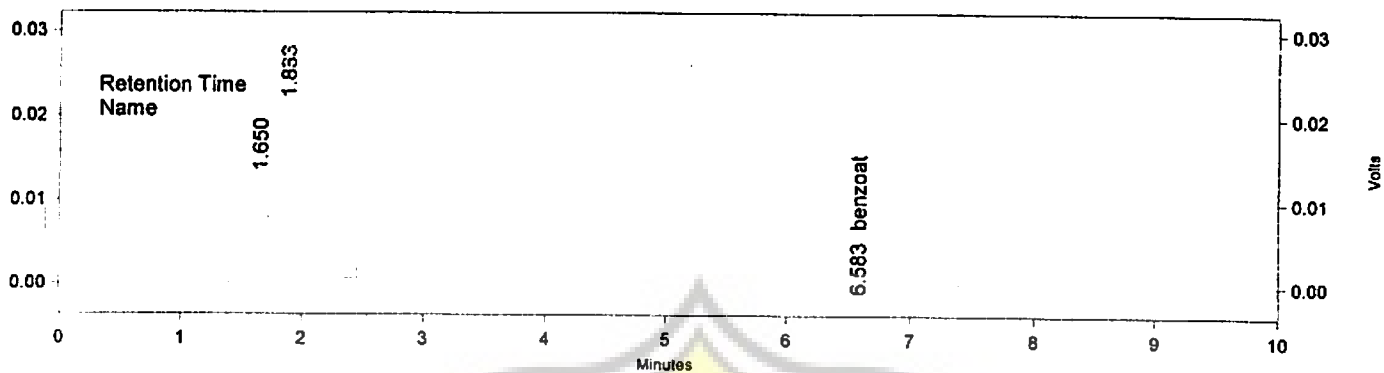
D10Avp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.575	424451	2.985	ppm

Area		424451	2.985	
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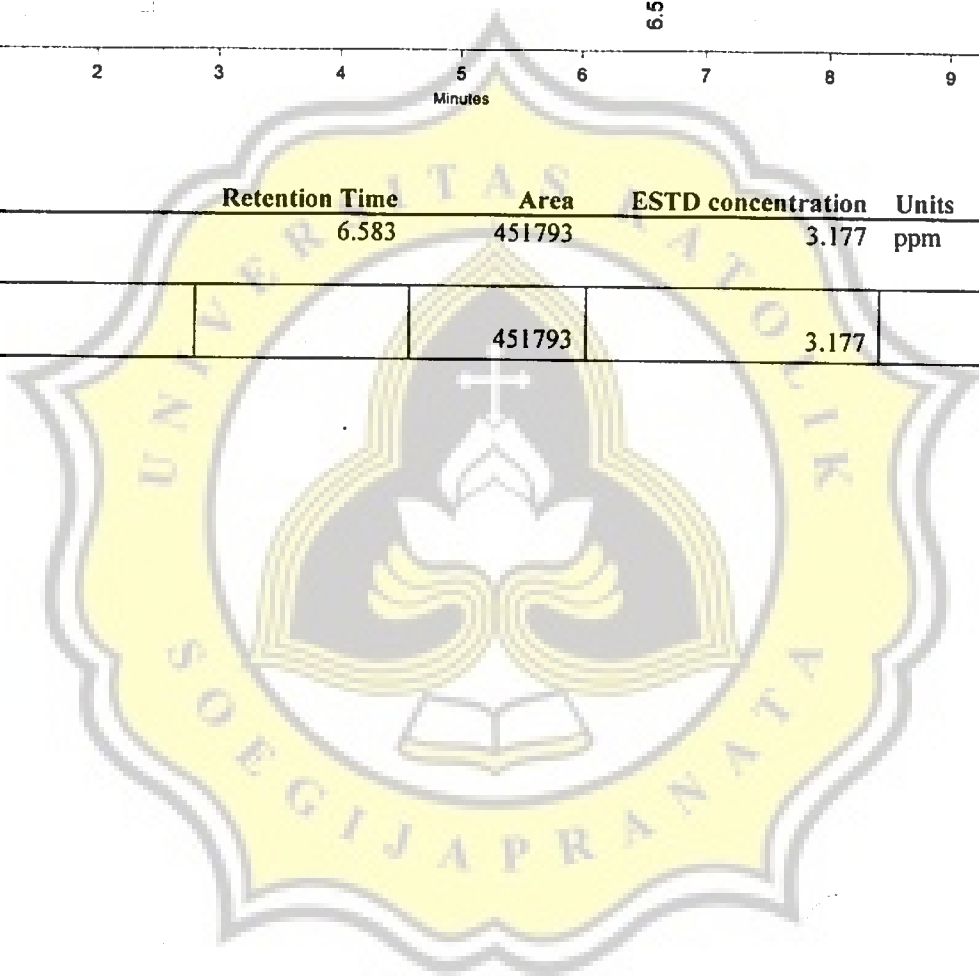
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 Sample Name: C:\CLASS-VP\Saos Tomat Windi dem 5x ul 1
 Institution: UNIKA SOEGIJAPRANATA
 Acquired: 2/17/2004 3:59:20 PM
 Printed: 2/20/2004 2:02:33 PM



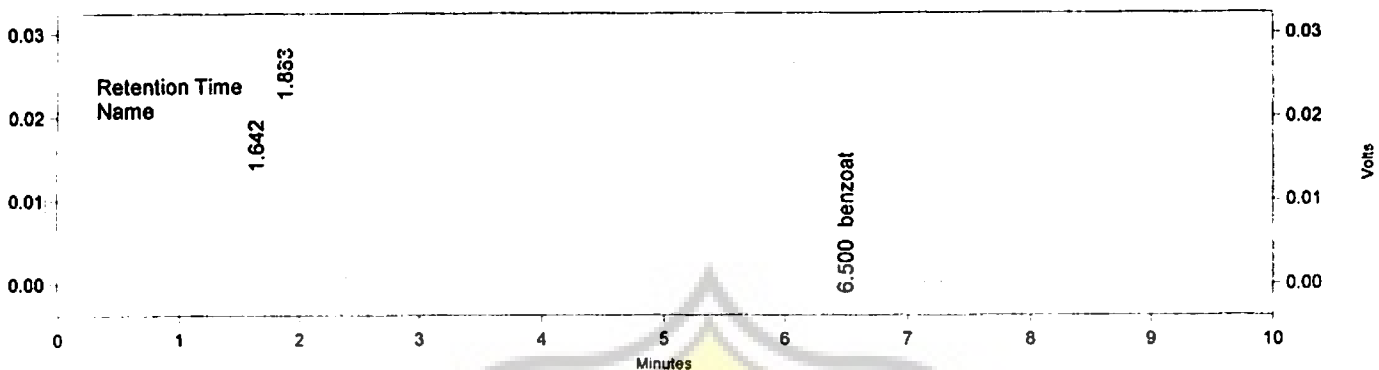
D10Avp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.583	451793	3.177	ppm

Area	451793	Concentration	3.177
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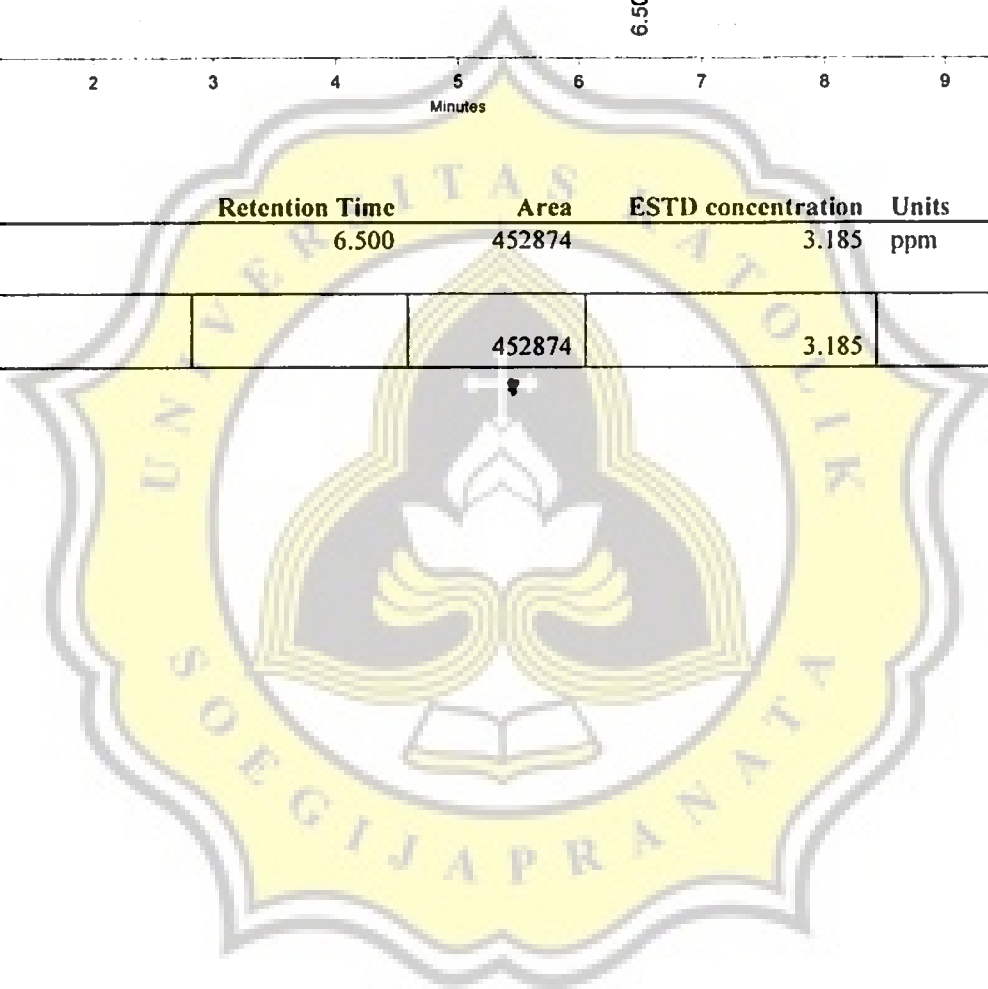
Method Name: C:\CLASS-VP\Methods\Benzoat.met
Sample Name: C:\CLASS-VP\Saos Tomat Windi dem 5x ul 2
Institution: UNIKA SOEGIJAPRANATA
Acquired: 2/17/2004 4:10:31 PM
Processed: 2/20/2004 2:03:52 PM



D10Avp (225nm)

Peak #	Name	Retention Time	Area	ESTD concentration	Units
3	benzoat	6.500	452874	3.185	ppm

Area	452874	ESTD concentration	3.185
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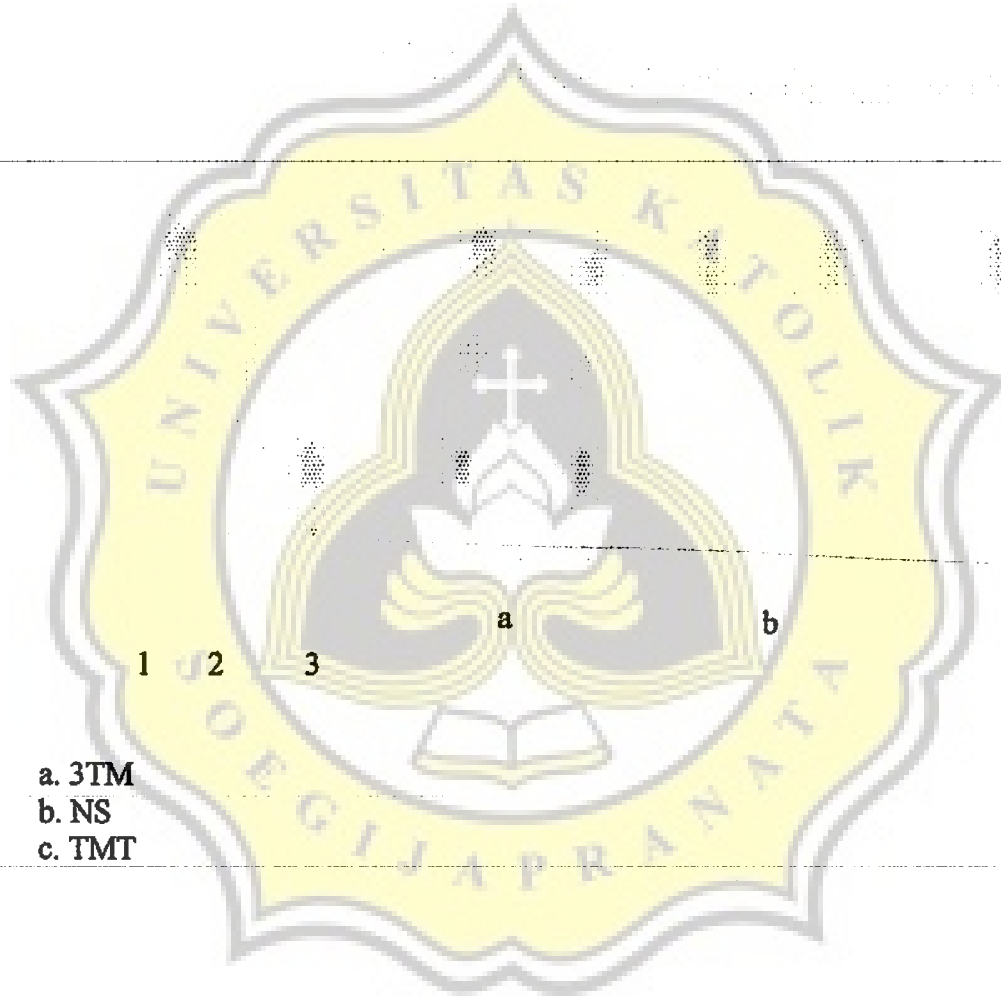


Lampiran 8. Hasil Perhitungan Rf Zat Warna pada Saus Tomat

Kode Sampel	Nilai Rf		Warna Teridentifikasi
	1	2	
TMT	0,7	0,7	Ponceau
NS	0,7	0,7	Ponceau
3TM	0,7	0,7	Ponceau
	0,6	0,6	Sunset Yellow
	0,4	0,4	Amaranth



Lampiran 9. Hasil Deteksi Zat Warna Dengan TLC



Keterangan :

1. Ponceau
2. Sunset yellow
3. Amaranth

- a. 3TM
- b. NS
- c. TMT

Lampiran 10. Hasil Survei dan Perhitungan WI, PTWI dan HQ

A. Hasil Survei

- Berat badan rata-rata responden (BB) : 51,4 kg
- Rata-rata konsumsi saus tomat tiap kali makan : 2 sendok makan \approx 30 g
- Rata-rata konsumsi saus tomat per minggu (V) : 2 kali x 30 g = 60 g
60 g = 0,06 kg
- ADI zat warna ponceau 4R : 4 mg/kg
- ADI benzoat : 5 mg/kg

$$WI = \frac{V \times c}{BB}$$

$$PTWI = ADI \times 7$$

$$HQ = \frac{WI}{PTWI}$$

B. Perhitungan WI, PTWI dan HQ zat pewarna

- TMT

$$c = 5,74 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 5,74 \text{ mg/kg}}{51,4 \text{ kg}} = 0,0067 \text{ mg/kg}$$

$$PTWI = 4 \text{ mg/kg} \times 7 = 28 \text{ mg/kg}$$

$$HQ = \frac{0,0067}{28} = 2,4 \cdot 10^{-4}$$

- NS

$$c = 6,26 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 6,26 \text{ mg/kg}}{51,4 \text{ kg}} = 0,0073 \text{ mg/kg}$$

$$PTWI = 4 \text{ mg/kg} \times 7 = 28 \text{ mg/kg}$$

$$HQ = \frac{0,0073}{28} = 2,6 \cdot 10^{-4}$$

- **3TM**

$$c = 6,02 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 6,02 \text{ mg/kg}}{51,4 \text{ kg}} = 0,007 \text{ mg/kg}$$

$$PTWI = 4 \text{ mg/kg} \times 7 = 28 \text{ mg/kg}$$

$$HQ = \frac{0,007}{28} = 2,5 \cdot 10^{-4}$$

WI, PTWI dan HQ benzoat

- **TMT**

$$c = 378,938 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 378,938 \text{ mg/kg}}{51,4 \text{ kg}} = 0,442 \text{ mg/kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,442}{35} = 0,013$$

- **NS**

$$c = 1067,313 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 1067,313 \text{ mg/kg}}{51,4 \text{ kg}} = 1,246 \text{ mg/kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{1,246}{35} = 0,036$$

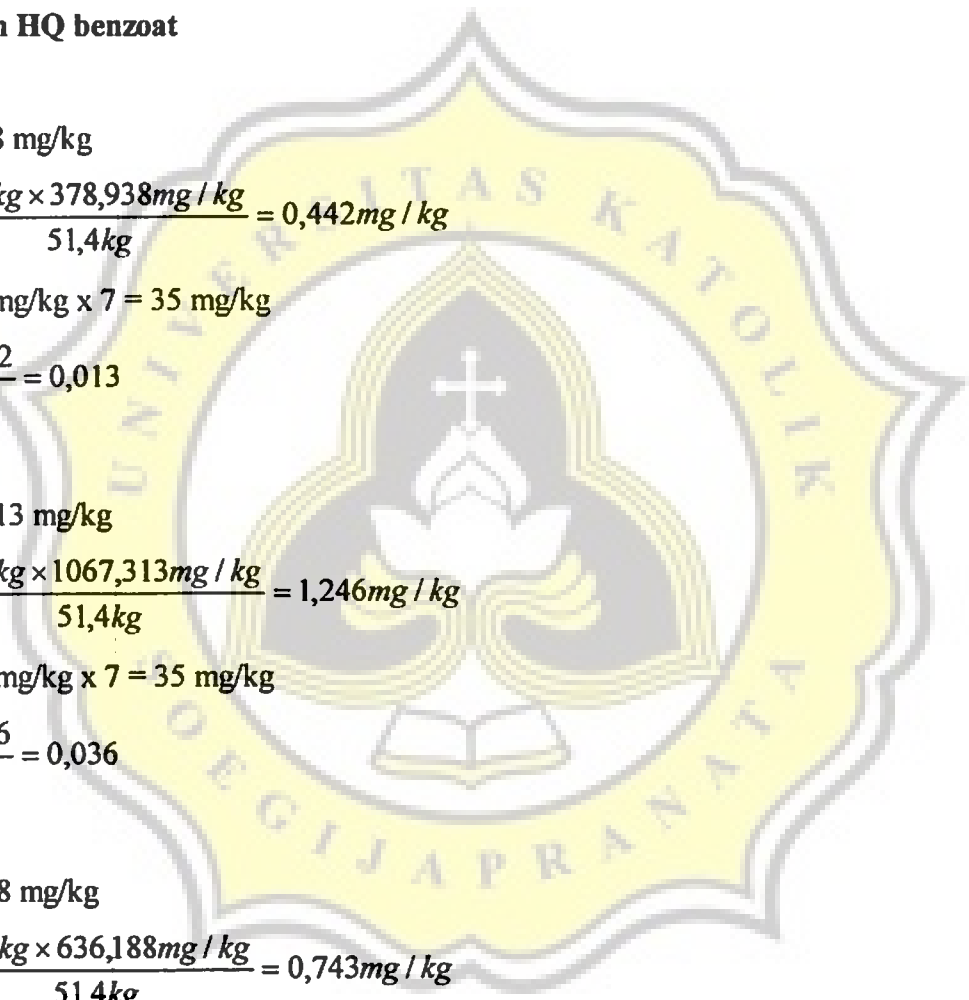
- **3TM**

$$c = 636,188 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 636,188 \text{ mg/kg}}{51,4 \text{ kg}} = 0,743 \text{ mg/kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,743}{35} = 0,021$$



- **SS**

$$c = 327,313 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 327,313 \text{ mg / kg}}{51,4 \text{ kg}} = 0,382 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,382}{35} = 0,011$$

- **SZ**

$$c = 437,688 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 437,688 \text{ mg / kg}}{51,4 \text{ kg}} = 0,511 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,511}{35} = 0,015$$

- **IND**

$$c = 454,250 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 454,250 \text{ mg / kg}}{51,4 \text{ kg}} = 0,53 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,53}{35} = 0,015$$

- **AB**

$$c = 391,375 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 391,375 \text{ mg / kg}}{51,4 \text{ kg}} = 0,457 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,457}{35} = 0,013$$

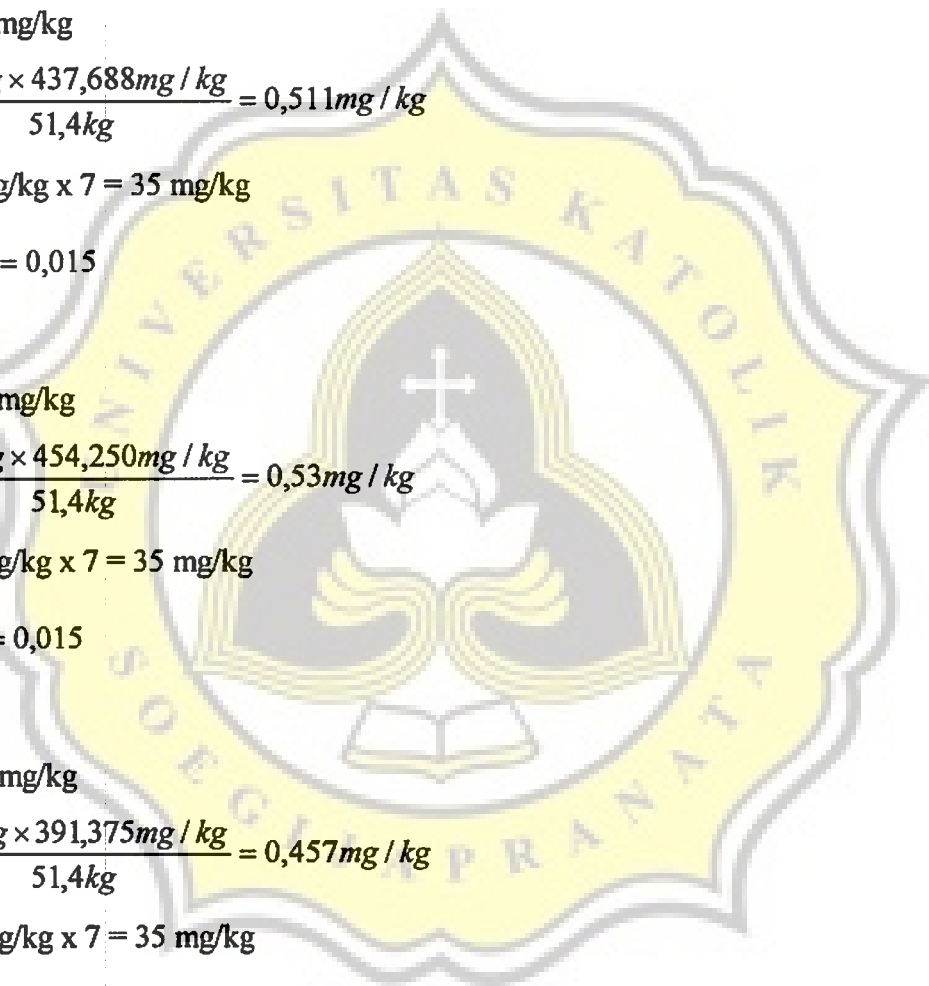
- **HT**

$$c = 373,125 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 373,125 \text{ mg / kg}}{51,4 \text{ kg}} = 0,435 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,435}{35} = 0,012$$



DM

$$c = 394,125 \text{ mg/kg}$$

$$WI = \frac{0,06 \text{ kg} \times 394,125 \text{ mg / kg}}{51,4 \text{ kg}} = 0,46 \text{ mg / kg}$$

$$PTWI = 5 \text{ mg/kg} \times 7 = 35 \text{ mg/kg}$$

$$HQ = \frac{0,46}{35} = 0,013$$

Kesimpulan : semuanya aman karena $HQ < 1$

