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Lampiran 1. Certificate Of Analysis (CO-A) parasetamol

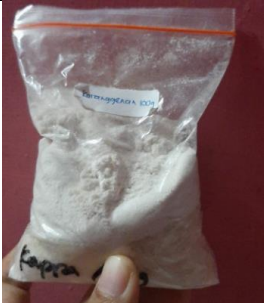
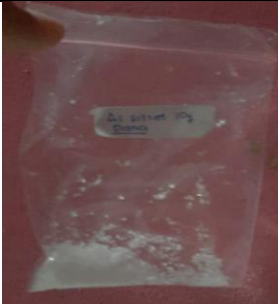
 **HENGSHUI JIHENG PHARMACY CO., LTD.**
No. 303 Jianshe Street, Hengshui City, Hebei Province, 053000 P.R. China

CERTIFICATE OF ANALYSIS

Name of Product	PARACETAMOL		
Lot No.	1403171	Report No.	03171
Quantity	12000kg	Test Date	2014/03/16
Mfg date	2014/03/15	Exp. date	2018/03/14
Quality Standard	BP2011/USP35		

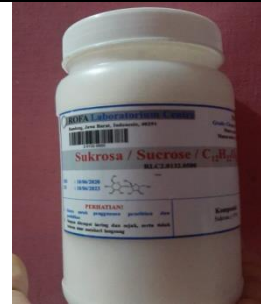
Tests	Standards	Results
Appearance	A white crystalline powder.	A white crystalline powder.
Identification	A:IR absorption	Positive
	B:UV absorption	Positive
	C:TLC	Positive
Melting point	168~172°C	168.8~169.5°C
Water	Not more than 0.5%	0.06%
Related substances	Impurity J(chloroacetanilide) not more than 10 ppm	Not detected
	Impurity K(4-aminophenol) not more than 50 ppm	6 ppm
	Impurity F(4-nitrophenol) not more than 0.05%	Not detected
	any other impurity not more than 0.05%	0.02%
	Total of other impurities not more than 0.1%	0.03%
Residue on ignition	Not more than 0.1%	0.07%
Chloride	Not more than 0.014%	Less than 0.014%
Sulfate	Not more than 0.02%	Less than 0.02%
Sulfide	Conforms	Conforms
Heavy metals	Not more than 0.001%	Less than 0.001%
Free p-aminophenol	Not more than 0.005%	Less than 0.005%
Limit of p-chloroacetanilide	Not more than 0.001%	Less than 0.001%
Readily carbonizable substances	Conforms	Conforms
Residual solvents	Residual content of acetic acid is limited by the test of loss on drying not more than 0.5%	0.07%
Assay(anhydrous basis)	99.0~101.0%	99.7%
Conclusion:	Complies with BP2011/USP35	
Reported by	Reviewed by	Auditor

Lampiran 2. Alat dan bahan

Alat	Bahan
 <i>spektrofotometer UV-Vis</i>	 Gelatin
 <i>pH meter</i>	 Karagenan
 <i>moisture balance</i>	 PVP
 <i>Water bath</i>	 Asam sitrat



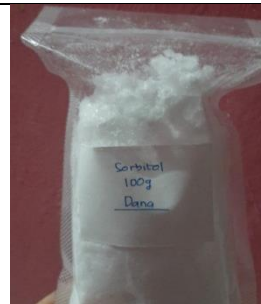
Neraca analitik



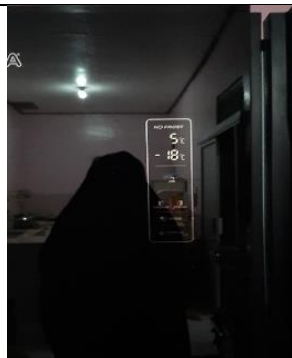
Sukrosa



Alat-alat gelas

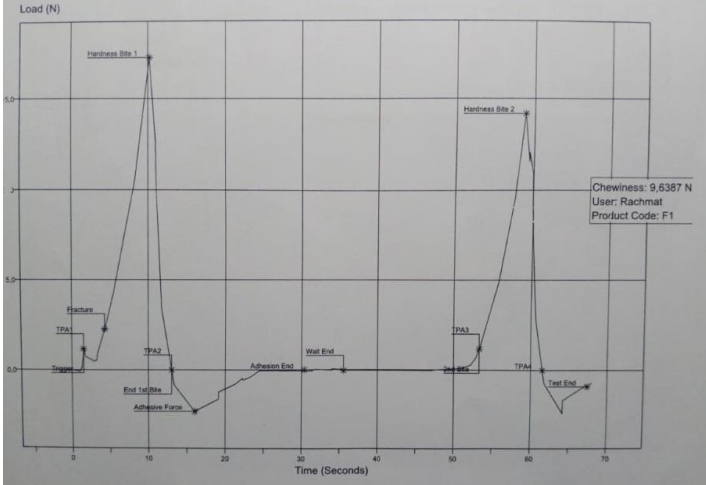
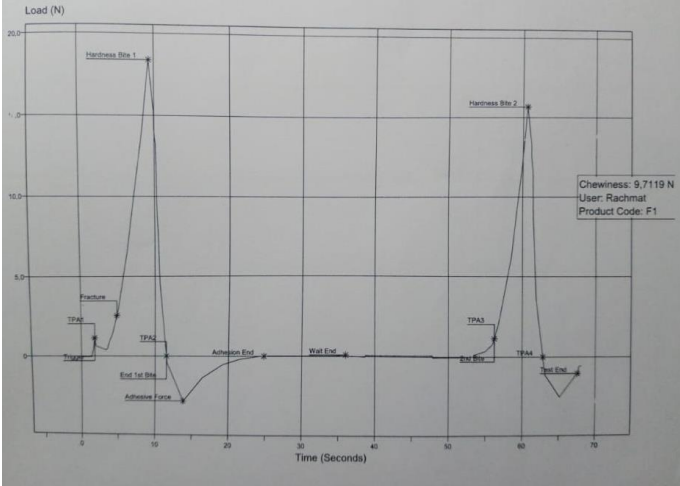
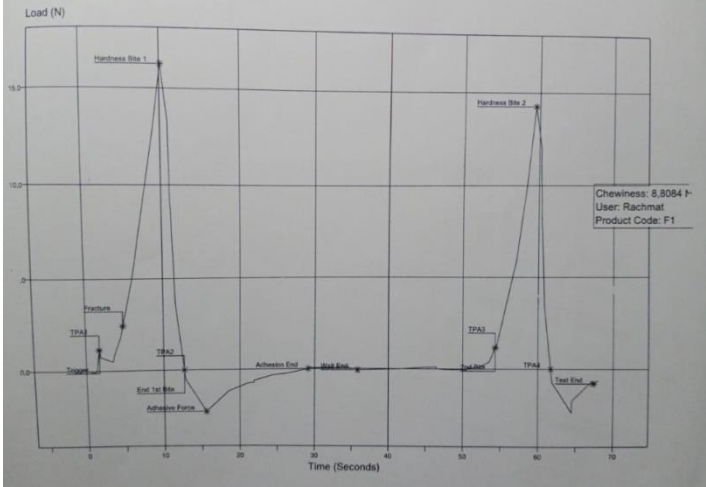


Sorbitol

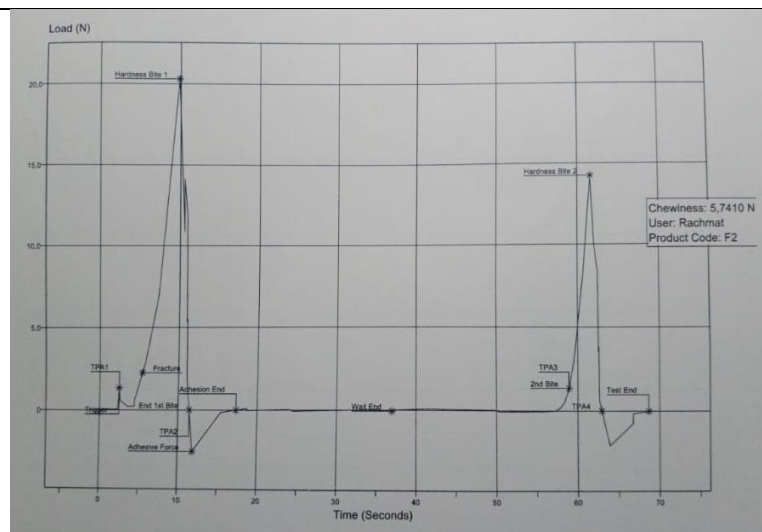
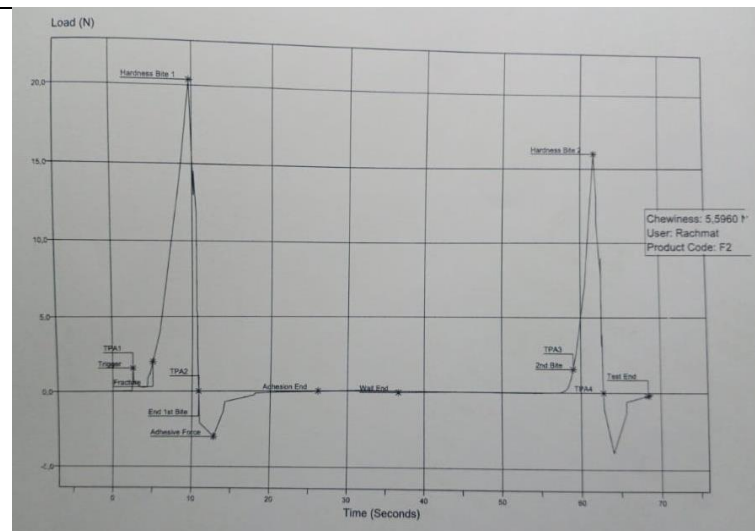
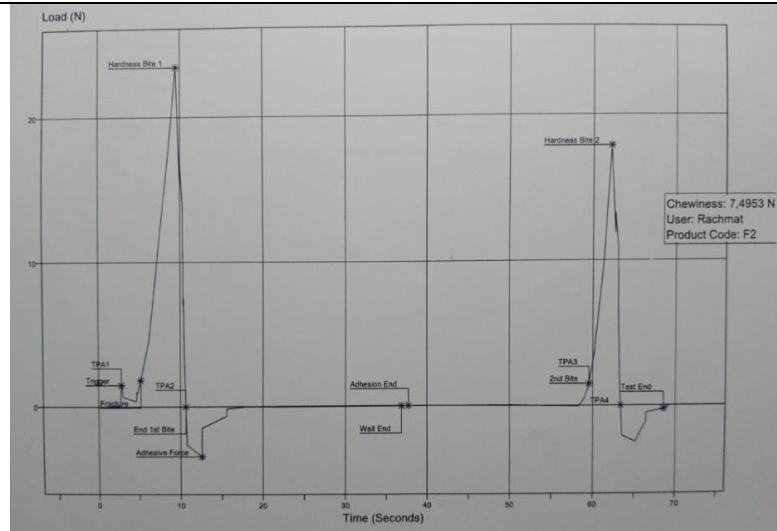
*Ice bath*

Propil paraben

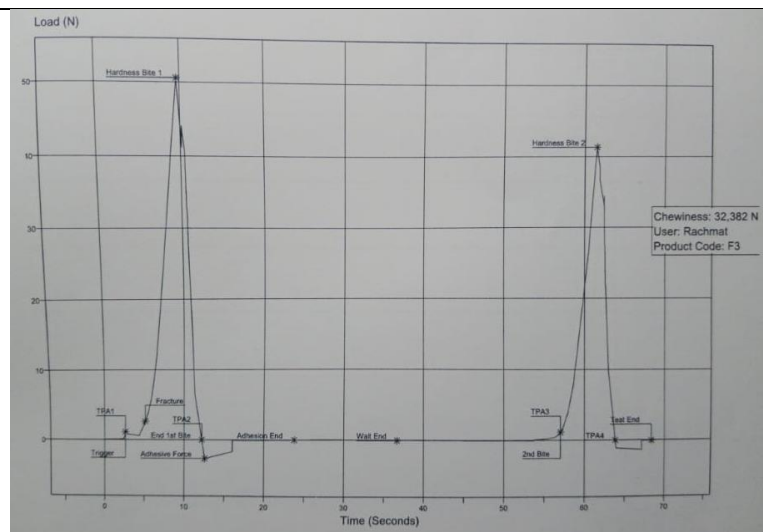
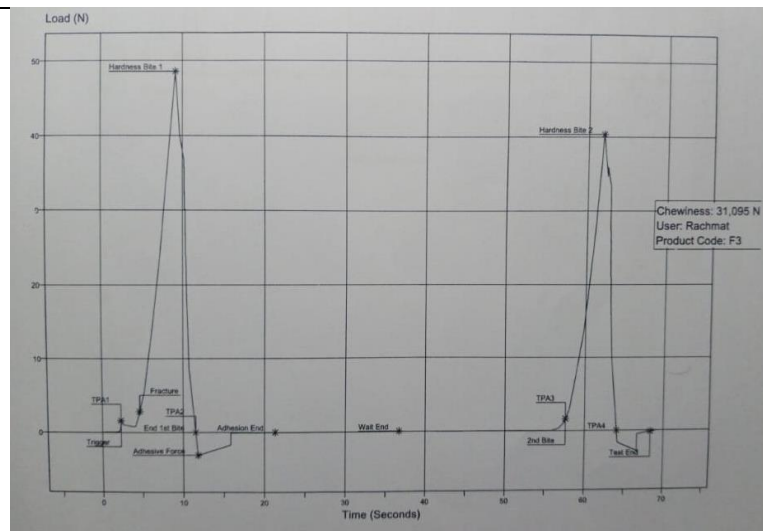
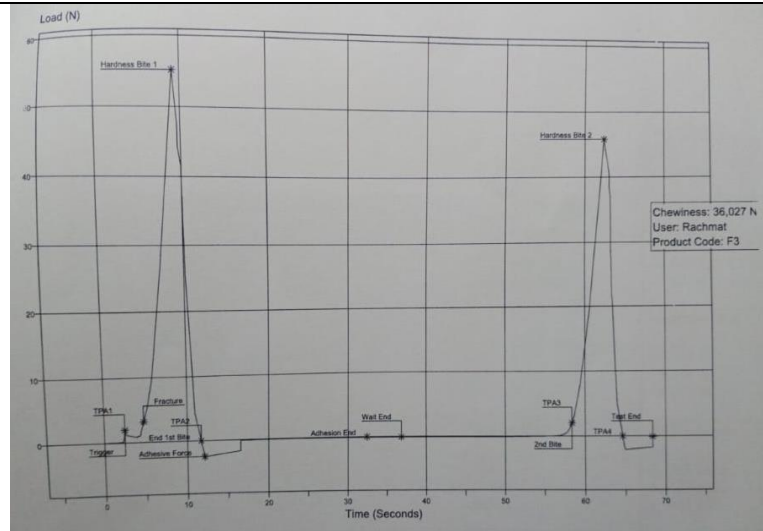
Lampiran 3. Hasil pengujian kekenyalan

Run	Hasil
1	
	
	

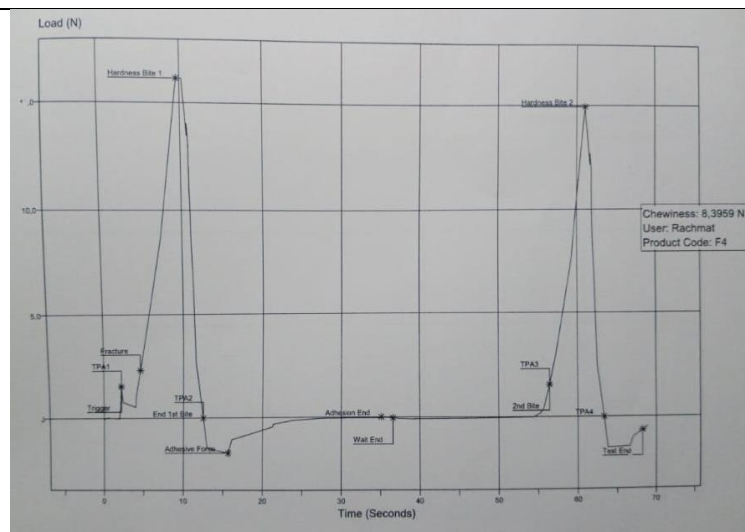
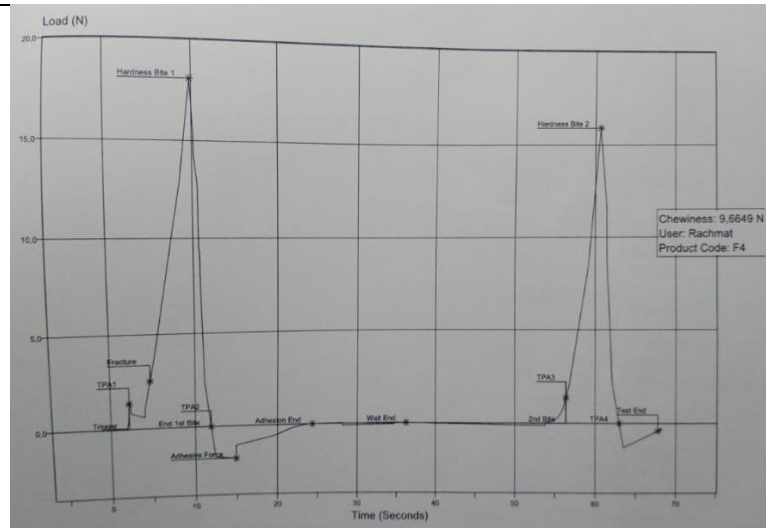
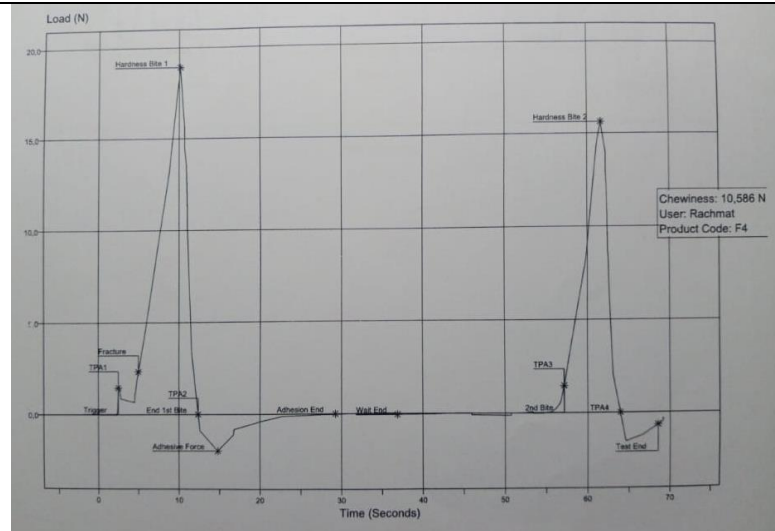
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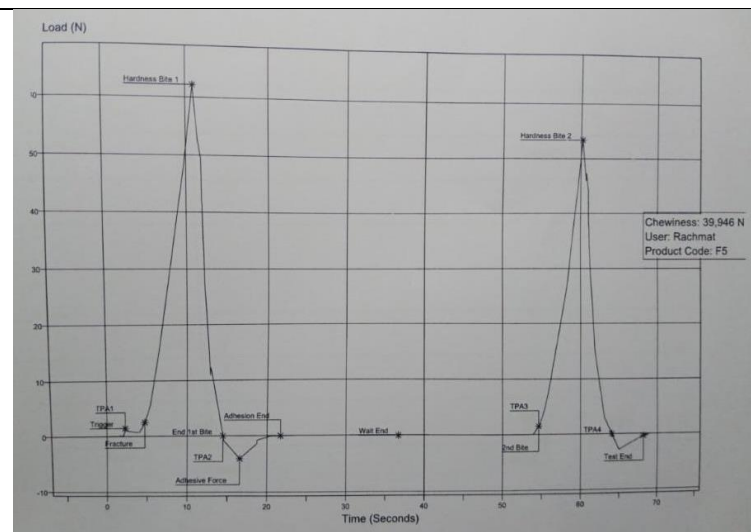
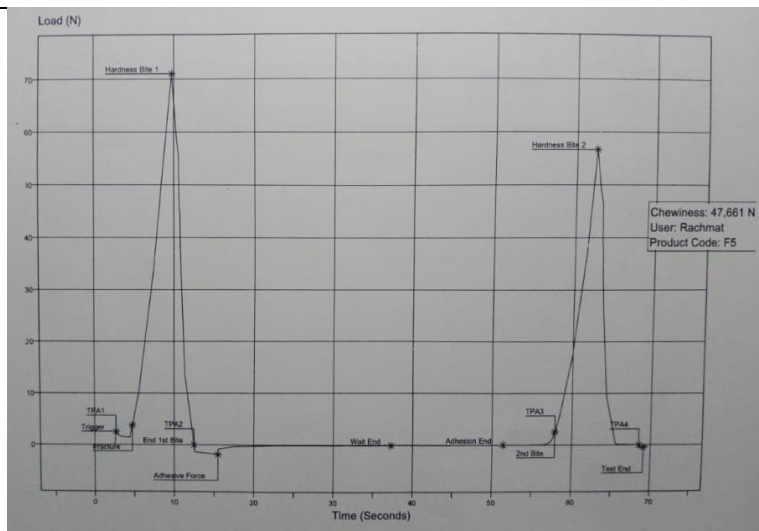
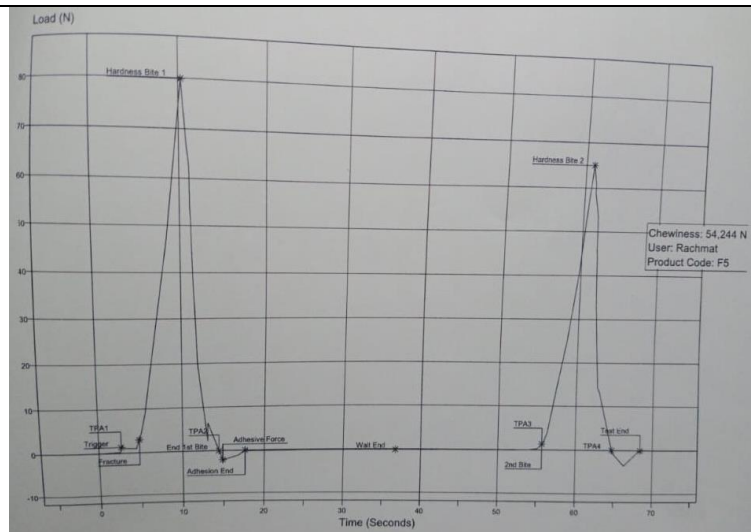
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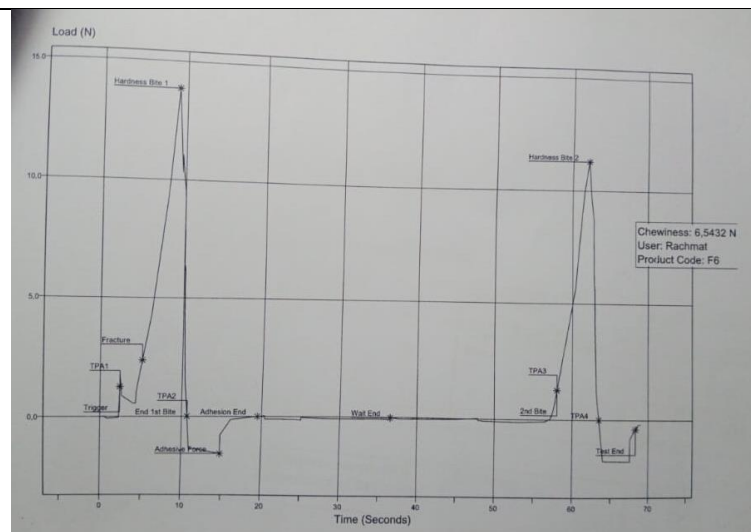
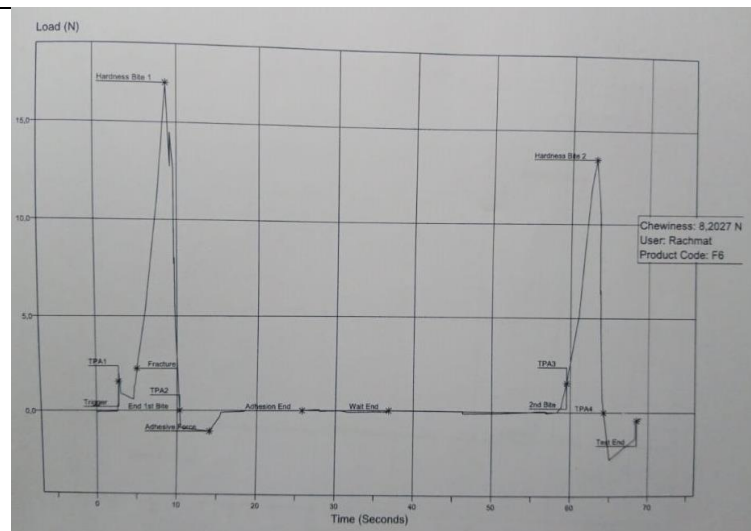
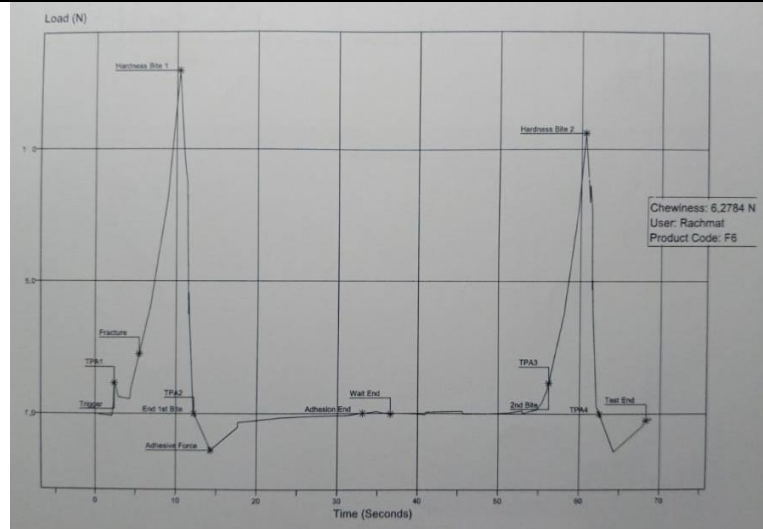
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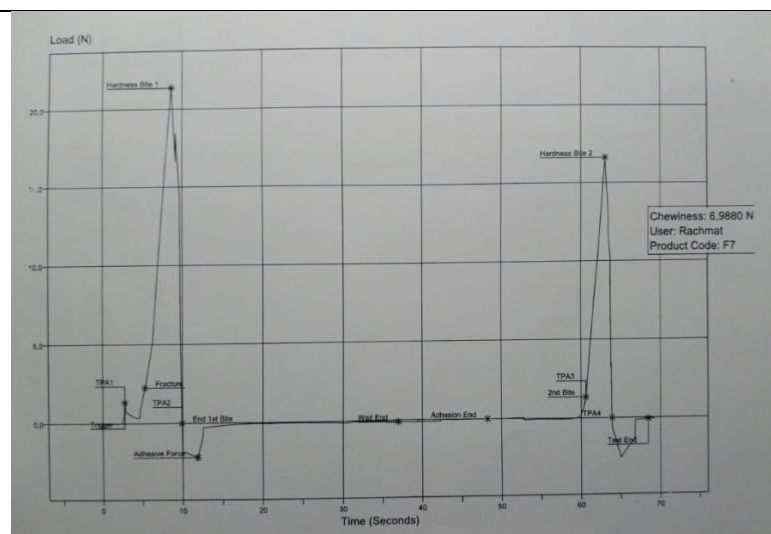
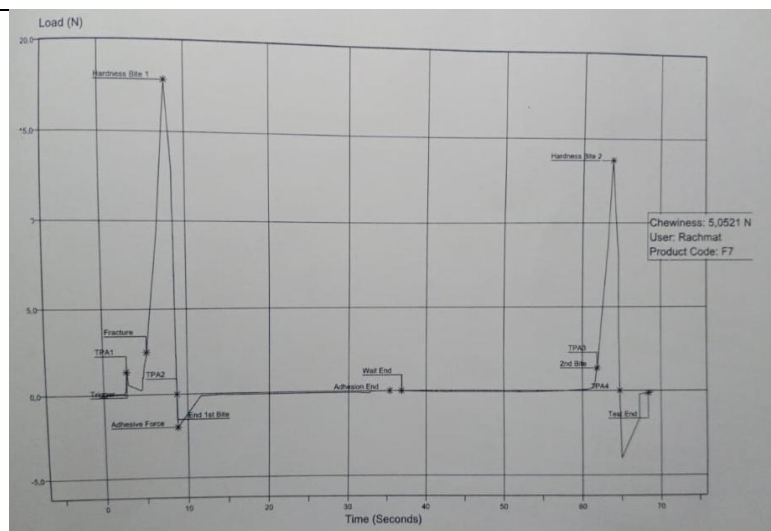
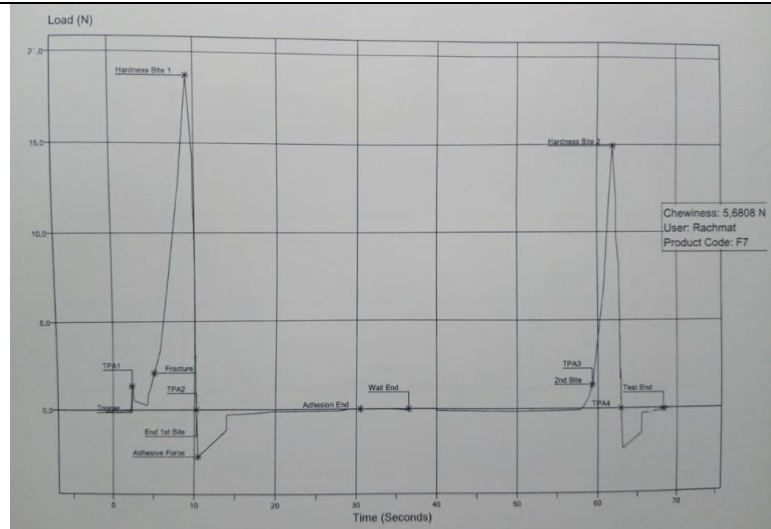
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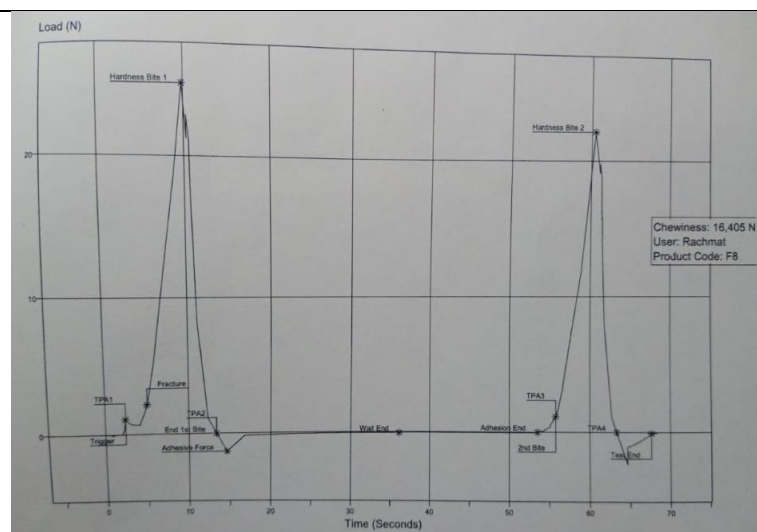
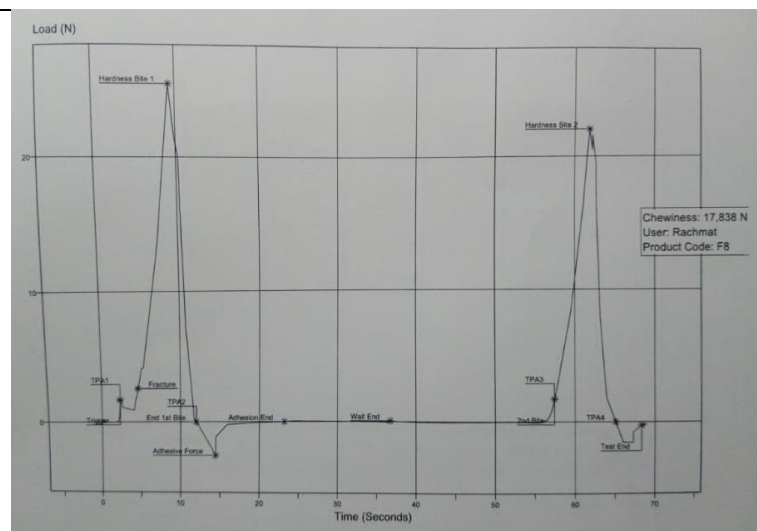
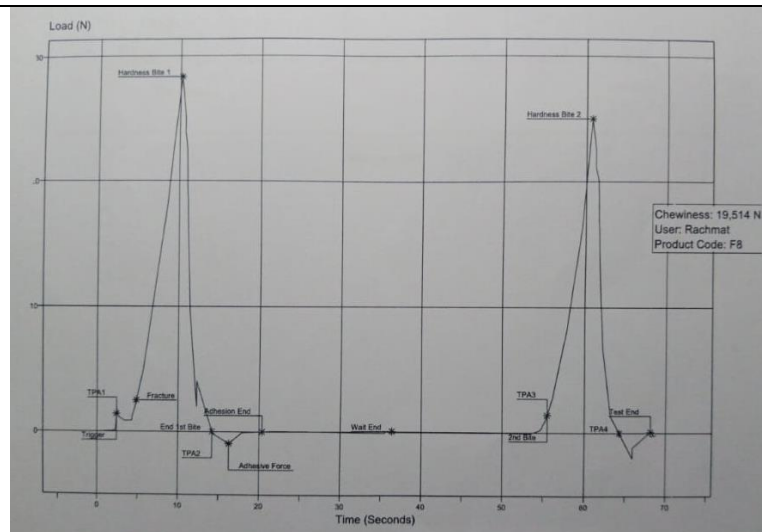


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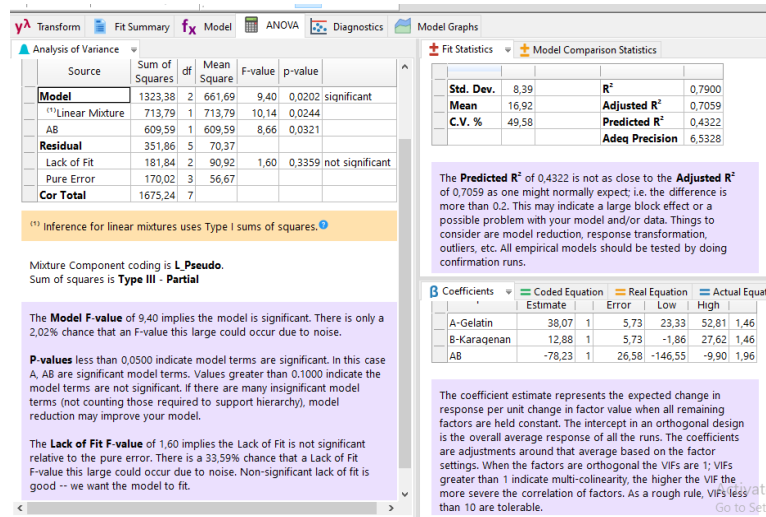
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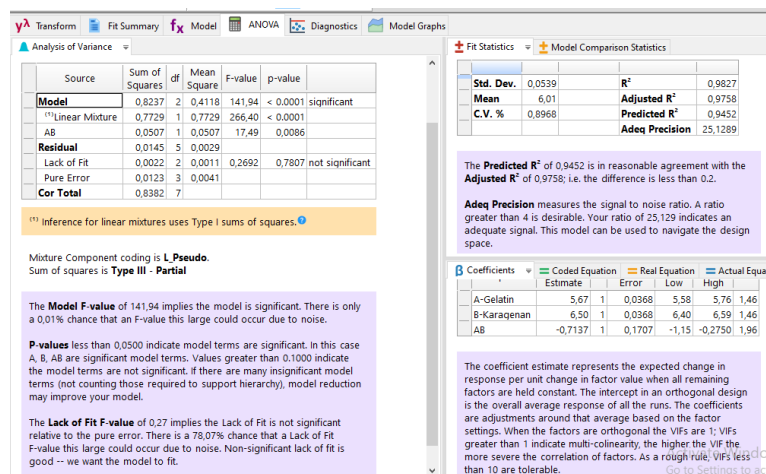


Lampiran 4. Hasil ANOVA *simplex lattice design*

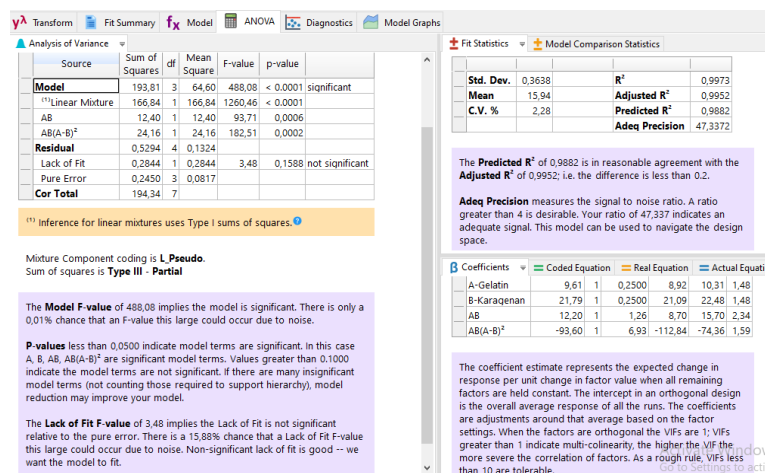
A. Kekenyalan



B. pH



C. Kadar air



Lampiran 5. Hasil kurva baku

A. Penimbangan baku parasetamol

Kertas timbang + parasetamol = 0,1732 g

$$\frac{\text{Kertas timbang + sisa}}{\text{Parasetamol}} = \frac{0,1733 \text{ g} -}{0,0999 \text{ g}}$$

Parasetamol = 99,9 mg/0,1 L = 999 ppm

B. Pengenceran baku parasetamol

$$V_1 \times C_1 = V_2 \times C_2$$

$$1 \text{ ml} \times 999 \text{ ppm} = 50 \text{ ml} \times C_2$$

$$C_2 = 19,98 \text{ ppm}$$

C. Pengenceran kurva kalibrasi

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 2 \text{ ppm}$$

$$V_2 = 1 \text{ ml}$$

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 4 \text{ ppm}$$

$$V_2 = 2 \text{ ml}$$

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 6 \text{ ppm}$$

$$V_2 = 3 \text{ ml}$$

$$V1 \times C1 = V2 \times C2$$

$$V1 \times 20 \text{ ppm} = 10 \text{ ml} \times 8 \text{ ppm}$$

$$V2 = 4 \text{ ml}$$

$$V1 \times C1 = V2 \times C2$$

$$V1 \times 20 \text{ ppm} = 10 \text{ ml} \times 10 \text{ ppm}$$

$$V2 = 5 \text{ ml}$$

$$V1 \times C1 = V2 \times C2$$

$$V1 \times 20 \text{ ppm} = 10 \text{ ml} \times 12 \text{ ppm}$$

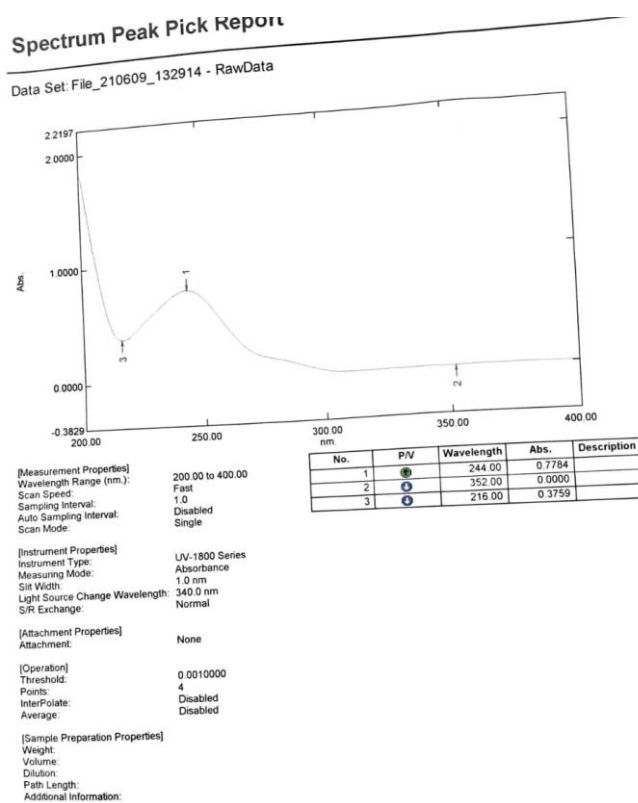
$$V2 = 6 \text{ ml}$$

$$V1 \times C1 = V2 \times C2$$

$$V1 \times 20 \text{ ppm} = 10 \text{ ml} \times 14 \text{ ppm}$$

$$V2 = 7 \text{ ml}$$

Lampiran 6. Hasil penentuan panjang gelombang maksimum



Lampiran 7. Hasil penetapan operating time

Kinetics Data Print Report

Time (Minute)	RawData
0.000	0.205
1.000	0.205
2.000	0.204
3.000	0.204
4.000	0.204
5.000	0.204
6.000	0.205
7.000	0.204
8.000	0.204
9.000	0.205
10.000	0.204
11.000	0.204
12.000	0.204
13.000	0.205
14.000	0.204
15.000	0.204
16.000	0.204
17.000	0.204
18.000	0.204
19.000	0.204
20.000	0.204
21.000	0.204
22.000	0.204
23.000	0.204
24.000	0.204
25.000	0.204
26.000	0.204
27.000	0.204
28.000	0.204
29.000	0.204
30.000	0.204
31.000	
32.000	
33.000	
34.000	
35.000	
36.000	
37.000	
38.000	
39.000	
40.000	
41.000	
42.000	
43.000	
44.000	
45.000	
46.000	
47.000	
48.000	
49.000	
50.000	

Lampiran 8. Hasil pengujian akurasi

A. Penimbangan baku parasetamol

Kertas timbang + parasetamol = 0,1732 g

$$\begin{array}{rcl} \text{Kertas timbang + sisa} & = & 0,1733 \text{ g} - \\ \hline \text{Parasetamol} & = & 0,0999 \text{ g} \end{array}$$

Parasetamol = 99,9 mg/0,1 L = 999 ppm

B. Pengenceran baku parasetamol

$$V_1 \times C_1 = V_2 \times C_2$$

$$1 \text{ ml} \times 1000 \text{ ppm} = 50 \text{ ml} \times C_2$$

$$C_2 = 19,98 \text{ ppm}$$

Konsentrasi 80%

$$80\% \times 8 \text{ ppm} = 6,4 \text{ ppm}$$

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 6,4 \text{ ppm}$$

$$V_1 = 3,2 \text{ ml}$$

$$100\% \times 8 \text{ ppm} = 8 \text{ ppm}$$

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 8 \text{ ppm}$$

$$V_1 = 4 \text{ ml}$$

$$120\% \times 8 \text{ ppm} = 9,6 \text{ ppm}$$

$$V_1 \times C_1 = V_2 \times C_2$$

$$V_1 \times 20 \text{ ppm} = 10 \text{ ml} \times 9,6 \text{ ppm}$$

$$V_1 = 4,8 \text{ ml}$$

Konsentrasi	Replikasi	ABS	Konsentrasi	Sebenarnya	%	Rata-rata	recovery
80%	1	0,419	5,95794241	6	99%	99%	98%
	2	0,42	5,97605953		100%		
	3	0,418	5,9398253		99%		
100%	1	0,521	7,80588806	8	98%	97%	
	2	0,519	7,76965383		97%		
	3	0,52	7,78777095		97%		
120%	1	0,629	9,7625364	10	98%	98%	
	2	0,629	9,7625364		98%		
	3	0,63	9,78065351		98%		

Lampiran 9. Hasil pengujian presisi

Presisi	Serapan	Kadar
Replikasi 1	0,512	7,64283
Replikasi 2	0,509	7,58848
Replikasi 3	0,509	7,58848
Replikasi 4	0,514	7,67907
Replikasi 5	0,511	7,62472
Replikasi 6	0,515	7,69719
	rata-rata	7,63679
	SD	0,04535
	Rsd	0,59%

$$\text{Rata-rata} = \frac{7,64283 + 7,58848 + 7,58848 + 7,67907 + 7,62472 + 7,69719}{6}$$

$$= 7,63679$$

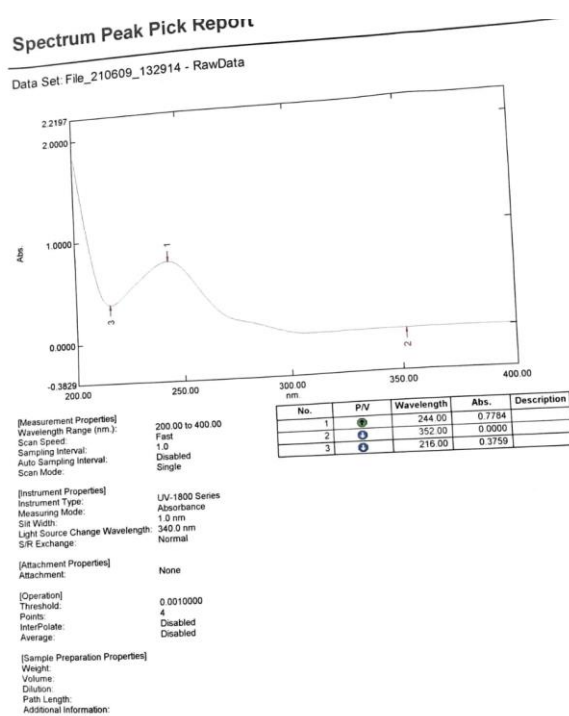
$$SD = \sqrt{\frac{\sum_{i=1}^n (X_i - \bar{X})^2}{n-1}}$$

$$= \sqrt{\frac{0,0000364816 + 0,002335861 + 0,0023358561 + 0,0017875984 + 0,0001456849 + 0,00364816}{6-1}}$$

$$= 0,04535$$

$$\begin{aligned} \text{RSD} &= \frac{SD}{\text{Rata-rata}} \\ &= \frac{0,04535}{7,63679} \end{aligned}$$

Lampiran 10. Hasil pengujian spesifitas



Lampiran 11. Hasil pengujian linearitas

Konsentrasi (PPM)	Absorbansi
2	0,206
4	0,32
6	0,416
8	0,52
10	0,631
12	0,753
14	0,876
A	0,09

B 0,055
R 0,999

Lampiran 12. Hasil pengujian LOD dan LOQ

Konsentrasi (PPM)	Absorbansi	y'	(y-y') ²
2	0,206	0,2	2,99E-05
4	0,32	0,31	8,23E-05
6	0,416	0,421	2,83E-05
8	0,52	0,531	0,0001
10	0,631	0,642	0,0001
12	0,753	0,752	2,50E-07
14	0,876	0,862	0,0001
Σ			5,73E-04
$\Sigma(Y-y_i)^2 / N-2$			0,0001
s _{y/x}			0,01
LOD			0,64
LOQ			1,939
V _{x0}			0,024