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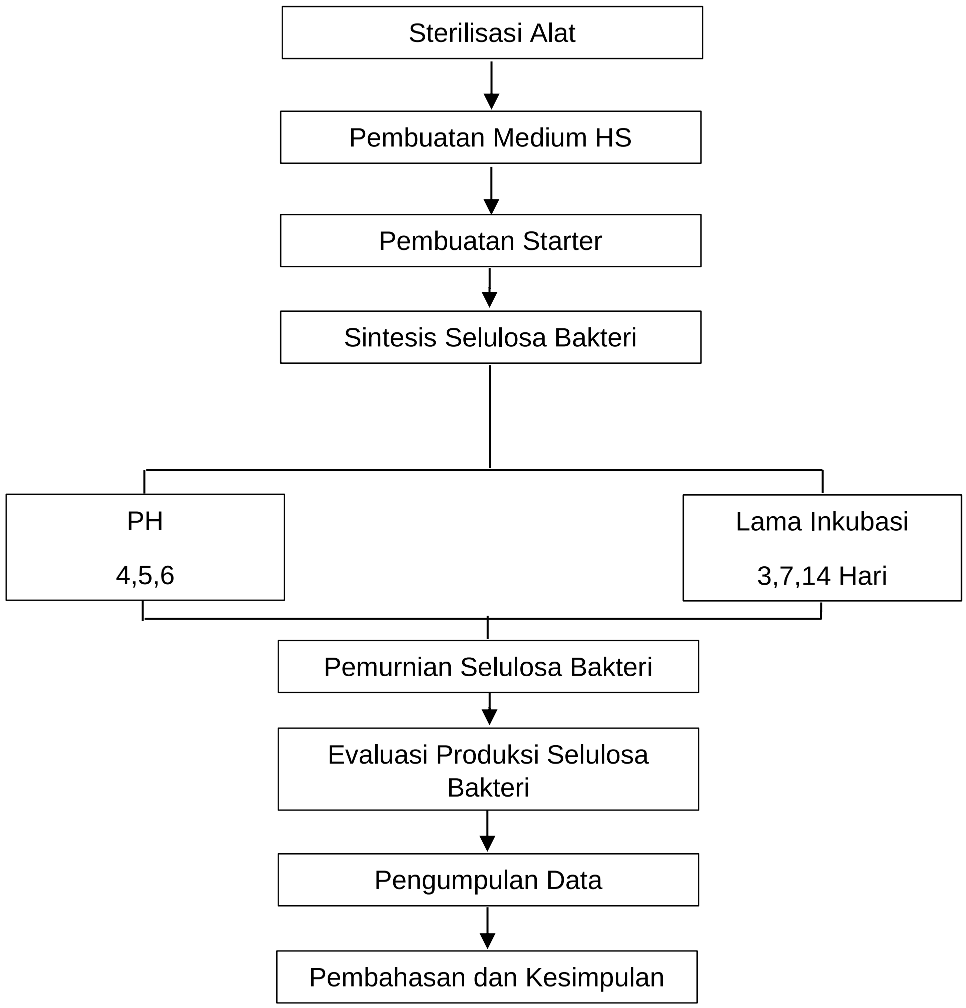
LAMPIRAN

Lampiran 1. Skema Kerja Umum



Lampiran 2. Komposisi Medium

Dalam 1 L medium HS mengandung

Asam Sitrat Monohidrat	0,115%
Na_2HPO_4	0,27%
Pepton	0,5%
Yeast Extract	0,5%
Glukosa	5%
HCl	q.s
NaOH	q.s

Lampiran 3. Tabel Bobot Kering SB

Tabel 3. Tabel bobot kering SB

pH	Lama Inkubasi	Bobot Kering (g)
4	3 hari	0
4	7 hari	0,07 0,062 0,058
4	14 hari	0,157 0,113 0,135
5	3 hari	0,13 0,128 0,142
5	7 hari	0,221 0,2 0,25
5	14 hari	0,29 0,34 0,44
6	3 hari	0
6	7 hari	0
6	14 hari	0,015 0,017 0,021

Lampiran 4. Perhitungan *Yield*

Contoh perhitungan *yield* pada pH 5 dengan lama inkubasi 14 hari

Yield (%) = $\frac{Berat\ basah\ (g/L)}{Konsentrasi\ glukosa\ (g/L)}\ x\ 100\%$

= $\frac{\frac{0{,}44\ g}{0{,}05\ L}}{50\frac{g}{L}}\ x\ 100\%$

= 17,6 %

Lampiran 5. Hasil Uji PCR

Hasil PCR 16S rRNA

1500 bp

Hasil Sekuensing

KB1_16S_rRNA-Forward

GCTACACATGCAGTCGAACGGTAACAGGAAGCAGCTTGCTGCTTCGCTGACGAGTGGC
GGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTACTGGAAACG
GTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGACCTTCGGGCCTCTTGCC
ATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGGGGTAACGGCTCACCTAGGCGAC
GATCCCTAGCTGGTCTGAGAGGATGACCAGCCACACTGGAACTGAGACACGGTCCAGA
CTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGCAGC
CATGCCGCGTGTATGAAGAAGGCCTTCGGGTTGTAAAGTACTTTCAGCGGGGAGGAAG
GCGATAAGGTTAATAACCTTGTCGATTGACGTTACCCGCAGAAGAAGCACCGGCTAACT
CCGTGCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGGGC
GTAAAGCGCACGCAGGCGGTCTGTCAAGTCGGATGTGAAATCCCCGGGCTCAACCTG
GGAACTGCATTCGAAACTGGCAGGCTAGAGTCTTGTAGAGGGGGGTAGAATTCCAGGT
GTAGCGGTGAAATGCGTAGAGATCTGGAGGAATACCGGTGGCGAAGGCGGCCCCCTG
GACAAAGACTGACGCTCAGGTGCGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTG
GTAGTCCACGCCGTAAACGATGTCGACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCC
GGAGCTAACGCGTTAAGTCGACCGCCTGGGGAGTACGGCCGCAAGGTTAAAACTCAAA
TGAATTGACGGGGGCCCGCACAAGCGGTGGAGCATGTGGTTTAATTCGATGCAACGCG
AAGAACCTTACCTACTCTTGACATCCAGAGAACTTTCCAGAGATGGATTGGTGCCTTCG
GGAACTCTGAGACAGGTGCTGCATGGCTGTCGTCAGCTCGTGTTGTGAAATGTTGGGT
TAAGTCCCGCAACGAGCGCAACCCTTATCCTTTGTTGCCAGCGGTCCGGCCGGGAACT
CAAAGGAGACTGCCAGTGATAACTGGAGGAAGGTGGGGATGACGTCAGTCATCATGGC
CCTTACAATAGGCTACCCCGTGCTACATGGCCCTACAAGAAGAACGACTCGCNGAACA
GCGGACTCTAANTGCGTCTATTCGGATGGATTTGCACTCCNTCCTGAATCGAATCCTAT
AATCTGGATCAAATCCCGGGAAACTTTCCGGCTTTNCCCCCCGCNCCCCGGGAGGGGT
NAAAGAA

KB1_16S_rRNA-reverse

CTTGTTACGACTTCACCCCAGTCATGAATCACAAAGTGGTAAGCGCCCTCCCGAAGGTT
AAGCTACCTACTTCTTTTGCAACCCACTCCCATGGTGTGACGGGCGGTGTGTACAAGG
CCCGGGAACGTATTCACCGTGGCATTCTGATCCACGATTACTAGCGATTCCGACTTCAT

GGAGTCGAGTTGCAGACTCCAATCCGGACTACGACGCACTTTATGAGGTCCGCTTGCT
CTCGCGAGGTCGCTTCTCTTTGTATGCGCCATTGTAGCACGTGTGTAGCCCTACTCGTA
AGGGCCATGATGACTTGACGTCATCCCCACCTTCCTCCAGTTTATCACTGGCAGTCTCC
TTTGAGTTCCCGGCCGGACCGCTGGCAACAAAGGATAAGGGTTGCGCTCGTTGCGGG
ACTTAACCCAACATTTCACAACACGAGCTGACGACAGCCATGCAGCACCTGTCTCAGAG
TTCCCGAAGGCACCAATCCATCTCTGGAAAGTTCTCTGGATGTCAAGAGTAGGTAAGGT
TCTTCGCGTTGCATCGAATTAAACCACATGCTCCACCGCTTGTGCGGGCCCCCGTCAAT
TCATTTGAGTTTTAACCTTGCGGCCGTACTCCCCAGGCGGTCGACTTAACGCGTTAGCT
CCGGAAGCCACGCCTCAAGGGCACAACCTCCAAGTCGACATCGTTTACGGCGTGGACT
ACCAGGGTATCTAATCCTGTTTGCTCCCCACGCTTTCGCACCTGAGCGTCAGTCTTTGT
CCAGGGGGCCGCCTTCGCCACCGGTATTCCTCCAGATCTCTACGCATTTCACCGCTAC
ACCTGGAATTCTACCCCCCTCTACAAGACTCTAGCCTGCCAGTTTCGAATGCAGTTCCC
AGGTTGAGCCCGGGGATTTCACATCCGACTTGACAGACCGCCTGCGTGCGCTTTACGC
CCAGTAATTCCGATTAACGCTTGCACCCTCCGTATTACCGCGGCTGCTGGCACGGAGT
TAGCCGGTGCTTCTTCTGCGGGTAACGTCAATCGANAAGGTTATTAACCTTATCGCCTT
CCTCCCCGCTGAAAGTACTTTACAACCCGAAGGCCTTCTTCATACACGCGGCATGGCT
GCATCAGGCTTGCGCCCATTGTGCAATATTCCCACTGCTGCCTCCCGTAGGAATCTGG
ACCGGGTCTCAGTTCCAGTGTGGCTGGTCATCCTTTCAGACCGCTAGGGATCGTCCCT
AGGTGAGCCGTTACCCNCCTACTAGNTAATCCCTTTGGNNNATCCGATGGAAAAAGGC
CGAGGGCCCCTCTTTGGTTTGGAATTTTNNGGATTAACCCGGTTCCGAAATTTCCCCCC
CCCGGNNATTCCCAAAATTTTCCCCTCCCCCCCTTTCAAAAAGAA

Reverse complement

TTCTTTTTGAAAGGGGGGGAGGGGAAAATTTTGGGAATNNCCGGGGGGGGGAAATTTC
GGAACCGGGTTAATCCNNAAAATTCCAAACCAAAGAGGGGCCCTCGGCCTTTTTCCATC
GGATNNNCCAAAGGGATTANCTAGTAGGNGGGTAACGGCTCACCTAGGGACGATCCCT
AGCGGTCTGAAAGGATGACCAGCCACACTGGAACTGAGACCCGGTCCAGATTCCTACG
GGAGGCAGCAGTGGGAATATTGCACAATGGGCGCAAGCCTGATGCAGCCATGCCGCG
TGTATGAAGAAGGCCTTCGGGTTGTAAAGTACTTTCAGCGGGGAGGAAGGCGATAAGG
TTAATAACCTTNTCGATTGACGTTACCCGCAGAAGAAGCACCGGCTAACTCCGTGCCAG
CAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGGGCGTAAAGCGCA
CGCAGGCGGTCTGTCAAGTCGGATGTGAAATCCCCGGGCTCAACCTGGGAACTGCATT
CGAAACTGGCAGGCTAGAGTCTTGTAGAGGGGGGTAGAATTCCAGGTGTAGCGGTGAA
ATGCGTAGAGATCTGGAGGAATACCGGTGGCGAAGGCGGCCCCCTGGACAAAGACTG
ACGCTCAGGTGCGAAAGCGTGGGGAGCAAACAGGATTAGATACCCTGGTAGTCCACGC
CGTAAACGATGTCGACTTGGAGGTTGTGCCCTTGAGGCGTGGCTTCCGGAGCTAACGC
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GGGCCCGCACAAGCGGTGGAGCATGTGGTTTAATTCGATGCAACGCGAAGAACCTTAC
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GCCAGTGATAAACTGGAGGAAGGTGGGGATGACGTCAAGTCATCATGGCCCTTACGAG
TAGGGCTACACACGTGCTACAATGGCGCATACAAAGAGAAGCGACCTCGCGAGAGCAA
GCGGACCTCATAAAGTGCGTCGTAGTCCGGATTGGAGTCTGCAACTCGACTCCATGAA
GTCGGAATCGCTAGTAATCGTGGATCAGAATGCCACGGTGAATACGTTCCCGGGCCTT
GTACACACCGCCCGTCACACCATGGGAGTGGGTTGCAAAAGAAGTAGGTAGCTTAACC
TTCGGGAGGGCGCTTACCACTTTGTGATTCATGACTGGGGTGAAGTCGTAACAAG

KB1_16S_rRNA-Forward dan reverse (Gabungan)

GCTACACATGCAGTCGAACGGTAACAGGAAGCAGCTTGCTGCTTCGCTGACGAGTGGC
GGACGGGTGAGTAATGTCTGGGAAACTGCCTGATGGAGGGGGATAACTACTGGAAACG
GTAGCTAATACCGCATAACGTCGCAAGACCAAAGAGGGGGACCTTCGGGCCTCTTGCC
ATCGGATGTGCCCAGATGGGATTAGCTAGTAGGTGGGGTAACGGCTCACCTAGGCGAC
GATCCCTAGCTGGTCTGAGAGGATGACCAGCCACACTGGAACTGAGACACGGTCCAGA
CTCCTACGGGAGGCAGCAGTGGGGAATATTGCACAATGGGCGCAAGCCTGATGCAGC
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GCGATAAGGTTAATAACCTTGTCGATTGACGTTACCCGCAGAAGAAGCACCGGCTAACT
CCGTGCCAGCAGCCGCGGTAATACGGAGGGTGCAAGCGTTAATCGGAATTACTGGGC
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TAAGTCCCGCAACGAGCGCAACCCTTATCCTTTGTTGCCAGCGGTCCGGCCGGGAACT
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CGCGAGAGCAAGCGGACCTCATAAAGTGCGTCGTAGTCCGGATTGGAGTCTGCAACTC
GACTCCATGAAGTCGGAATCGCTAGTAATCGTGGATCAGAATGCCACGGTGAATACGTT
CCCGGGCCTTGTACACACCGCCCGTCACACCATGGGAGTGGGTTGCAAAAGAAGTAG
GTAGCTTAACCTTCGGGAGGGCGCTTACCACTTTGTGATTCATGACTGGGGTGAAGTC
GTAACAAG

Lampiran 6. Analisis Statistik

Lampiran 6. 1 Hari ke-3

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Yield	pH4-3hari	.	3	.	.	3	.
	pH5-3hari	.337	3	.	.855	3	.253
	pH6-3hari	.	3	.	.	3	.

a. Lilliefors Significance Correction

ANOVA

Yield

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	56.889	2	28.444	930.233	.000
Within Groups	.183	6	.031		
Total	57.072	8			

Multiple Comparisons

Dependent Variable: Yield

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
pH4-3hari	pH5-3hari	-5.3333333*	.1427767	.000	-5.771411	-4.895255
	pH6-3hari	.0000000	.1427767	1.000	-.438078	.438078
pH5-3hari	pH4-3hari	5.3333333*	.1427767	.000	4.895255	5.771411
	pH6-3hari	5.3333333*	.1427767	.000	4.895255	5.771411
pH6-3hari	pH4-3hari	.0000000	.1427767	1.000	-.438078	.438078
	pH5-3hari	-5.3333333*	.1427767	.000	-5.771411	-4.895255

*. The mean difference is significant at the 0.05 level.

Lampiran 6. 2 Hari ke-7

Tests of Normality

	Formula	Kolmogorov-Smirnov[a] Statistic	df	Sig.	Shapiro-Wilk Statistic	df	Sig.
Yield	pH4-7hari	.253	3	.	.964	3	.637
	pH5-7hari	.209	3	.	.992	3	.824
	pH6-7hari	.	3	.	.	3	.

a. Lilliefors Significance Correction

ANOVA

Yield

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	127.591	2	63.796	179.157	.000
Within Groups	2.137	6	.356		
Total	129.728	8			

Multiple Comparisons

Dependent Variable: Yield

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
pH4-7hari	pH5-7hari	-6.4133333*	.4872295	.000	-7.908287	-4.918379
	pH6-7hari	2.5333333*	.4872295	.005	1.038379	4.028287
pH5-7hari	pH4-7hari	6.4133333*	.4872295	.000	4.918379	7.908287
	pH6-7hari	8.9466667*	.4872295	.000	7.451713	10.441621
pH6-7hari	pH4-7hari	-2.5333333*	.4872295	.005	-4.028287	-1.038379
	pH5-7hari	-8.9466667*	.4872295	.000	-10.441621	-7.451713

*. The mean difference is significant at the 0.05 level.

Lampiran 6. 3 Hari ke-14

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Yield	pH4-14hari	.175	3	.	1.000	3	1.000
	pH5-14hari	.253	3	.	.964	3	.637
	pH6-14hari	.253	3	.	.964	3	.637

a. Lilliefors Significance Correction

ANOVA

Yield

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	284.519	2	142.259	42.161	.000
Within Groups	20.245	6	3.374		
Total	304.764	8			

Multiple Comparisons

Dependent Variable: Yield

Tukey HSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
pH4-14hari	pH5-14hari	-8.8666667*	1.4998272	.003	-13.468548	-4.264785
	pH6-14hari	4.6933333*	1.4998272	.046	.091452	9.295215
pH5-14hari	pH4-14hari	8.8666667*	1.4998272	.003	4.264785	13.468548
	pH6-14hari	13.5600000*	1.4998272	.000	8.958118	18.161882
pH6-14hari	pH4-14hari	-4.6933333*	1.4998272	.046	-9.295215	-.091452
	pH5-14hari	-13.5600000*	1.4998272	.000	-18.161882	-8.958118

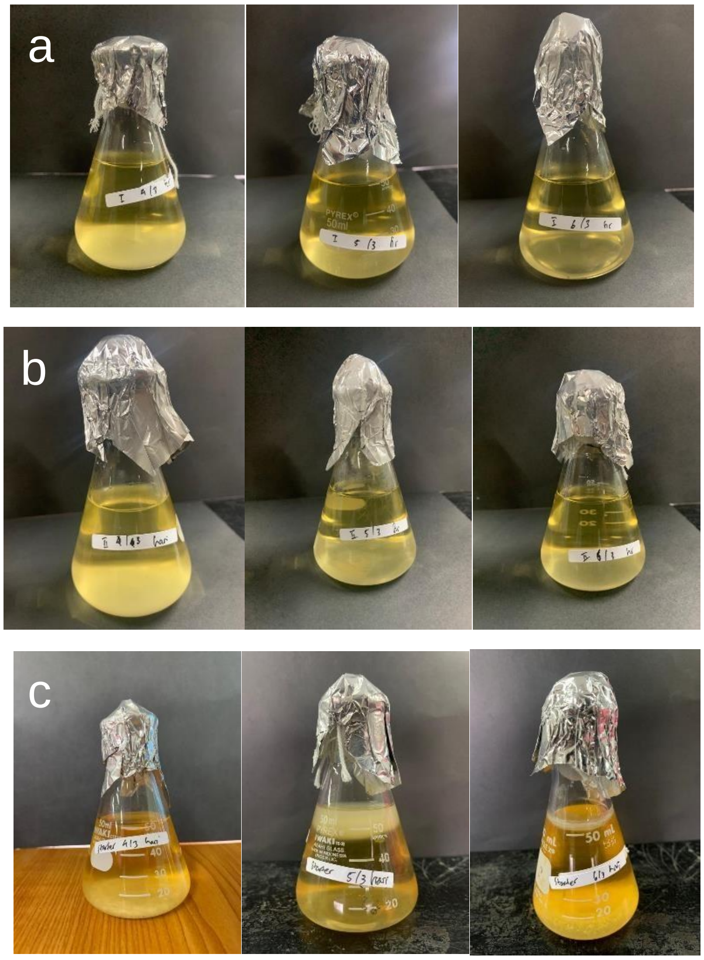
*. The mean difference is significant at the 0.05 level.

Lampiran 7. Dokumentasi Penelitian

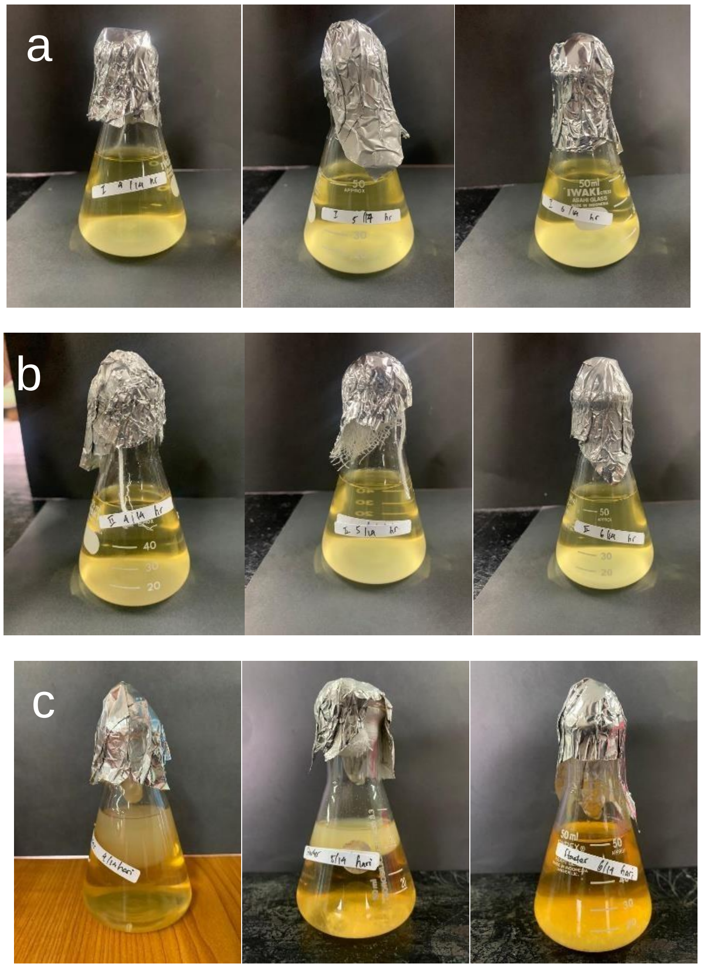
Gambar 11. Penyiapan alat dan bahan

Gambar 12. Proses penyiapan

Gambar 13. Produksi SB

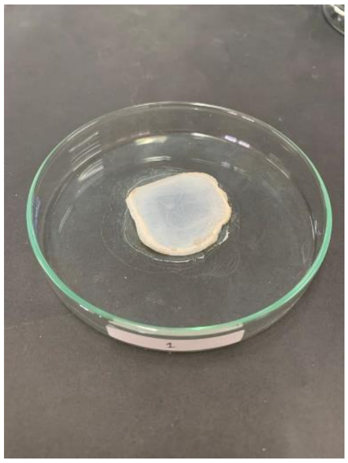


Gambar 14. Hasil produksi SB hari ke-3; (a) Isolat KB-1 pH 4, 5, dan 6, (b) Isolat KB-2 pH 4, 5, dan 6, (c) Isolat *Acetobacter xylinum* Ph 4, 5, dan 6



Gambar 16. Hasil produksi SB hari ke-14; (a) Isolat KB-1 pH 4, 5, dan 6, (b) Isolat KB-2 pH 4, 5, dan 6, (c) Isolat *Acetobacter xylinum* Ph 4, 5, dan 6

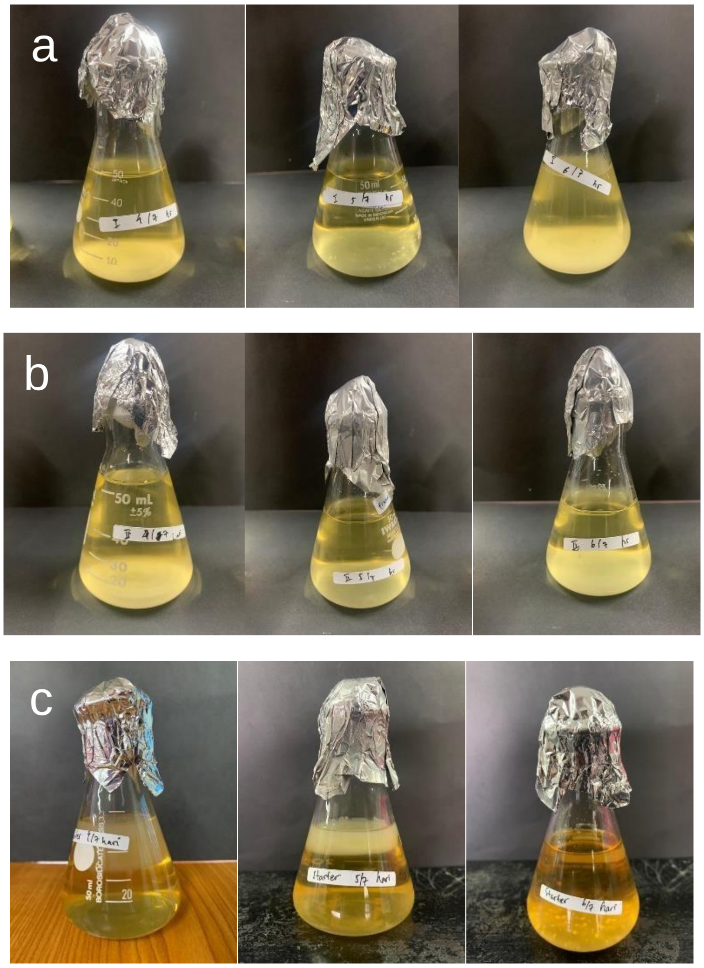
Gambar 17. Proses pengeringan SB menggunakan oven



Gambar 18. SB yang telah kering

Gambar 19. Preparasi sampel SB

Gambar 20. Analisis SB menggunakan spektrofotometer FTIR (Shimadzu®)



Gambar 15. Hasil produksi SB hari ke-7; (a) Isolat KB-1 pH 4, 5, dan 6, (b) Isolat KB-2 pH 4, 5, dan 6, (c) Isolat *Acetobacter xylinum* Ph 4, 5, dan 6