

LAMPIRAN 1

A. Hasil Analisa Morfologi Membran PVA/CsNe

NO	KONSENTRASI CsNe			
	0%	5%	10%	15%
1	74,130	92,427	67,127	43,737
2	83,015	107,624	78,848	52,160
3	91,161	108,438	78,848	68,459
4	92,540	114,985	83,560	78,239
5	93,237	114,985	84,130	78,511
6	94,913	116,720	87,717	80,548
7	100,671	116,911	880,190	82,472
8	101,242	118,241	92,780	82,472
9	102,225	118,839	92,780	82,985
10	104,350	120,301	96,266	86,233
11	105,103	120,301	96,321	86,987
12	108,218	120,486	98,287	88,019
13	108,426	124,104	98,665	88,561
14	111,803	126,102	100,809	88,561
15	114,115	126,808	101,217	89,360
16	115,467	128,557	102,105	90,578
17	120,000	132,661	103,089	90,812
18	120,805	133,668	106,137	91,279
19	120,805	134,701	107,579	94,032
20	122,383	134,967	108,023	94,385
21	124,543	135,328	109,343	97,799
22	127,339	135,328	109,343	97,799
23	127,339	137,781	110,647	98,016
24	128,235	140,351	111,508	98,397
25	130,000	140,606	111,508	98,397
26	130,969	141,776	113,912	98,665
27	132,832	141,776	115,866	98,903
28	133,333	142,483	116,084	98,903
29	133,333	142,571	116,632	99,092
30	133,333	143,964	117,359	99,155
31	134,227	145,967	117,359	99,309
32	134,897	145,967	117,359	99,736
33	135,895	146,730	117,540	99,736
34	136,927	147,034	117,766	99,907
35	137,275	147,508	118,171	99,907

36	137,436	148,103	118,171	100,405
37	138,293	148,395	119,379	100,690
38	140,089	149,033	119,379	100,760
39	140,633	149,033	119,868	100,809
40	140,633	150,710	120,222	102,053
41	140,939	150,710	120,971	102,861
42	141,099	150,710	120,971	102,861
43	141,421	151,209	121,278	103,089
44	141,509	151,228	121,542	103,089
45	141,577	152,073	121,542	103,732
46	141,735	152,246	122,542	104,306
47	142,370	152,404	123,707	104,319
48	142,370	153,718	123,879	104,523
49	142,370	153,763	124,050	105,131
50	142,370	153,863	125,244	105,333
51	142,459	153,863	126,195	105,786
52	142,517	154,740	127,515	105,968
53	142,548	155,020	127,515	106,137
54	143,178	156,114	127,983	107,530
55	143,178	156,596	128,635	107,579
56	143,257	156,596	128,635	107,603
57	143,265	157,317	128,635	107,835
58	144,222	157,397	129,687	107,835
59	144,879	158,820	129,879	107,924
60	145,000	160,401	130,480	108,023
61	145,086	160,401	130,480	108,066
62	145,344	160,401	131,575	108,509
63	145,344	160,957	131,575	108,514
64	146,818	161,104	133,021	108,575
65	146,818	161,104	133,021	109,294
66	147,271	161,259	133,021	109,343
67	147,650	161,511	133,021	109,343
68	147,803	161,649	133,021	110,351
69	148,259	161,649	134,412	110,577
70	148,563	161,649	134,412	110,577
71	148,660	161,649	134,412	110,839
72	150,071	161,649	134,412	111,031
73	150,083	161,649	135,867	111,031
74	150,819	161,649	135,867	111,031

75	151,327	161,649	136,219	111,508
76	152,023	161,960	136,919	111,508
77	152,315	161,960	136,919	111,508
78	152,397	162,614	136,919	112,173
79	153,089	163,196	137,268	112,469
80	153,089	163,196	137,692	112,894
81	153,337	163,845	138,309	113,032
82	153,478	163,888	138,999	113,866
83	153,478	164,389	138,999	113,866
84	153,478	165,067	140,027	113,866
85	153,478	165,451	140,027	113,912
86	153,911	165,489	140,027	114,053
87	154,029	165,717	140,027	115,002
88	154,632	165,717	140,027	115,002
89	154,632	166,012	140,444	115,002
90	154,944	166,012	141,290	115,350
91	156,205	166,020	142,398	115,534
92	156,283	166,624	1.428,710	115,534
93	156,914	166,714	142,994	115,534
94	156,914	166,850	142,994	115,866
95	157,574	166,926	143,045	116,084
96	157,967	167,084	143,439	116,233
97	158,113	167,485	143,587	116,511
98	158,464	167,485	143,587	117,359
99	158,464	168,051	144,030	117,359
100	158,464	168,051	144,399	117,359
101	159,527	168,051	145,389	117,359
102	160,000	168,283	145,389	117,540
103	160,000	168,499	145,389	117,540
104	160,312	168,499	146,699	117,540
105	160,521	168,901	146,699	117,563
106	160,701	169,078	146,699	117,577
107	161,073	169,078	146,780	117,577
108	161,213	169,613	147,024	117,766
109	161,245	170,131	147,024	117,766
110	161,245	170,393	147,024	118,081
111	161,400	170,393	147,511	118,081
112	161,631	170,393	147,551	118,171
113	162,206	170,393	147,997	118,960

114	162,482	170,426	147,997	118,978
115	163,248	170,721	147,997	118,978
116	163,295	170,721	148,821	118,978
117	163,435	170,786	148,963	119,868
118	163,783	171,088	149,284	120,167
119	163,880	171,088	149,986	120,222
120	164,654	171,178	150,100	120,222
121	165,075	171,601	150,100	120,304
122	166,030	171,829	150,311	120,304
123	166,030	172,130	150,525	120,773
124	166,411	172,259	150,525	120,971
125	166,666	172,478	150,525	120,971
126	166,666	172,739	150,525	120,971
127	166,799	173,194	150,639	121,015
128	166,883	173,511	151,489	122,909
129	167,199	173,768	151,825	123,018
130	167,199	173,768	151,825	123,126
131	167,784	173,896	152,070	123,376
132	167,784	174,281	152,628	123,417
133	167,784	174,281	152,767	123,707
134	168,186	174,921	152,767	123,720
135	169,387	174,921	152,767	123,879
136	169,779	175,071	153,080	123,879
137	169,786	175,510	153,080	123,879
138	169,967	175,603	153,080	124,563
139	170,844	175,869	153,080	124,957
140	171,172	176,296	153,461	125,244
141	171,436	176,446	154,634	125,244
142	172,026	177,191	154,634	125,244
143	172,046	177,191	154,634	125,340
144	172,046	177,220	154,634	126,374
145	172,549	177,998	155,469	126,374
146	172,981	179,474	156,479	126,374
147	173,333	179,583	156,784	126,594
148	173,461	179,831	156,784	126,594
149	173,461	179,955	157,469	127,139
150	173,845	179,955	157,697	127,357
151	174,483	179,955	157,697	127,357
152	174,496	180,451	157,697	127,357

153	174,625	180,451	157,697	128,593
154	174,928	180,521	157,697	128,593
155	174,992	180,575	157,697	128,915
156	174,999	180,729	157,697	129,088
157	175,011	180,729	157,697	129,417
158	175,372	180,946	157,697	129,417
159	175,641	180,946	157,999	129,681
160	175,641	180,946	158,755	129,879
161	175,653	181,562	159,206	129,909
162	176,005	181,700	159,206	130,205
163	176,005	182,183	159,206	130,263
164	176,131	182,421	159,206	130,480
165	176,131	182,543	159,281	130,480
166	176,509	182,940	160,163	131,049
167	176,549	183,519	160,403	131,211
168	177,552	184,036	161,031	131,299
169	177,962	184,309	161,031	131,407
170	178,389	184,369	161,295	131,575
171	179,662	184,853	161,295	132,019
172	180,123	184,853	161,887	132,019
173	180,123	185,179	162,320	132,019
174	180,277	185,697	162,320	132,391
175	180,493	185,697	163,941	132,841
176	180,709	185,697	163,941	132,981
177	181,207	185,817	164,316	132,981
178	181,207	186,072	164,428	133,021
179	181,207	186,477	164,556	133,021
180	181,207	186,544	164,943	133,778
181	181,352	187,135	165,072	133,778
182	181,796	187,135	165,971	134,016
183	181,835	187,135	166,227	134,040
184	181,964	187,149	166,259	134,061
185	181,964	187,254	166,259	134,226
186	182,322	187,686	166,259	134,254
187	182,322	187,886	166,546	134,412
188	182,569	187,886	166,546	134,970
189	182,569	188,206	166,546	135,671
190	183,185	188,281	166,546	135,705
191	183,185	188,354	166,546	135,867

192	183,424	188,420	166,546	135,954
193	183,424	188,420	167,119	135,954
194	184,288	188,676	167,119	136,035
195	184,390	188,680	167,119	136,141
196	184,654	188,837	167,119	136,141
197	184,999	189,034	167,119	136,219
198	184,999	189,034	167,262	136,768
199	185,081	189,034	167,405	136,919
200	185,539	189,153	167,405	137,074
201	185,539	189,977	167,921	137,168
202	185,627	190,095	168,260	137,703
203	185,711	190,476	168,260	138,155
204	185,950	190,542	168,828	138,309
205	187,416	191,069	169,519	138,309
206	187,734	191,149	169,519	138,999
207	187,734	191,320	169,695	138,999
208	187,918	191,529	169,842	139,533
209	187,949	191,856	170,008	140,027
210	188,397	192,778	170,799	140,027
211	188,561	192,778	170,799	140,226
212	188,561	192,836	170,799	140,746
213	188,797	192,894	170,799	141,133
214	189,113	193,616	170,799	141,290
215	189,619	193,616	171,014	141,467
216	189,826	193,681	171,079	141,467
217	189,826	193,818	171,149	142,398
218	189,945	193,933	171,776	142,398
219	189,999	194,582	172,255	142,398
220	190,065	194,652	172,601	142,398
221	190,904	194,764	172,886	142,652
222	191,340	194,852	173,024	142,871
223	191,340	194,852	173,024	143,045
224	191,539	195,196	173,301	143,351
225	192,302	195,196	174,127	143,587
226	192,353	195,489	174,458	144,088
227	192,353	195,523	174,949	144,088
228	192,937	195,523	174,949	144,325
229	193,236	195,653	175,157	144,325
230	193,333	195,653	175,555	144,766

231	193,586	195,653	175,555	145,142
232	193,709	195,657	175,555	145,638
233	194,136	196,514	176,039	145,638
234	194,136	196,564	176,039	145,638
235	194,164	196,564	176,039	145,638
236	194,707	196,678	176,039	145,790
237	194,743	197,089	176,310	146,114
238	195,438	197,146	176,310	146,518
239	195,668	197,146	176,310	146,699
240	196,072	197,657	176,310	146,699
241	196,072	197,725	176,310	146,699
242	196,185	197,923	176,310	146,699
243	196,786	198,150	176,521	146,844
244	196,864	198,327	176,613	147,003
245	197,800	198,374	177,675	147,024
246	198,298	198,711	177,960	147,997
247	198,298	198,992	178,300	148,523
248	198,885	199,384	179,032	148,722
249	199,777	199,559	179,169	148,963
250	199,825	199,748	179,387	148,963
251	199,825	199,748	179,479	149,026
252	199,999	200,201	179,536	149,026
253	199,999	200,501	179,802	149,044
254	200,219	200,501	179,802	149,604
255	200,561	200,613	179,802	149,604
256	200,561	200,613	180,333	149,604
257	201,341	200,613	180,333	149,861
258	201,769	200,752	180,333	150,100
259	201,788	201,206	180,333	150,100
260	201,900	201,501	180,333	150,100
261	202,345	202,062	180,333	150,100
262	202,758	202,276	180,333	150,100
263	202,901	202,744	180,733	150,525
264	203,524	202,744	181,156	150,525
265	203,842	202,744	181,917	150,639
266	204,069	202,764	181,917	151,229
267	204,083	202,937	181,917	151,650
268	204,449	202,992	182,704	151,904
269	204,958	202,992	182,704	152,070

270	204,999	202,992	182,704	152,210
271	205,328	202,992	183,553	152,297
272	205,912	202,992	183,719	152,628
273	206,666	202,992	184,527	152,628
274	206,774	203,116	184,527	152,767
275	207,185	203,153	184,527	152,767
276	207,632	203,267	184,527	152,767
277	207,632	203,267	184,785	153,876
278	208,053	203,267	184,896	154,291
279	208,377	204,035	185,332	154,291
280	208,485	204,035	185,561	154,609
281	209,999	207,036	185,561	154,634
282	210,059	207,036	185,561	154,977
283	210,059	207,185	185,983	155,419
284	210,206	207,218	186,845	155,525
285	210,501	207,292	186,845	155,580
286	210,634	207,508	188,107	155,612
287	210,634	207,615	188,121	155,636
288	210,818	207,938	188,121	156,060
289	210,818	208,153	188,121	156,379
290	211,009	208,902	189,063	156,479
291	211,914	209,862	189,239	156,479
292	212,365	210,407	189,892	156,555
293	212,602	210,526	190,088	156,615
294	214,029	210,586	190,088	156,750
295	214,764	210,765	190,206	156,750
296	214,869	210,765	192,145	156,857
297	214,993	211,127	192,145	156,857
298	215,057	211,347	192,145	157,021
299	217,664	211,347	192,532	157,562
300	218,365	211,479	192,532	157,831
301	218,682	212,296	192,890	157,967
302	218,682	212,401	193,083	158,377
303	219,124	212,664	193,083	158,637
304	219,432	212,664	193,477	159,382
305	219,753	213,136	193,633	159,490
306	219,999	213,554	193,855	159,656
307	220,149	213,868	194,165	160,046
308	221,475	213,868	194,370	160,179

309	222,389	213,954	195,381	160,370
310	222,389	215,221	195,598	160,535
311	222,389	215,532	195,598	161,405
312	222,810	215,532	195,843	162,550
313	223,438	215,740	195,843	162,770
314	223,525	216,469	196,141	162,999
315	223,525	217,368	196,794	163,129
316	224,003	217,698	196,835	163,389
317	224,003	217,850	197,787	163,519
318	225,606	218,331	197,961	163,941
319	226,229	218,925	198,017	164,316
320	226,764	218,951	198,017	166,041
321	227,890	220,350	198,028	166,115
322	228,581	220,551	198,028	166,227
323	228,581	220,551	198,296	166,227
324	229,019	220,956	198,465	166,227
325	229,878	221,063	198,725	166,546
326	230,934	221,360	199,472	167,627
327	231,129	221,461	199,814	167,627
328	231,421	221,914	199,814	168,260
329	232,187	223,401	200,064	168,828
330	233,333	224,167	200,852	169,519
331	235,052	225,620	200,935	169,534
332	236,325	226,065	201,354	169,548
333	238,169	226,176	201,618	170,136
334	239,350	227,132	201,618	170,643
335	241,714	227,235	202,224	170,799
336	241,982	227,235	202,893	171,141
337	242,028	227,339	203,690	171,141
338	242,447	229,534	203,794	171,513
339	243,281	230,455	203,801	171,887
340	243,957	230,631	204,731	172,132
341	244,298	230,631	205,378	172,858
342	247,386	230,746	205,611	175,434
343	247,617	230,794	205,611	176,159
344	248,103	230,843	205,611	176,310
345	249,768	233,015	205,611	177,036
346	249,908	233,440	205,964	178,079
347	252,637	233,661	206,308	178,467

348	252,731	234,014	206,308	178,719
349	255,561	234,037	206,308	178,859
350	256,441	234,300	206,829	179,069
351	256,441	235,061	207,233	180,110
352	259,315	235,441	208,039	180,110
353	259,315	235,642	208,243	180,399
354	259,999	236,198	209,299	180,525
355	261,007	237,330	209,984	180,929
356	265,497	237,330	211,119	180,995
357	267,254	237,330	213,870	181,156
358	270,127	237,988	214,490	181,273
359	276,844	239,878	214,490	181,859
360	279,077	240,654	214,490	182,559
361	279,508	240,810	215,380	182,675
362	280,034	240,973	215,380	183,603
363	282,197	241,435	216,046	184,896
364	282,282	241,435	216,488	184,896
365	284,917	242,082	216,488	185,332
366	286,955	243,147	217,150	186,758
367	288,443	243,611	217,150	187,229
368	289,443	243,920	218,686	187,866
369	295,310	245,108	223,207	188,121
370	296,518	245,665	223,445	189,892
371	301,639	245,745	224,820	190,088
372	302,654	246,214	225,151	190,742
373	305,644	248,726	226,682	194,864
374	306,178	250,872	226,844	194,883
375	306,219	251,427	227,475	196,817
376	306,550	252,425	228,315	197,114
377	306,674	252,425	228,315	198,465
378	308,691	253,559	228,942	198,725
379	309,272	253,616	230,004	199,738
380	313,408	253,918	230,192	202,224
381	316,290	253,968	231,146	203,389
382	317,214	253,968	238,157	205,964
383	317,870	254,495	240,554	207,105
384	317,870	255,105	241,590	210,041
385	324,375	255,590	242,634	211,935
386	324,653	256,081	244,498	215,947

387	327,828	260,901	244,694	216,046
388	328,857	261,422	245,139	220,645
389	335,098	261,422	245,431	224,347
390	339,572	261,422	254,466	228,105
391	340,234	263,597	258,197	230,192
392	349,249	266,079	278,170	231,280
393	360,795	270,564	278,170	231,848
394	366,370	272,941	280,054	254,278
395	381,605	275,279	282,266	257,930
396	428,630	276,099	294,861	264,239
397	459,128	295,016	314,938	271,734
398	466,743	307,234	320,358	275,878
399	498,271	309,366	321,698	288,673
400	548,862	399,719	337,230	298,135
Rata-rata	196,74	197,09	174,68	141,45
ST DEV	61,111988	109,55314	82,227699	35,472835

Tabel Hasil Analisa Diameter Membran *Nanofiber CsNe*

No	Konsentrasi CsNe	Diameter	Standar Deviasi
1	0%	196,74	61,11
2	5%	197,09	109,55
3	10%	174,68	82,23
4	15%	141,45	35,47

B. Hasil Uji Viskositas

Tabel Hasil Uji Viskositas

No.	Konsentrasi	Viskositas
1	0%	577,9
2	5%	369,9
3	10%	313,9
4	15%	218,5

C. Hasil Uji Daya Hantar Listrik

Tabel Hasil Uji Daya Hantar Listrik

NO	Sample	Konduktivitas $\mu\text{s/cm}$
1	0%	539,67
2	5%	590,00
3	10%	613,33
4	15%	651,67

D. Hasil Uji Tarik

Tabel Nilai Kuat Tarik Membran *Nanofiber* PVA/CsNe

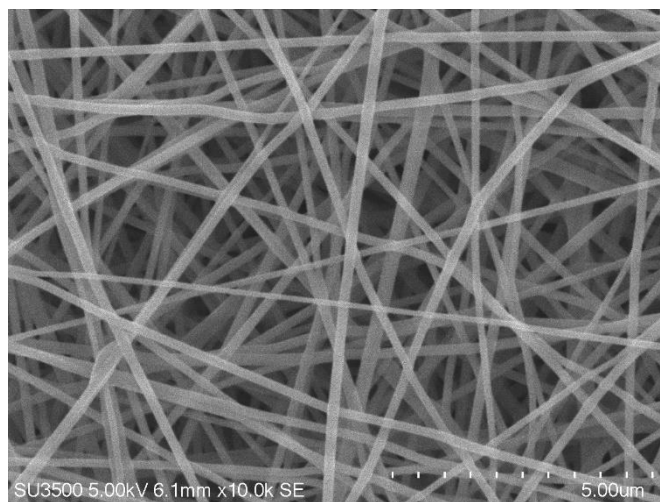
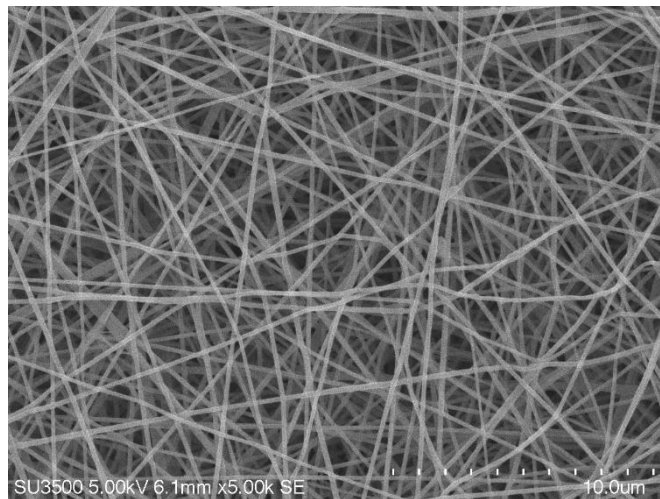
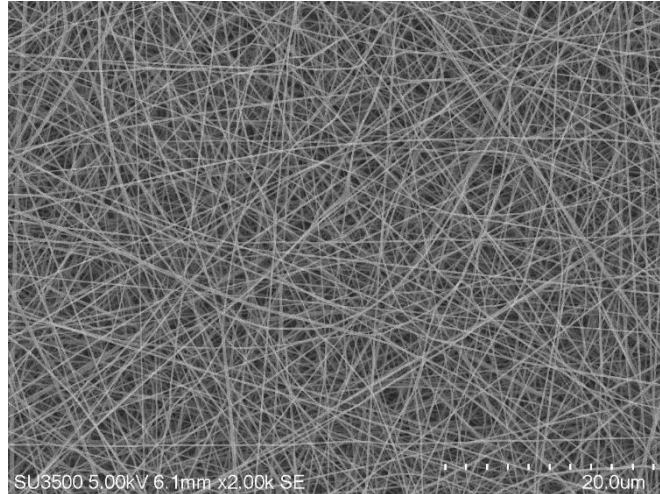
Spesimen	Nilai Kuat Tarik Membran <i>Nanofiber</i> (MPa)			
	PVA/CsNe 0%	PVA/CsNe 5%	PVA/CsNe 10%	PVA/CsNe 15%
1	10,057	15,6034	8,0214	9,4472
2	10,580	12,0979	8,8075	7,4499
3	8,088	13,9051	8,7308	7,2381
4	8,421	11,0414	8,0777	7,8314
5	14,527	15,7531	8,9866	9,3761
Rata-rata	10,3347	13,6802	8,5248	8,2685
Standar Deviasi	2,5701	2,0924	0,4441	1,0652

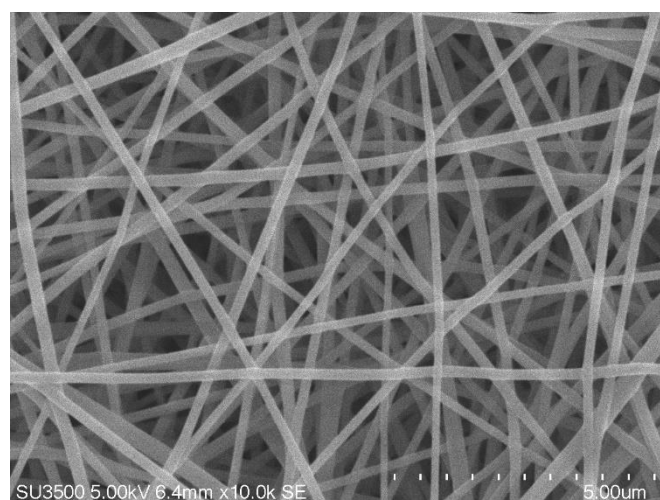
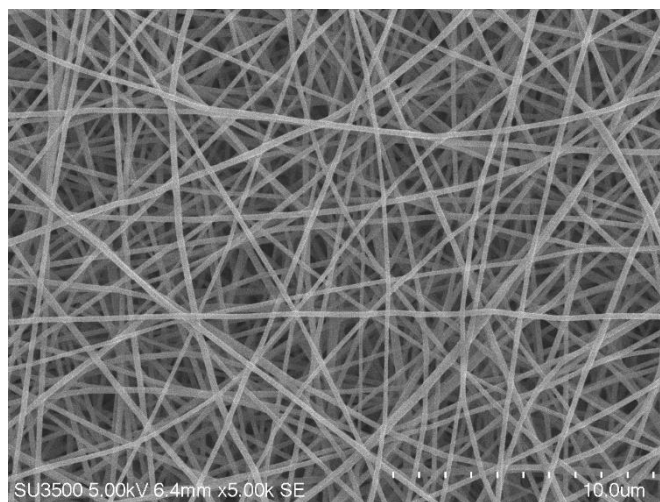
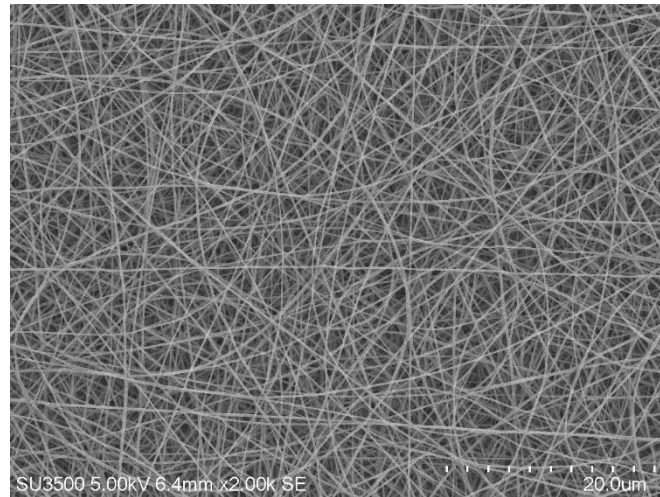
Tabel Nilai Regangan Membran *Nanofiber* PVA/CsNe

Spesimen	Nilai Regangan Membran <i>Nanofiber</i> (MPa)			
	PVA/CsNe 0%	PVA/CsNe 5%	PVA/CsNe 10%	PVA/CsNe 15%
1	75,2005	122,2177	63,0001	59,9778
2	93,117	65,0063	91,6409	45,659
3	77,6473	142,853	67,6491	50,6321
4	99,1934	98,2203	89,0604	57,771
5	128,583	88,6311	61,3088	63,0397
Rata-rata	94,7482	103,3857	74,5319	55,4159
Standar Deviasi	21,4579	30,1234	14,6544	7,1162

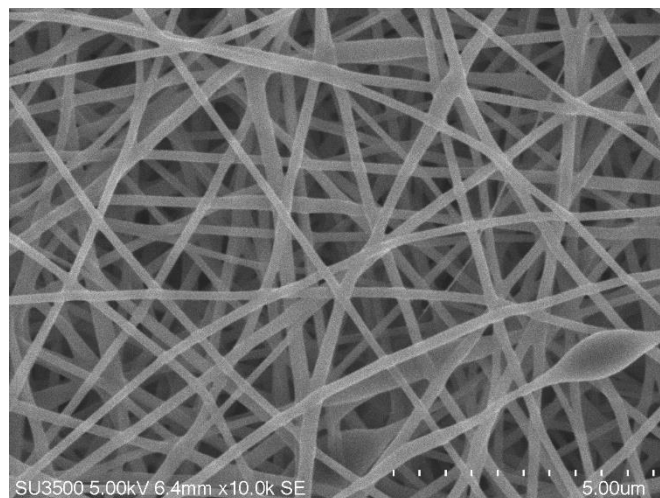
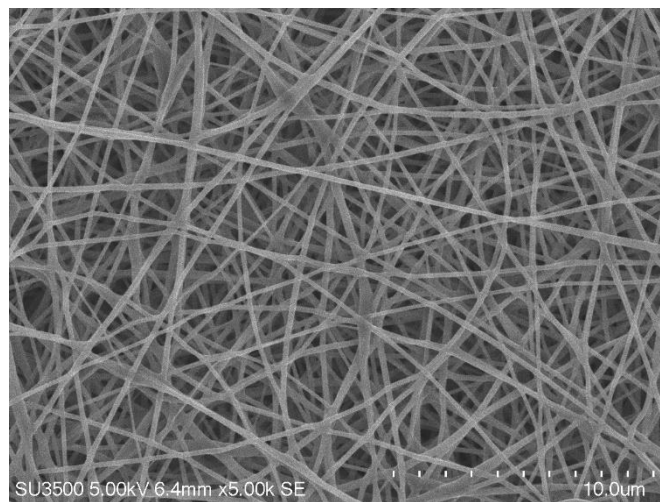
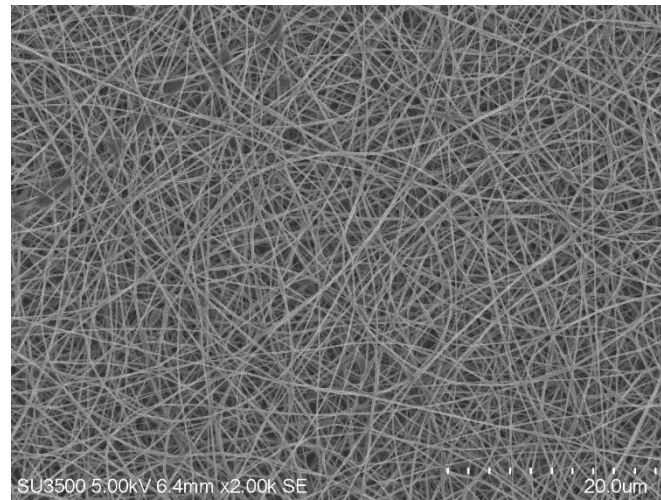
Tabel Nilai Modulus Elastisitas Membran *Nanofiber* PVA/CsNe

Spesimen	Nilai Modulus Elastisitas Membran <i>Nanofiber</i> (MPa)			
	PVA/CsNe 0%	PVA/CsNe 5%	PVA/CsNe 10%	PVA/CsNe 15%
1	37,175	42,494	49,216	80,576
2	37,326	53,646	46,946	38,835
3	27,644	49,505	55,055	60,596
4	37,117	41,339	52,853	63,478
5	44,186	64,171	59,063	55,031
Rata-rata	36,690	50,231	52,627	59,703
Standar Deviasi	5,891	9,293	4,777	15,067

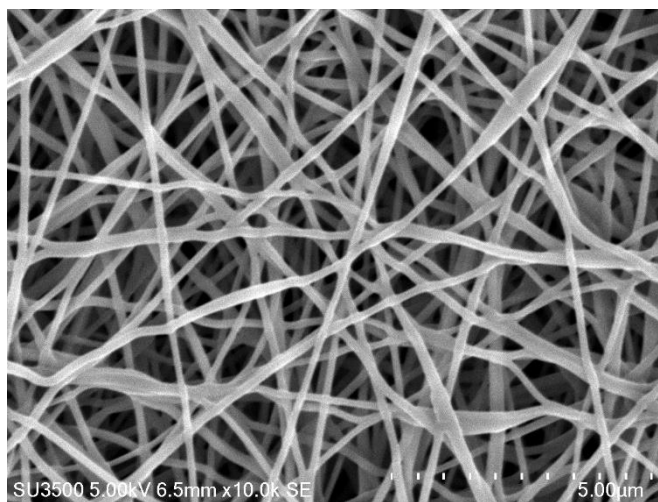
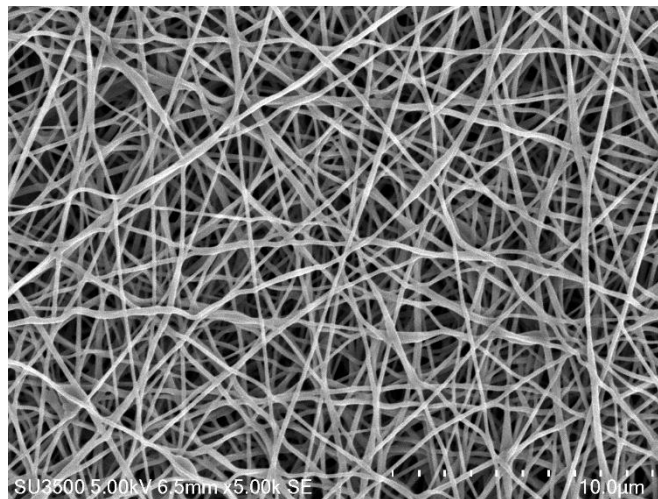
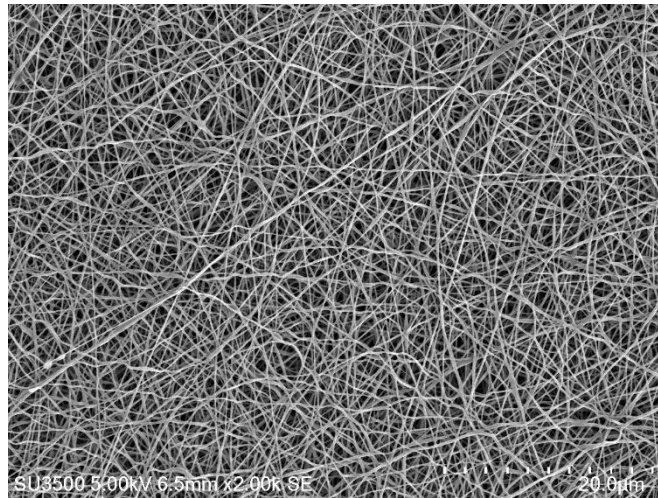
LAMPIRAN 2**HASIL *SCANNING ELECTRON MICROSCOPE* (SEM)****A. Mikrografi Membran Nanofiber PVA/CsNe 0%**

B. Mikrografi Membran Nanofiber PVA/CsNe 5%

C. Mikrografi Membran Nanofiber PVA/CsNe 10%



D. Mikrografi Membran Nanofiber PVA/CsNe 15%



LAMPIRAN 3



Laboratorium Uji
TEKNOLOGI PANGAN DAN HASIL PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
Universitas Gadjah Mada
 Jl. Sosio Yustisia 1, Bulaksumur, Yogyakarta 55281
 Telp.0274-549650, 524517, 901311; Fax. 0274-549650

HASIL ANALISA

NO: 652 / PS / 05 / 18

Lab. Penguji : Rekayasa Proses Pengolahan
 Tanggal Pengujian : 18 Mei 2018
 Sampel : Kitosan/Goserol
 Jenis Analisa : Viskositas
 Alat : Viskometer
 Merk : Brookfield

No	Sampel	UI 1(cP)	UI 2(cP)
1	0% Chitosan/goserol	577,9	577,9
2	5% Chitosan/goserol	369,9	369,9
3	10% Chitosan/goserol	313,9	313,9

Dilaporkan oleh


Penyelia

u.6



 Aulfa Ardhi, STP, M.Sc

Analisis


 Rachmat Teguh S



Laboratorium Uji
TEKNOLOGI PANGAN DAN HASIL PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
Universitas Gadjah Mada

Jl. Sosio Yustisia 1, Bulaksumur, Yogyakarta 55281
 Telp.0274-549650, 524517, 901311; Fax. 0274-549650

HASIL ANALISA

NO: 1181/ PS / 08 / 18

Lab. Penguji : Rekayasa Proses Pengolahan
 Tanggal Pengujian : 5 Oktober 2018
 Sampel : Gohsenol/Kitosan 15%
 Jenis Analisa : Viskositas
 Alat : Viskometer
 Merk : Brookfield

No	Sampel	UI 1(cP)	UI 2(cP)
1	Gohsenol/Kitosan 15%	218,5	218,5

Penyelia

Aulia Ardhi,STP,M.Sc

Dilaporkan oleh

Analisis

Rachmat Teguh S

LAMPIRAN 4



UNIVERSITAS GADJAH MADA
LABORATORIUM PENELITIAN DAN PENGUJIAN TERPADU

RDP/5.10.01/LPPT
Rev. 1
Halaman 1 dari 1

LAPORAN HASIL UJI

No. Sertifikat : 01021.01/VI/UN1/LPPT/2018
No. Pengujian : 18050101021

Informasi Customer

Nama : Eka Wahyu Firmansyah
Alamat : S1 Teknik Mesin UMY

Tanggal Penerimaan : 18 Mei 2018
Tanggal Pengujian : 18 Mei 2018

Hasil Pengujian

1. Larutan Kitosan/Ghosenol (0 % Kitosan/Ghosenol)

No	Parameter Uji	Hasil	Satuan	Metode
1.	DHL	539,67	μs/cm	Konduktometri
2.	Suhu	28,60	°C	Konduktometri

2. larutan kitosan/ghosenol (5 % kitosan/ghosenol)

No	Parameter Uji	Hasil	Satuan	Metode
1.	DHL	590,00	μs/cm	Konduktometri
2.	Suhu	28,00	°C	Konduktometri

3. larutan kitosan/ghosenol (10 % kitosan/ghosenol)

No	Parameter Uji	Hasil	Satuan	Metode
1.	DHL	613,33	μs/cm	Konduktometri
2.	Suhu	28,70	°C	Konduktometri

Yogyakarta, 06 Juni 2018
Pejabat Penandatanganan Sertifikat,

Anom Irawan, ST.

Perhatian :

- LHU ini berlaku hanya pada sampel yang diujikan.
- LHU ini dibuat semata-mata untuk penggunaan pelanggan yang disebutkan dalam LHU ini.
- LPPT tidak bertanggung jawab atas setiap kerugian, kerusakan atau tanggung jawab hukum yang diderita oleh pihak ketiga sebagai akibat dari kepercayaan terhadap atau penggunaan laporan ini.
- Tidak diperkenankan menggandakan LHU ini tanpa izin dari LPPT UGM



UNIVERSITAS GADJAH MADA
LABORATORIUM PENELITIAN DAN PENGUJIAN TERPADU

RDP/5.10.01/LPPT
 Rev. 1
 Halaman 1 dari 1

LAPORAN HASIL UJI

No. Sertifikat : 02123.01/X/UN1/LPPT/2018

No. Pengujian : 18100102123

Informasi Customer

Nama : Eka Wahyu Firmansyah
 Alamat : S1 Teknik Mesin UMY

Tanggal Penerimaan : 05 Oktober 2018
 Tanggal Pengujian : 05 Oktober 2018

Hasil Pengujian

GOH Senol / NeCs 15 %

No	Parameter Uji	Hasil	Satuan	Metode
1.	DHL	651,67	μs/cm	Konduktometri
2.	Suhu	26,30	°C	Konduktometri

Kepala LPPT,

Yusril Yusuf, S.Si., M.Si., M.Eng., D.Eng.
 NIP.197109201998031002

Yogyakarta, 22 Oktober 2018
 Pejabat Penandatanganan Sertifikat,

Anom Irawan, ST.
 NIP.197310221995121001

Perhatian :

1. LHU ini berlaku hanya pada sampel yang diujikan.
2. LHU ini dibuat semata-mata untuk penggunaan pelanggan yang disebutkan dalam LHU ini.
3. LPPT tidak bertanggung jawab atas setiap kerugian, kerusakan atau tanggung jawab hukum yang diderita oleh pihak ketiga sebagai akibat dari kepercayaan terhadap atau penggunaan laporan ini.
4. Tidak diperkenankan menggandakan LHU ini tanpa izin dari LPPT UGM

LAMPIRAN 5

21.08.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

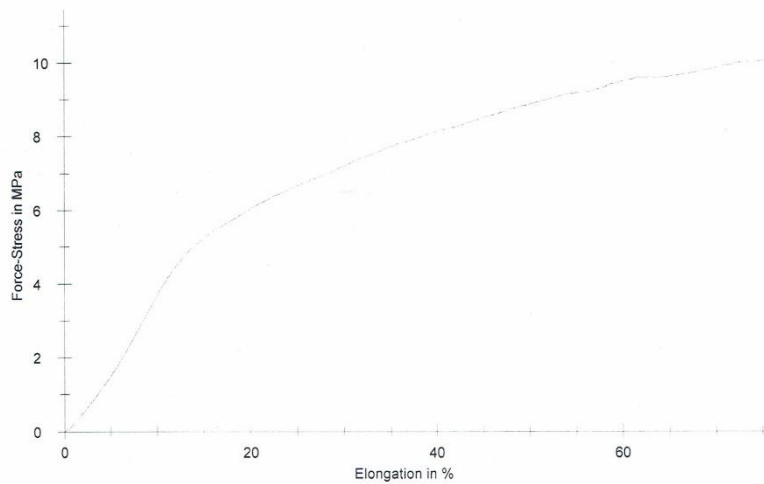
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 1 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
1	0,08118	10	20	8,1645	10,0572	75,2005

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,08118	10	20	8,1645	10,0572	75,2005
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

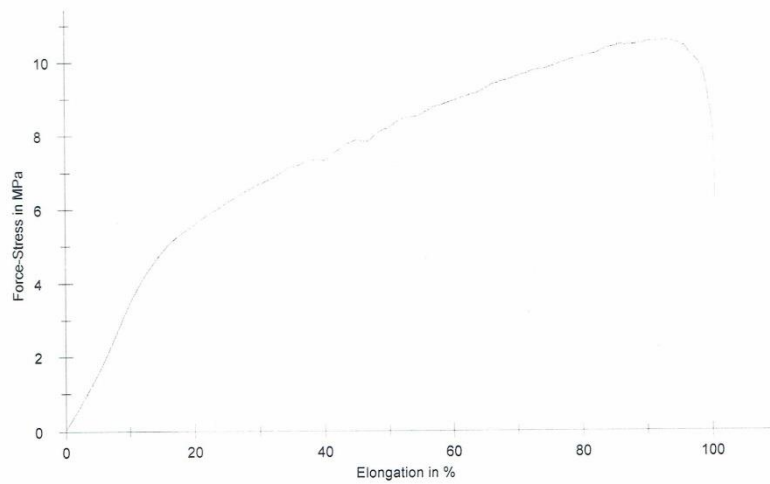
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 1 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
2	0,06642	10	20	7,0272	10,5799	93,1170

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,06642	10	20	7,0272	10,5799	93,1170
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

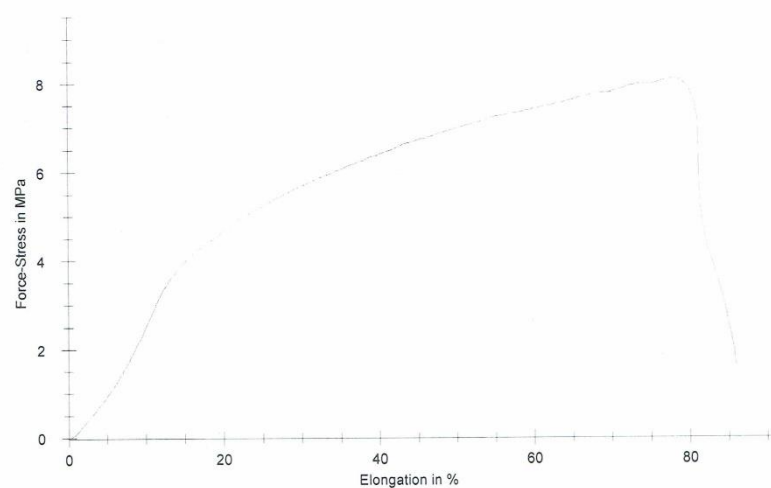
Parameter table:

Company name: Test standard : Tensile strength
Customer : Eka Wahyu Material : G/K 0%
Tester : Rachmat
Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
5	0,06642	10	20	5,3719	8,0878	77,6473

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,06642	10	20	5,3719	8,0878	77,6473
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

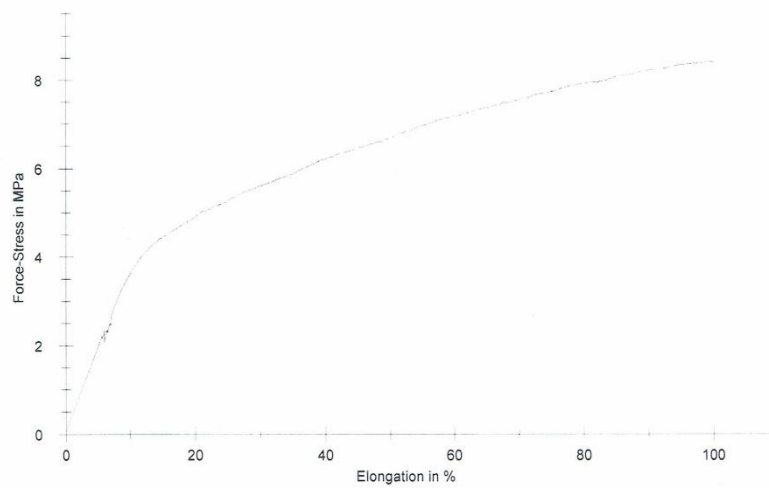
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 0%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
6	0,05904	10	20	4,9720	8,4214	99,1934

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,05904	10	20	4,9720	8,4214	99,1934
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

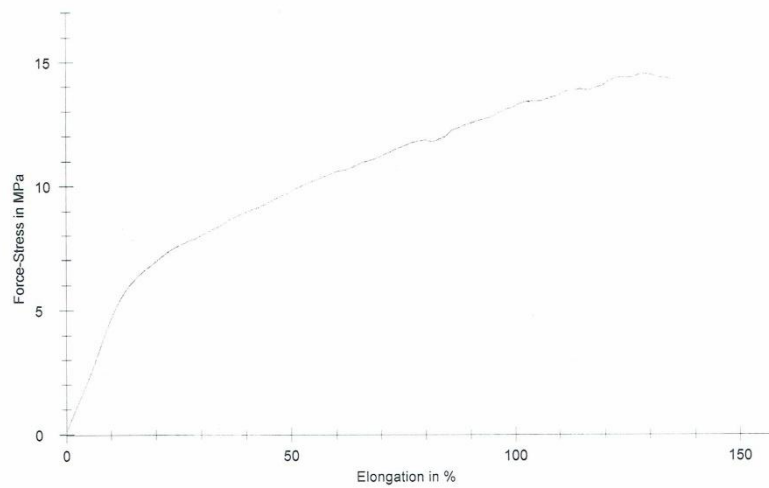
Parameter table:

Company name: Test standard : Tensile strength
Customer : Eka Wahyu Material : G/K 0%
Tester : Rachmat
Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
3	0,06642	10	20	9,6488	14,5270	128,5830

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,06642	10	20	9,6488	14,5270	128,5830
s	-	-	-	-	-	-
v	-	-	-	-	-	-

644/PS/05/18

07.09.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

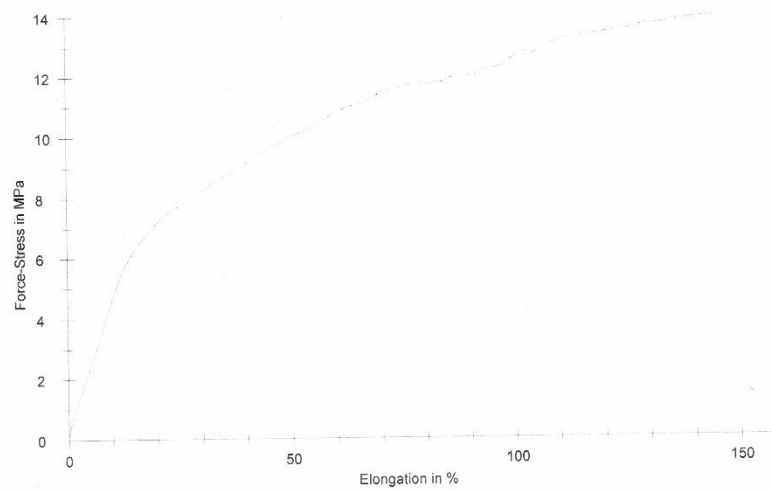
Parameter table:

Company name: 644/PS/05/18 Test standard : Tensile strength
 Customer : Firman Material : G/K 5%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
6	0,09963	10	20	13,8537	13,9051	142,8530

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,09963	10	20	13,8537	13,9051	142,8530
s	-	-	-	-	-	-
v	-	-	-	-	-	-

644/PS/05/18

07.09.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

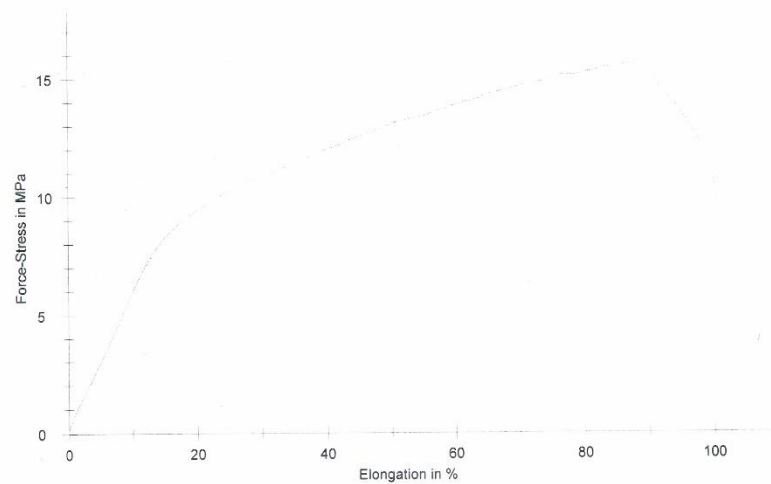
Parameter table:

Company name: 644/PS/05/18 Test standard : Tensile strength
 Customer : Firman Material : G/K 5%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
2	0,07195	10	20	11,3344	15,7531	88,6311
3	0,07195	10	20	-	-	-

Series graphics:



Statistics:

Series	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
n = 1						
\bar{x}	0,07195	10	20	11,3344	15,7531	88,6311
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

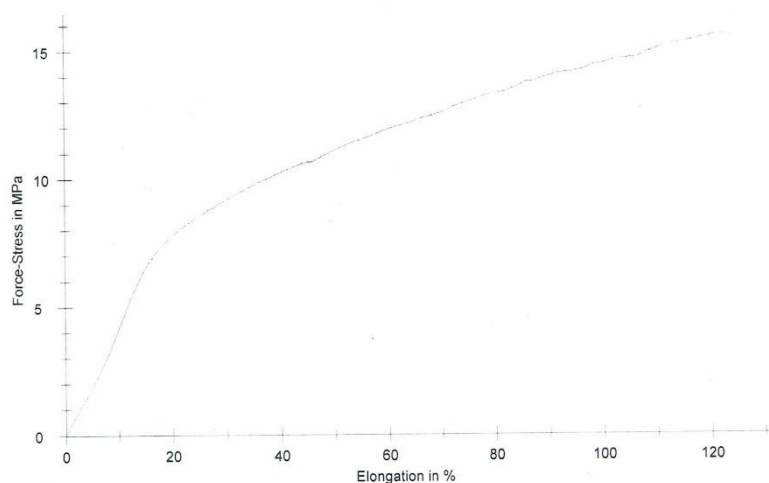
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 5%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
1	0,08118	10	20	12,6668	15,6034	122,2177

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,08118	10	20	12,6668	15,6034	122,2177
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

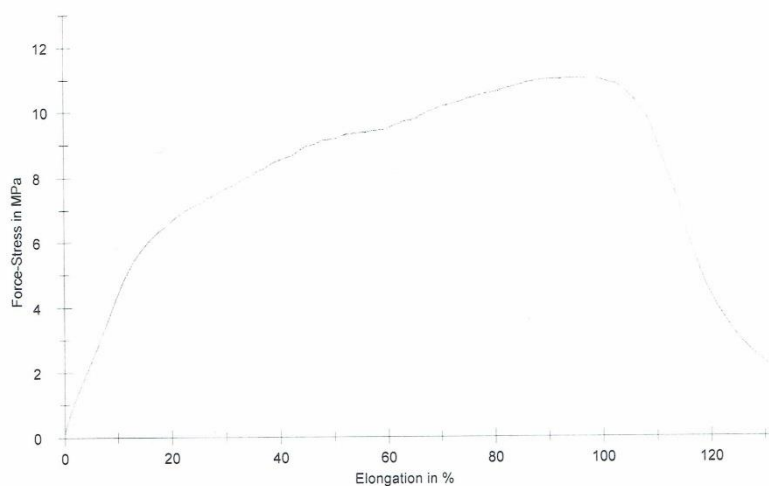
Parameter table:

Company name:		Test standard	: Tensile strength
Customer	: Eka Wahyu	Material	: G/K 5%
Tester	: Rachmat		
Test speed	: 10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
2	0,05166	10	20	5,7040	11,0414	98,2203

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x	0,05166	10	20	5,7040	11,0414	98,2203
s	-	-	-	-	-	-
v	-	-	-	-	-	-

644/PS/05/18

07.09.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

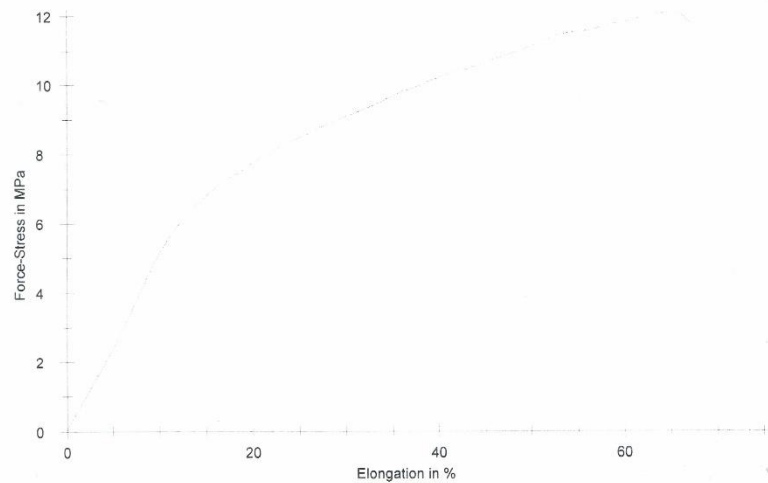
Parameter table:

Company name: 644/PS/05/18 Test standard : Tensile strength
 Customer : Firman Material : G/K 5%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
1	0,07933	10	20	9,5973	12,0979	65,0063

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,07933	10	20	9,5973	12,0979	65,0063
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

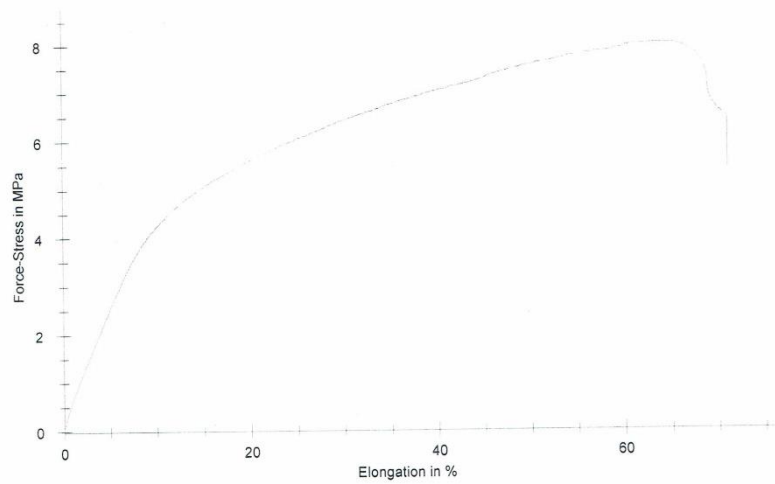
Parameter table:

Company name:		Test standard :	Tensile strength
Customer :	Eka Wahyu	Material :	G/K 10%
Tester :	Rachmat		
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
3	0,04428	10	20	3,5519	8,0214	63,0001

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,04428	10	20	3,5519	8,0214	63,0001
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

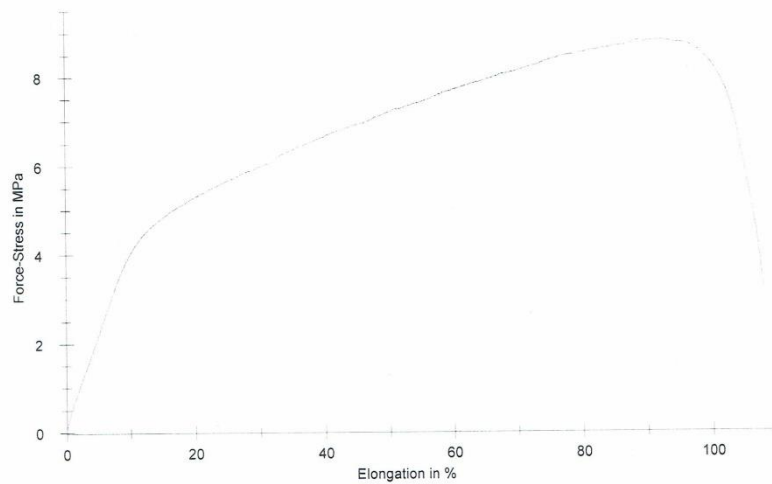
Parameter table:

Company name:		Test standard :	Tensile strength
Customer :	Eka Wahyu	Material :	G/K 10%
Tester :	Rachmat		
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
5	0,05166	10	20	4,5500	8,8075	91,6409

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,05166	10	20	4,5500	8,8075	91,6409
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

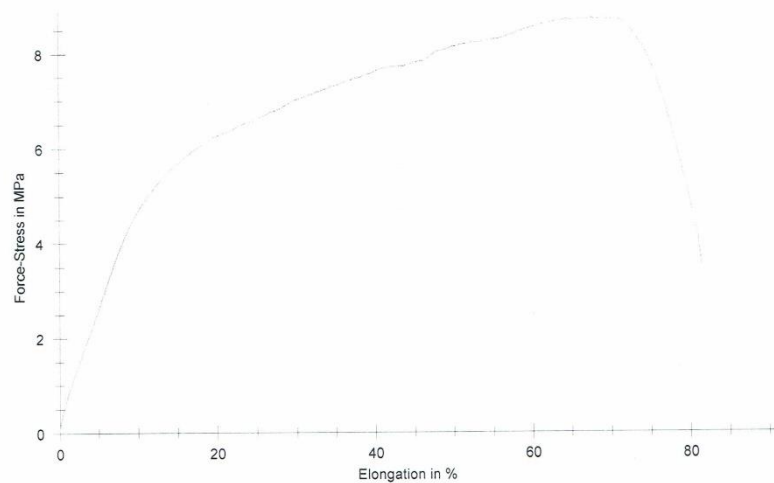
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
6	0,05166	10	20	4,5103	8,7308	67,6491

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
x̄	0,05166	10	20	4,5103	8,7308	67,6491
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

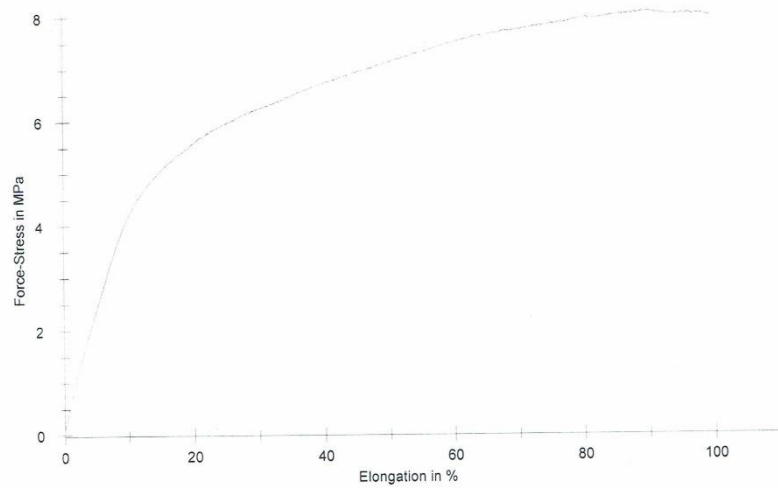
Parameter table:

Company name:		Test standard :	Tensile strength
Customer :	Eka Wahyu	Material :	G/K 10%
Tester :	Rachmat		
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
7	0,05166	10	20	4,1729	8,0777	89,0604

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,05166	10	20	4,1729	8,0777	89,0604
s	-	-	-	-	-	-
v	-	-	-	-	-	-

21.08.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

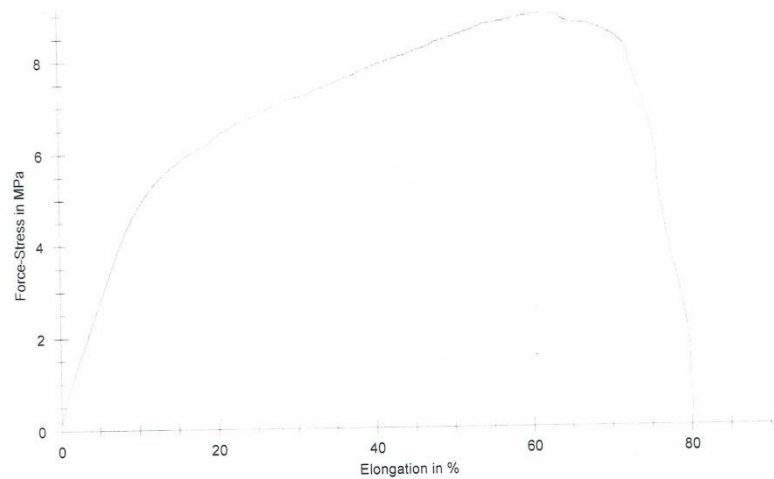
Parameter table:

Company name: Test standard : Tensile strength
 Customer : Eka Wahyu Material : G/K 10%
 Tester : Rachmat
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
4	0,05166	10	20	4,6425	8,9866	61,3088

Series graphics:



Statistics:

Series	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
n = 1						
\bar{x}	0,05166	10	20	4,6425	8,9866	61,3088
s	-	-	-	-	-	-
v	-	-	-	-	-	-

10.10.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

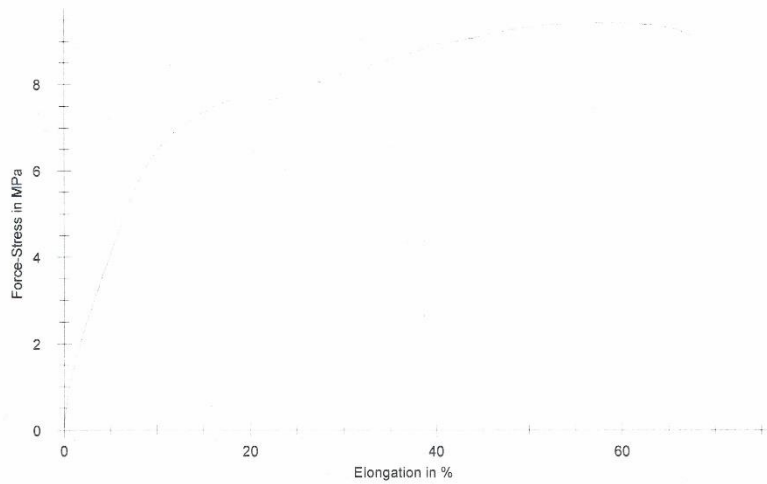
Parameter table:

Heading	: Fakultas Teknologi Pertanian Universitas Gadjah Mada	Tester	: Rachmat
Company name:		Test standard	: Tensile strength
Customer	: Firman	Material	: G/K 15%
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
8	0,04058	10	20	3,8337	9,4472	59,9778

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,04058	10	20	3,8337	9,4472	59,9778
s	-	-	-	-	-	-
v	-	-	-	-	-	-

10.10.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

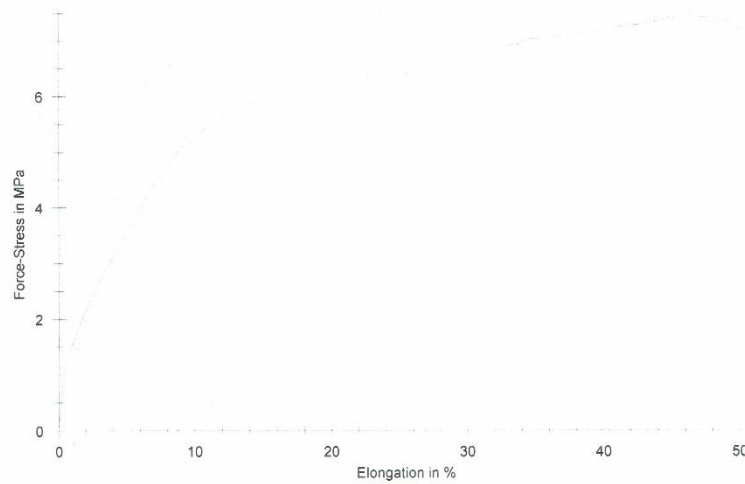
Parameter table:

Heading	: Fakultas Teknologi Pertanian Universitas Gadjah Mada	Tester	: Rachmat
Company name:		Test standard	: Tensile strength
Customer	: Firman	Material	: G/K 15%
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
10	0,0455	10	20	3,3897	7,4499	45,6590

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,0455	10	20	3,3897	7,4499	45,6590
s	-	-	-	-	-	-
v	-	-	-	-	-	-

10.10.2018

**Fakultas Teknologi Pertanian
Universitas Gadjah Mada**

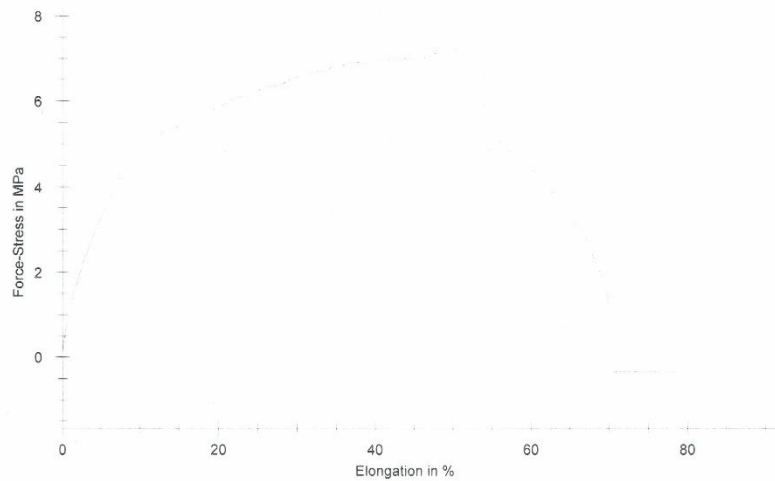
Parameter table:

Heading	: Fakultas Teknologi Pertanian Universitas Gadjah Mada	Tester	: Rachmat
Company name:		Test standard	: Tensile strength
Customer	: Firman	Material	: G/K 15%
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
12	0,03443	10	20	2,4921	7,2381	50,6321

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,03443	10	20	2,4921	7,2381	50,6321
s	-	-	-	-	-	-
v	-	-	-	-	-	-

10.10.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

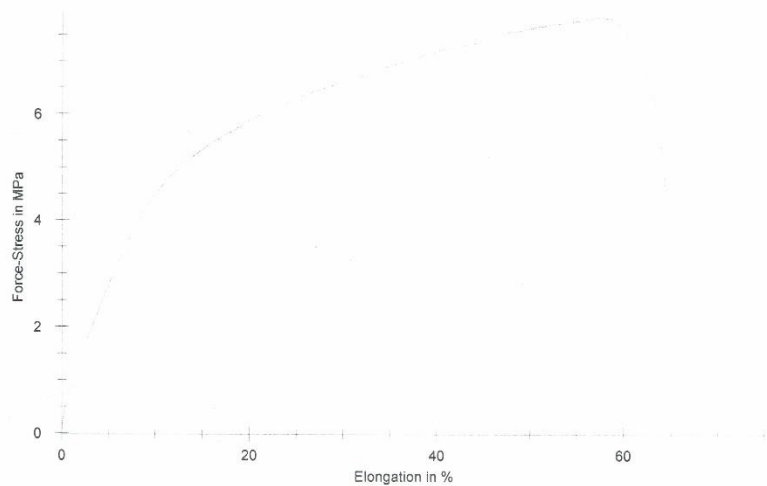
Parameter table:

Heading : Fakultas Teknologi Pertanian Tester : Rachmat
 Universitas Gadjah Mada Test standard : Tensile strength
 Company name: Material : G/K 15%
 Customer : Firman
 Test speed: 10 mm/min

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
13	0,05596	10	20	4,3825	7,8314	57,7710

Series graphics:



Statistics:

Series	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
n = 1						
x	0,05596	10	20	4,3825	7,8314	57,7710
s	-	-	-	-	-	-
v	-	-	-	-	-	-

10.10.2018

Fakultas Teknologi Pertanian Universitas Gadjah Mada

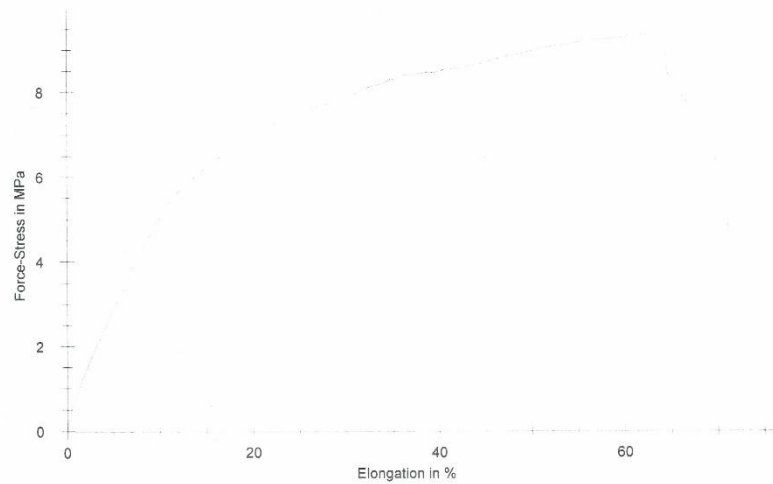
Parameter table:

Heading	: Fakultas Teknologi Pertanian Universitas Gadjah Mada	Tester	: Rachmat
Company name:		Test standard	: Tensile strength
Customer	: Firman	Material	: G/K 15%
Test speed:	10 mm/min		

Results:

Nr	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
14	0,07813	10	20	7,3256	9,3761	63,0397

Series graphics:



Statistics:

Series n = 1	a0 mm	b0 mm	Lc mm	FMax N	Tensile Strength MPa	Strain at Fmax. %
\bar{x}	0,07813	10	20	7,3256	9,3761	63,0397
s	-	-	-	-	-	-
v	-	-	-	-	-	-

LAMPIRAN 6

B. Standar Deviasi Persentase Penutupan Luka

Kelompok	Hewan uji	Standar Deviasi Persentase Penutupan Luka					
		2	5	8	11	14	17
Kontrol positif (kassa antibiotik)	1	8,88819	4,37493	4,37493	3,55809	18,5375	0
	2						
	3						
	4						
	5						
Perlakuan (Chitosan 15%)	1	4	8,38451	9,04655	15,2624	4,91325	14,6779
	2						
	3						
	4						
	5						
Kontrol negatif (Chitosan 0%)	1	4,80208	3,57211	17,6635	18,0732	3,62491	5,4626
	2						
	3						
	4						
	5						