

## DAFTAR PUSTAKA

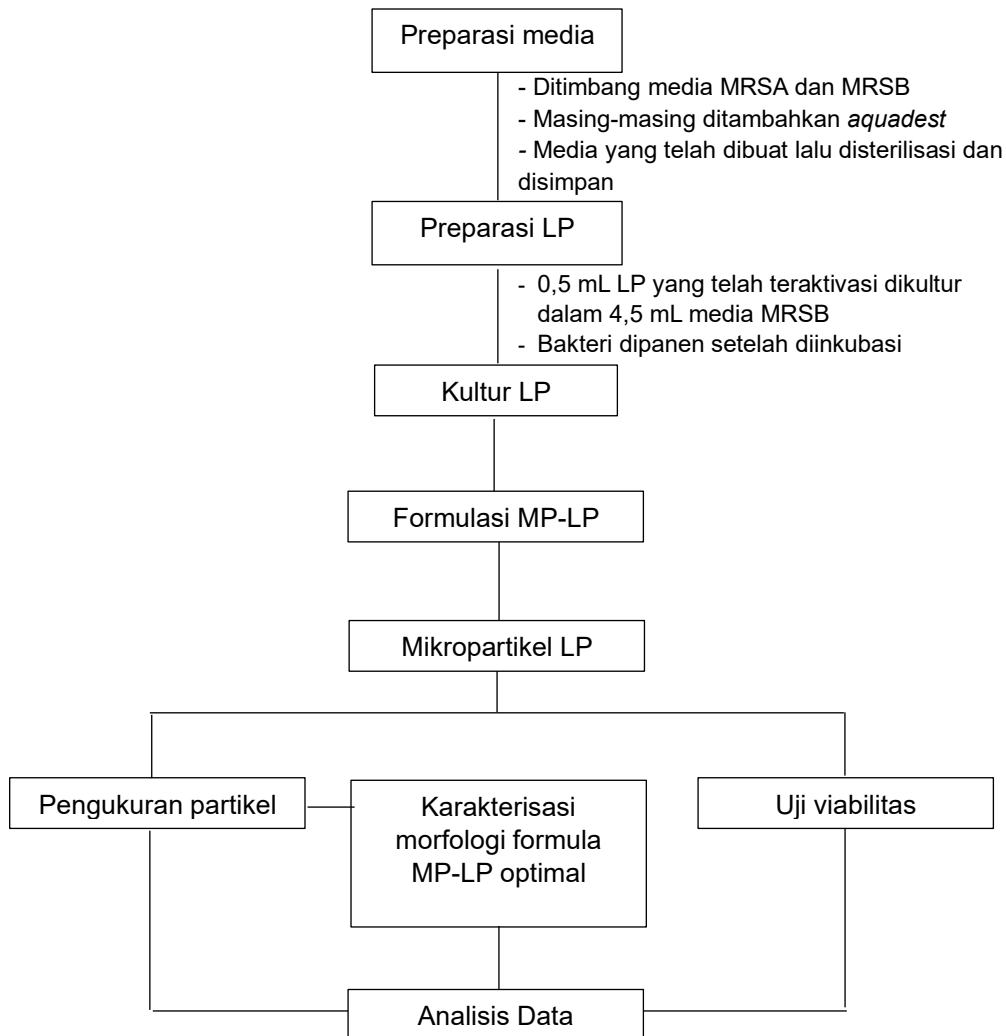
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## LAMPIRAN

### Lampiran 1. Skema Kerja Penelitian



## Lampiran 2. Perhitungan Koloni Bakteri pada Uji Viabilitas

Faktor pengenceran	Formula				
	MP 1	MP 2	MP 3	MP 4	MP 5
$10^{-5}$	125	248	322	TBUD	TBUD
$10^{-6}$	67	176	291	TBUD	TBUD
$10^{-7}$	60	129	200	250	TBUD
$10^{-8}$	57	163	170	210	291
$10^{-9}$	32	100	123	203	219

### Contoh Perhitungan (MP4)

Koloni = 210

Faktor pengenceran =  $10^8$

Konsentrasi (CFU/ mL) = jumlah koloni x faktor pengenceran

Konsentrasi (CFU/ mL) =  $210 \times 10^8$

Konsentrasi (CFU/ mL) =  $2,1 \times 10^{10}$

Log CFU/mL =  $\text{Log } 2,1 \times 10^{10}$   
 = 10,32

### Lampiran 3. Tabel Hasil Evaluasi dan Hasil Analisis Statistik

**Tabel 4. Hasil Pengukuran Ukuran Partikel Lima Formula**  
**Ukuran Partikel**

<b>MP 1</b>	<b>MP 2</b>	<b>MP 3</b>	<b>MP 4</b>	<b>MP 5</b>
1,28	2,81	5,14	6,73	10,09
1,90	2,28	5,20	6,73	10,11
1,66	3,54	3,98	6,73	10,12
0,14	4,78	5,27	6,73	10,15
0,14	2,06	4,74	6,73	10,18
0,12	2,45	5,83	6,73	10,21
0,14	2,30	5,22	6,73	10,21
0,14	2,75	4,69	6,73	10,21
0,14	2,52	3,86	6,73	10,22
0,14	2,73	5,31	6,73	10,22
0,25	2,96	5,17	6,73	10,22
0,14	2,96	5,28	6,03	10,22
0,14	3,07	5,03	6,04	10,22
1,84	3,58	4,36	6,73	10,23
0,14	2,07	6,58	6,73	10,23
0,14	2,68	5,12	6,03	10,26
1,95	4,82	5,27	6,73	10,27
0,26	4,78	4,92	6,73	10,27
1,49	2,84	3,85	6,73	10,28
0,14	2,60	4,24	6,73	10,28
0,12	2,25	4,56	6,73	10,32
0,14	3,81	5,27	6,73	10,32
0,21	2,19	5,77	6,73	10,32
0,14	3,24	3,72	6,73	10,32
0,14	4,78	4,24	6,73	10,33
0,14	2,96	6,32	6,73	10,33
1,47	3,34	5,78	6,73	10,34
1,60	2,42	5,78	6,73	10,34
1,82	2,49	5,78	6,73	10,34
1,73	2,73	4,76	6,73	10,34
0,19	3,45	4,66	6,24	10,35
0,14	4,76	5,07	6,49	10,36

0,14	2,83	5,07	6,49	10,36
1,82	3,96	5,07	6,49	10,36
0,14	4,98	4,30	6,49	10,36
0,12	2,94	5,38	6,73	10,37
0,14	3,90	5,27	6,73	10,37
0,25	2,96	5,17	6,73	10,37
0,54	3,28	5,07	6,49	10,37
0,14	2,14	4,24	6,73	10,38
0,14	2,77	4,98	6,73	10,38
0,14	2,14	4,41	6,73	10,38
0,14	2,96	6,78	6,73	10,38
0,14	2,96	5,32	6,43	10,38
0,25	2,96	4,89	6,43	10,38
0,25	2,96	4,75	6,43	10,38
0,25	2,96	4,87	6,43	10,38
0,14	2,63	6,58	6,03	10,38
0,12	2,52	3,68	6,73	10,39
0,14	2,95	5,77	6,73	10,43
0,21	2,28	6,82	6,73	10,44
0,14	3,04	5,15	6,73	10,47
0,14	2,02	4,67	6,73	10,47
0,99	4,11	3,21	6,73	10,48
0,28	2,53	5,07	6,49	10,48
0,12	2,48	5,78	6,73	10,49
0,14	2,49	3,20	6,73	10,49
0,14	2,66	6,07	6,73	10,54
1,17	2,73	5,07	6,49	10,55
0,12	3,18	2,81	6,73	10,56
0,14	3,13	4,01	6,73	10,56
0,12	2,58	3,08	6,73	10,57
0,14	2,96	5,17	6,73	10,58
0,14	2,96	5,30	6,73	10,65
0,19	3,45	5,93	4,54	10,68
0,14	2,40	3,81	6,73	10,68
0,12	1,94	2,22	6,73	10,73
0,12	2,95	6,04	6,24	10,73

0,19	2,76	5,90	6,15	10,75
0,12	2,04	5,83	6,73	10,76
0,14	2,37	6,05	6,73	10,77
0,14	2,19	5,23	6,73	10,85
0,19	3,97	4,66	4,83	10,86
2,07	3,72	5,27	6,73	10,87
0,14	3,29	5,27	6,73	10,87
0,14	2,29	5,27	6,73	10,87
0,14	2,23	3,55	6,73	10,87
0,14	2,50	5,92	6,73	10,87
0,14	2,72	4,02	6,73	10,87
0,14	2,81	6,53	6,73	10,87
0,19	3,84	5,33	5,50	10,93
0,19	2,67	5,95	5,75	10,94
0,19	3,88	6,78	5,49	10,94
0,19	2,67	6,25	3,41	10,94
0,19	2,83	5,90	6,73	10,94
0,12	2,65	5,90	6,73	10,94
0,12	2,42	7,23	6,73	10,94
0,22	2,38	3,10	6,73	10,96
1,61	1,62	3,67	6,73	10,99
0,14	4,57	4,66	6,49	11,00
0,23	2,58	5,90	6,73	11,02
1,35	2,48	4,76	6,73	11,03
1,23	3,96	5,07	6,49	11,03
0,66	2,76	6,24	6,49	11,03
0,12	3,45	4,66	7,03	11,04
0,12	2,42	4,03	6,73	11,04
0,12	2,38	4,67	6,73	11,04
0,14	3,96	5,73	6,02	11,04
1,24	2,00	5,07	6,49	11,04
1,54	3,32	5,67	6,73	11,05
1,49	2,69	4,76	6,73	11,05
0,12	2,12	3,27	6,73	11,06
1,30	3,45	5,03	6,07	11,06
0,14	2,98	4,66	6,73	11,06



1,25	3,04	5,34	6,49	11,07
0,12	3,87	5,01	6,73	11,08
0,12	2,82	5,78	6,73	11,09
1,25	2,59	4,17	5,63	11,09
0,14	3,23	4,79	6,73	11,09
0,14	3,96	4,52	7,30	11,09
0,12	2,63	6,04	6,73	11,10
1,37	3,34	4,28	6,73	11,10
1,41	2,38	5,78	6,73	11,11
0,19	2,67	5,01	4,07	11,12
0,12	2,65	5,34	6,73	11,12
1,30	2,69	3,39	6,73	11,12
0,12	3,45	5,84	5,99	11,13
0,12	2,53	2,75	6,73	11,13
0,14	2,37	6,58	7,45	11,13
0,14	2,89	4,31	5,69	11,13
0,12	2,45	4,31	6,47	11,14
0,48	2,75	5,78	6,73	11,14
1,67	2,20	5,78	6,73	11,17
0,14	3,96	5,19	6,49	11,17
1,78	1,75	5,78	6,73	11,18
1,53	2,06	5,78	6,73	11,18
1,22	2,53	4,52	6,73	11,18
1,28	1,94	5,65	6,73	11,18
1,36	1,94	3,33	6,73	11,18
0,28	3,02	5,19	6,73	11,18
1,59	2,16	4,76	6,73	11,18
1,71	1,84	4,76	6,73	11,18
2,04	3,16	4,76	6,73	11,18
2,00	3,31	4,36	6,73	11,18
1,48	2,71	5,27	6,73	11,18
1,04	4,72	5,27	6,73	11,18
1,49	3,50	5,27	6,73	11,18
1,96	2,34	5,27	6,73	11,18
0,21	2,05	5,93	6,73	11,18
0,19	2,04	6,66	6,73	11,19

0,12	2,49	5,26	6,73	11,19
0,18	3,57	3,87	6,73	11,19
0,30	3,60	5,78	6,73	11,20
0,14	2,76	4,75	6,73	11,20
0,14	2,29	4,60	6,49	11,20
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0,12	3,98	4,66	4,59	11,21
0,12	4,31	6,04	6,73	11,21
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1,20	3,34	4,17	6,73	11,21
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0,12	2,39	6,77	6,73	11,22
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0,12	2,69	2,75	6,73	11,22
0,12	2,75	6,04	6,21	11,22
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1,73	2,32	5,27	6,73	11,22
0,14	2,60	4,06	6,73	11,22
0,14	3,96	3,96	6,49	11,22
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0,12	3,98	5,83	6,73	11,23
1,41	7,08	5,78	6,73	11,23
0,24	3,72	4,66	6,23	11,24
0,25	3,97	5,39	5,61	11,24
0,19	3,45	4,66	4,38	11,24
0,19	2,67	6,07	5,31	11,24
0,19	2,67	6,29	5,89	11,24
0,19	3,49	4,66	6,38	11,24
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0,12	1,75	5,03	6,73	11,24
0,12	2,38	4,86	6,73	11,24
0,12	1,74	2,81	6,73	11,24
0,12	2,63	6,04	6,73	11,24

0,12	2,34	4,72	6,73	11,24
0,12	3,24	5,78	6,73	11,24
0,12	2,27	5,78	6,15	11,24
0,12	3,34	5,78	6,17	11,24
0,12	3,34	5,78	6,73	11,24
0,12	3,34	5,78	6,73	11,24
0,39	2,32	3,31	6,73	11,24
1,16	2,17	4,46	6,73	11,24
0,65	2,70	2,26	6,73	11,24
1,35	3,39	4,02	6,73	11,24
1,37	2,49	3,99	6,73	11,24
1,86	2,59	3,51	6,73	11,24
0,14	2,31	5,27	6,73	11,24
0,14	1,83	4,02	6,73	11,24
0,21	2,30	5,61	6,73	11,24
0,21	3,02	6,03	6,73	11,24
0,21	4,20	3,30	6,73	11,24
0,29	4,78	4,48	6,73	11,24
0,14	4,78	6,21	6,73	11,24
0,14	4,78	4,99	6,73	11,24
0,14	4,78	4,23	6,73	11,24
0,14	4,78	5,23	6,73	11,24
0,14	2,92	4,84	6,73	11,24
0,25	2,96	6,03	6,43	11,24
0,25	3,00	4,41	6,43	11,24
0,25	3,09	4,80	6,43	11,24
0,25	2,96	5,17	6,43	11,24
0,25	2,96	5,17	6,73	11,24
0,25	2,96	5,17	6,73	11,24
0,14	2,96	5,08	6,73	11,24
0,14	2,96	6,32	6,22	11,24
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0,14	2,96	5,30	6,73	11,24
0,14	2,96	5,21	6,03	11,24
0,14	2,96	6,58	6,03	11,24
1,35	4,78	6,31	6,49	11,24

0,12	2,05	3,41	6,73	11,25
0,25	2,48	2,96	6,73	11,26
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0,55	2,78	4,14	6,73	11,26
1,25	2,73	3,96	6,73	11,26
1,45	2,89	3,66	6,73	11,26
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1,26	2,79	5,28	6,28	11,26
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0,14	2,69	5,51	6,13	11,28
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0,12	3,93	4,66	7,06	11,29
0,12	2,53	5,39	6,73	11,29
0,12	2,21	6,04	6,73	11,29

0,12	1,71	5,78	6,73	11,29
1,23	3,34	5,78	6,73	11,29
1,83	3,34	5,09	6,73	11,29
0,74	3,21	5,07	6,49	11,29
0,46	2,38	6,53	6,73	11,30
0,21	1,96	3,21	6,73	11,30
0,12	2,02	2,65	6,73	11,31
0,12	2,47	5,78	6,73	11,32
0,14	3,96	4,53	6,49	11,32
0,12	3,67	5,29	4,77	11,34
0,12	2,49	5,90	6,73	11,34
0,12	3,55	6,04	6,73	11,34
0,12	2,33	5,66	6,73	11,34
0,14	2,29	6,58	6,73	11,34
0,14	3,96	5,02	5,88	11,34
1,04	4,55	5,07	6,49	11,34
0,19	2,67	5,66	5,09	11,38
0,19	2,40	5,90	6,73	11,38
1,64	2,93	4,14	6,73	11,38
0,12	2,65	4,29	6,73	11,39
1,53	2,86	5,78	6,73	11,39
0,12	3,45	4,66	6,34	11,42
0,12	3,87	4,66	7,02	11,42
0,12	3,99	5,82	5,98	11,42
0,14	2,81	5,27	6,73	11,43
0,14	4,79	6,14	6,49	11,43
0,12	3,68	5,12	6,73	11,45
0,12	4,08	6,04	6,24	11,45
0,12	2,52	5,78	6,73	11,45
1,47	2,42	5,78	6,73	11,45
0,12	2,71	5,21	6,73	11,45
1,37	1,83	5,23	6,73	11,45
0,12	2,53	5,78	6,73	11,45
1,45	2,43	5,78	6,73	11,45
1,68	1,90	5,78	6,73	11,45
1,49	2,86	5,78	6,73	11,45

0,12	2,23	5,78	6,73	11,45
1,68	2,84	5,78	6,73	11,45
0,53	3,06	5,78	6,73	11,45
0,32	2,29	5,78	6,73	11,45
1,76	2,50	4,87	6,73	11,45
1,36	2,86	2,98	6,73	11,46
0,14	3,96	5,29	6,49	11,47
0,15	3,19	5,25	6,49	11,47
0,12	2,84	5,78	6,73	11,54
0,12	1,49	5,49	6,73	11,56
0,12	2,27	5,83	6,73	11,65
0,12	3,45	4,66	6,29	11,67
1,59	3,96	5,08	6,49	11,72
0,12	3,45	4,66	5,07	11,84
0,14	3,46	5,27	6,73	10, 37
0,14	2,84	3,14	6,73	10, 45

**Tabel 5. Hasil perhitungan rata-rata ukuran partikel 5 formula MP-LP**

Formula	Ukuran Partikel	
	Rata-rata	SD
MP 1	0,49	0,04
MP 2	2,98	0,21
MP 3	5,09	0,49
MP 4	6,54	0,62
MP 5	11,03	1,22

**Tabel 6. Hasil analisis statistika data ukuran partikel lima formula**

Tukey's Multiple Comparison Test	Mean Diff.	q	Significant ? P < 0.05?	Summary	95% CI of diff
MP 1 vs MP 2	-2.490	6.564	Yes	**	-4.255 to -0.7245
MP 1 vs MP 3	-4.600	12.13	Yes	***	-6.365 to -2.835
MP 1 vs MP 4	-6.050	15.95	Yes	***	-7.815 to -4.285
MP 1 vs MP 5	-10.54	27.78	Yes	***	-12.31 to -8.775
MP 2 vs MP 3	-2.110	5.562	Yes	*	-3.875 to -0.3445
MP 2 vs MP 4	-3.560	9.384	Yes	***	-5.325 to -1.795
MP 2 vs MP 5	-8.050	21.22	Yes	***	-9.815 to -6.285
MP 3 vs MP 4	-1.450	3.822	No	ns	-3.215 to 0.3155
MP 3 vs MP 5	-5.940	15.66	Yes	***	-7.705 to -4.175

MP 4 vs MP 5	-4.490	11.84	Yes	***	-6.255 to -2.725
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Tabel 7. Jumlah Koloni Bakteri Seri Pengenceran LP

Cawan Petri	Faktor Pengenceran		
	$10^{-6}$	$10^{-7}$	$10^{-8}$
I	TBUD	225	241
II	TBUD	176	159
III	TBUD	165	165

Tabel 8. Jumlah Koloni Bakteri 5 Formula MP-LP

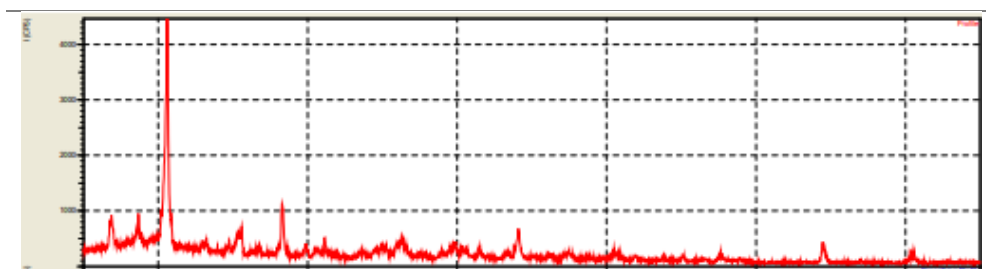
Faktor pengenceran	Formula				
	MP 1	MP 2	MP 3	MP 4	MP 5
$10^{-5}$	125	248	322	TBUD	TBUD
$10^{-6}$	67	176	291	TBUD	TBUD
$10^{-7}$	60	129	200	250	TBUD
$10^{-8}$	57	163	170	210	291
$10^{-9}$	32	100	123	203	219

Tabel 9. Hasil Analisis Statistika Data Viabilitas Lima Formula

Tukey's Multiple Comparison Test	Mean Diff.	q	Significant ? P < 0.05?	Summary	95% CI of diff
MP 1 vs MP 2	-2.900	6.074	Yes	*	-5.122 to -0.6780
MP 1 vs MP 3	-7.040	14.75	Yes	***	-9.262 to -4.818
MP 1 vs MP 4	-8.130	17.03	Yes	***	-10.35 to -5.908
MP 1 vs MP 5	-9.090	19.04	Yes	***	-11.31 to -6.868
MP 2 vs MP 3	-4.140	8.671	Yes	***	-6.362 to -1.918
MP 2 vs MP 4	-5.230	10.95	Yes	***	-7.452 to -3.008
MP 2 vs MP 5	-6.190	12.97	Yes	***	-8.412 to -3.968
MP 3 vs MP 4	-1.090	2.283	No	ns	-3.312 to 1.132
MP 3 vs MP 5	-2.050	4.294	No	ns	-4.272 to 0.1720
MP 4 vs MP 5	-9.600	2.011	No	ns	-3.182 to 1.262

Tabel 10. Hasil Analisis XRD LP Murni

<i>General information</i>			
<i>Analysis date</i>	08-21-23		
<i>Sample name</i>	Serbuk LP murni	<i>Operator</i>	Administrator
<i>Scanning</i>			
<i>Drive axis</i>	Theta – 2 Theta	<i>Scan range</i>	15 – 75 (deg)
<i>Comment</i>			
<i>Measurement profile</i>			



Peak list

# Strongest 3 peaks							
no. peak	2Theta (deg)	d (Å)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)	
1	6	20.5633	4.31572	100	0.22410	1548	19411
2	15	28.2857	3.15257	24	0.19030	377	4128
3	31	44.0763	2.05291	14	0.20520	215	2369

# Peak Data List							
peak no.	2Theta (deg)	d (Å)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)	
1	16.8385	5.26106	13	0.28290	208	3380	
2	18.4600	4.80243	5	0.12000	76	699	
3	18.6672	4.74959	12	0.19360	191	2099	
4	19.8200	4.47586	4	0.56000	59	1829	
5	20.1800	4.39682	12	0.15300	192	2342	
6	20.5633	4.31572	100	0.22410	1548	19411	
7	20.8800	4.25097	10	0.10260	153	1847	
8	22.9783	3.86731	3	0.15670	52	436	
9	23.1921	3.83214	4	0.15760	66	556	
10	24.6794	3.60446	5	0.27880	75	1157	
11	25.3400	3.51197	10	0.30400	148	2090	
12	25.5400	3.48492	11	0.17780	177	1407	
13	26.6632	3.34061	4	0.30860	62	1300	
14	28.0200	3.18186	4	0.19600	59	753	
15	28.2857	3.15257	24	0.19030	377	4128	
16	29.8672	2.98914	6	0.17940	89	1026	
17	31.1127	2.87226	8	0.15540	130	1587	
18	34.4986	2.59771	3	0.37070	51	1201	
19	34.9849	2.56271	5	0.30130	74	941	
20	35.2400	2.54474	4	0.16420	63	522	
21	35.9400	2.49677	5	0.24720	80	1624	
22	36.1800	2.48075	7	0.00000	107	0	
23	36.3400	2.47020	8	0.21660	118	1457	
24	36.5800	2.45454	4	0.17720	62	712	
25	39.5471	2.27695	5	0.19710	81	1228	
26	39.8253	2.26168	7	0.21070	108	1149	
27	40.3257	2.23476	4	0.34860	64	1037	
28	40.6200	2.21925	4	0.17820	59	597	
29	41.4696	2.17572	5	0.15410	77	748	
30	43.8400	2.06342	6	0.19380	88	1131	
31	44.0763	2.05291	14	0.20520	215	2369	
32	47.4480	1.91459	4	0.19600	68	1406	
33	50.4797	1.80648	5	0.19550	70	1444	
34	51.8860	1.76078	3	0.14800	54	475	
35	55.0773	1.66607	3	0.16970	49	468	
36	57.6090	1.59872	4	0.22810	69	933	
37	64.4533	1.44448	10	0.20000	159	1878	
38	70.3330	1.33743	7	0.16810	101	1418	

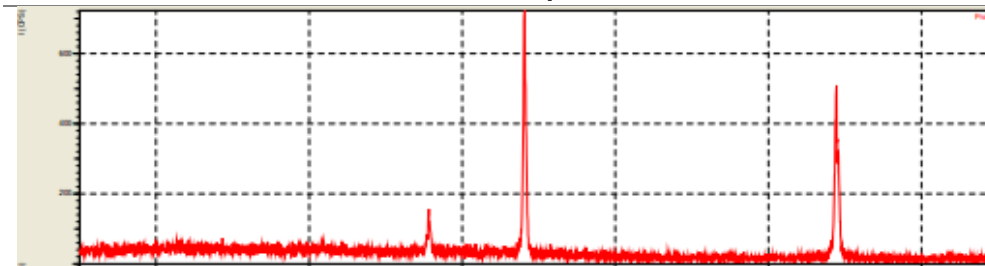
Tabel 11. Hasil Analisis XRD MP 3

<i>General information</i>			
<i>Analysis date</i>	08-25-23		
<i>Sample name</i>	MP 3	<i>Operator</i>	Administrator
<i>Scanning</i>			



**Drive axis**                      Theta – 2 Theta    **Scan range**                      15 – 75 (deg)  
**Comment**

**Measurement profile**



**Peak list**

# Strongest 3 peaks							
no.	peak no.	2Theta (deg)	d (Å)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)
1	3	44.0480	2.05416	100	0.17450	313	3071
2	5	64.4190	1.44517	76	0.20690	237	2590
3	2	37.8055	2.37774	14	0.17110	45	441

# Peak Data List							
peak no.	2Theta (deg)	d (Å)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)	
1	37.6200	2.38904	4	0.06660	11	40	
2	37.8055	2.37774	14	0.17110	45	441	
3	44.0480	2.05416	100	0.17450	313	3071	
4	64.0800	1.45200	5	0.16000	16	198	
5	64.4190	1.44517	76	0.20690	237	2590	

#### Lampiran 4. Dokumentasi Penelitian



**Gambar 7. Preparasi Media MRSA dan MRSB**



**Gambar 8. Peremajaan Bakteri LP**



**Gambar 9. Proses Formulasi MP-LP Menggunakan Metode Emulsifikasi**



**Gambar 10. Sentrifugasi Suspensi Bakteri**



**Gambar 11. Sentrifugasi Mikropartikel**



**Gambar 12. Proses Uji Viabilitas**



**Gambar 12. Proses Karakterisasi Fisik MP-LP dan Pengamatan terhadap Pertumbuhan Koloni Bakteri**