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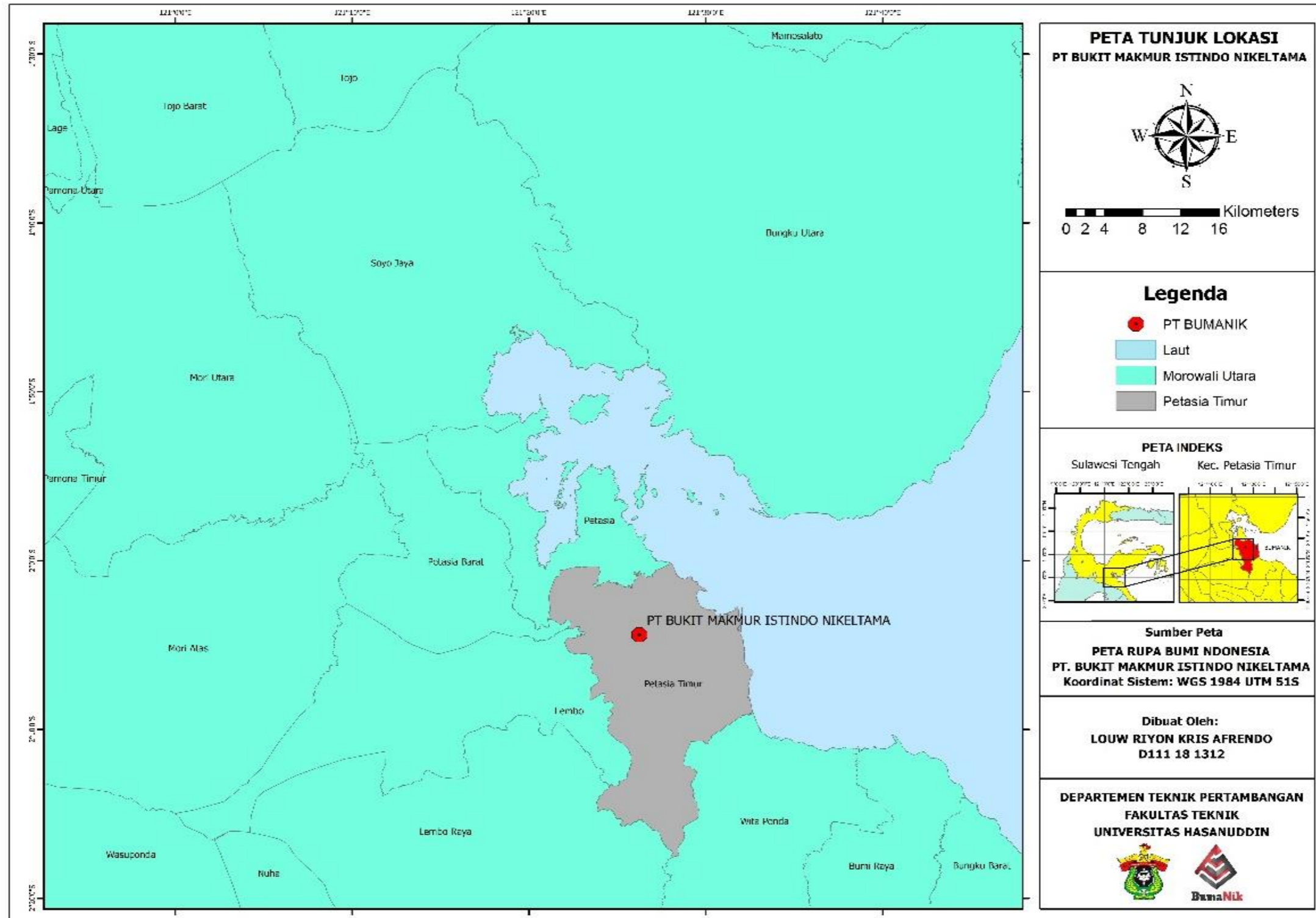
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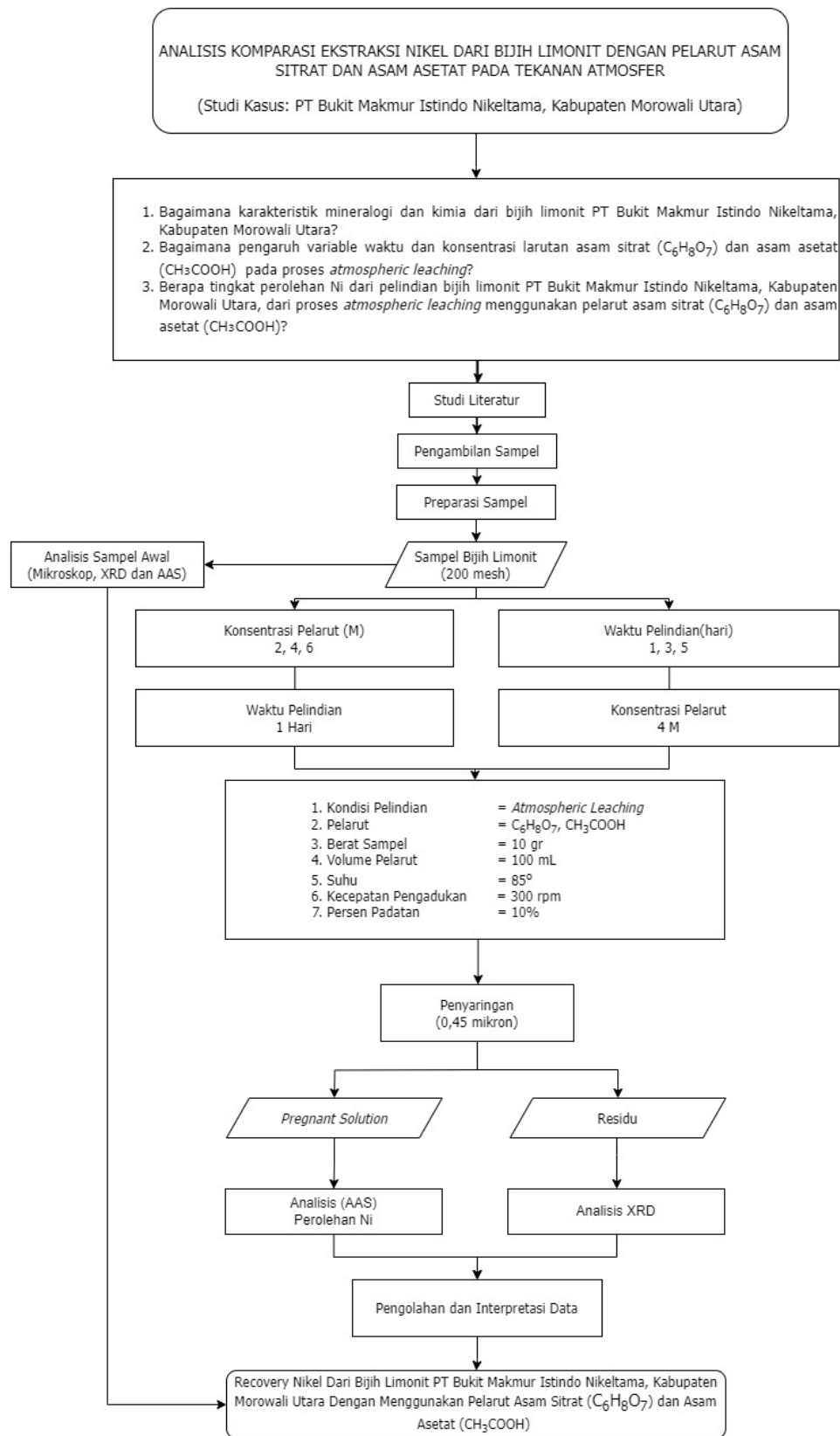
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LAMPIRAN

LAMPIRAN 1
PETA TUNJUK LOKASI DAERAH PENELITIAN



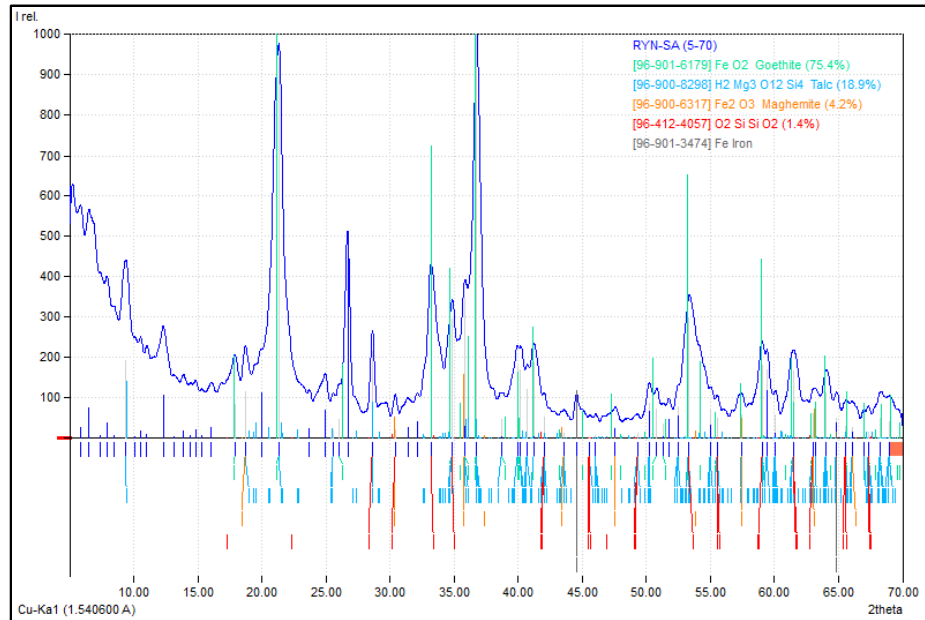
LAMPIRAN 2 DIAGRAM ALIR PENELITIAN



LAMPIRAN 3

HASIL ANALISIS XRD (X-Ray Diffraction)

Sampel Awal

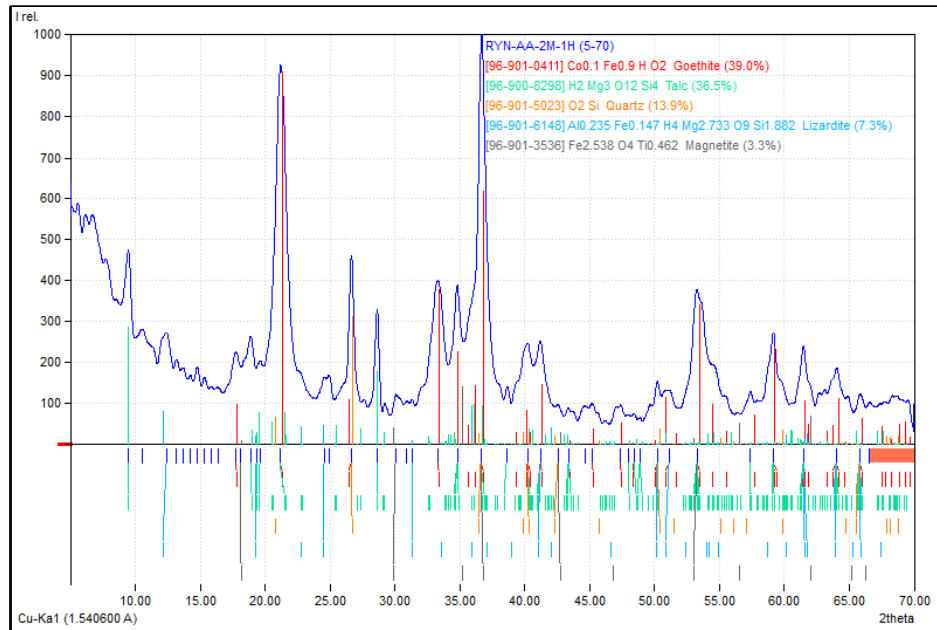


30 33.22 2.6947 389.81 45.05 0.7667 A,D

No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	5.86	15.0697	26.29	2.17	0.5090	
2	6.50	13.5873	75.22	6.19	0.5090	
3	7.40	11.9367	5.90	0.49	0.5090	
4	7.90	11.1823	39.50	3.25	0.5090	
5	8.50	10.3942	7.01	0.58	0.5090	
6	9.40	9.4010	192.08	14.74	0.5090	B
7	10.10	8.7509	3.20	0.27	0.5232	
8	10.54	8.3866	17.17	1.49	0.5373	
9	11.02	8.0223	10.41	0.93	0.5515	
10	12.30	7.1902	105.90	9.03	0.5656	
11	13.12	6.7426	2.86	0.30	0.6526	
12	13.90	6.3660	19.41	2.32	0.7397	
13	14.44	6.1291	7.33	0.93	0.7832	
14	14.84	5.9648	20.01	2.68	0.8267	
15	15.32	5.7789	6.17	0.87	0.8702	
16	16.06	5.5143	27.12	4.01	0.9137	
17	17.88	4.9569	83.04	15.80	1.2619	A
18	18.72	4.7363	115.80	20.24	1.0802	B,C
19	19.96	4.4448	113.21	18.12	0.9893	
20	21.32	4.1642	943.20	127.75	0.8985	A,B
21	23.70	3.7512	24.68	2.83	0.7091	
22	24.96	3.5646	70.83	5.55	0.5197	
23	25.56	3.4822	21.74	1.61	0.4568	B
24	26.02	3.4217	47.50	3.27	0.4253	A
25	26.70	3.3361	476.39	28.28	0.3938	
26	28.64	3.1144	216.75	9.26	0.2834	B,D
27	30.40	2.9380	20.78	1.07	0.3422	C,D
28	31.38	2.8484	27.64	2.48	0.5544	
29	32.14	2.7828	40.38	4.32	0.6605	

31	34.84	2.5730	294.77	34.07	0.7667	A,B,D
32	35.84	2.5035	347.13	40.12	0.7667	A,B,C
33	36.76	2.4429	1000.00	108.53	0.7200	A,B
34	38.72	2.3237	47.65	7.38	0.9577	A,B
35	39.94	2.2555	177.99	32.07	1.1954	A,B
36	40.20	2.2415	169.15	42.61	1.6709	A,B
37	40.72	2.2140	120.27	32.51	1.6709	B
38	41.24	2.1873	185.93	46.83	1.6709	A,B
39	42.02	2.1485	52.16	14.10	1.6709	B,D
40	43.56	2.0760	13.37	3.61	1.6709	B,C
41	44.58	2.0309	57.25	14.42	1.6709	
42	45.60	1.9878	3.15	0.83	1.6207	B,D
43	46.04	1.9698	6.03	1.56	1.5956	B
44	47.58	1.9096	27.62	7.02	1.5705	C
45	49.30	1.8469	11.60	2.94	1.5674	B,D
46	50.24	1.8145	86.88	21.99	1.5643	B
47	50.80	1.7958	72.25	18.21	1.5580	A
48	51.34	1.7782	35.35	8.84	1.5455	A
49	51.76	1.7648	45.77	11.26	1.5204	
50	52.48	1.7422	78.01	18.87	1.4953	B
51	53.34	1.7162	299.95	66.47	1.4702	A,B,D
52	55.02	1.6677	70.91	16.28	1.4192	B
53	55.54	1.6533	49.55	10.97	1.3681	A,B,D
54	57.40	1.6040	57.30	10.93	1.2660	A,B,C
55	59.04	1.5633	182.70	29.24	1.0618	A,B,D
56	59.42	1.5542	170.36	27.27	1.0618	B
57	60.08	1.5387	57.15	9.82	1.0618	B
58	61.48	1.5070	166.89	26.71	1.0618	A,B,D
59	63.04	1.4734	60.93	10.47	1.0618	A,B,C,D
60	63.20	1.4701	60.56	10.40	1.0618	A,B
61	64.02	1.4532	113.55	18.17	1.0618	A,B
62	64.84	1.4368	50.60	8.69	1.0618	B
63	65.58	1.4224	31.18	5.36	1.0618	A,B,D
64	66.08	1.4128	28.08	4.82	1.0618	B,C
65	66.96	1.3964	7.79	1.34	1.0618	A,B
66	67.30	1.3901	15.98	2.74	1.0618	A,B,D
67	68.26	1.3729	51.42	8.83	1.0618	A,B
68	68.92	1.3614	41.14	7.07	1.0618	A,B

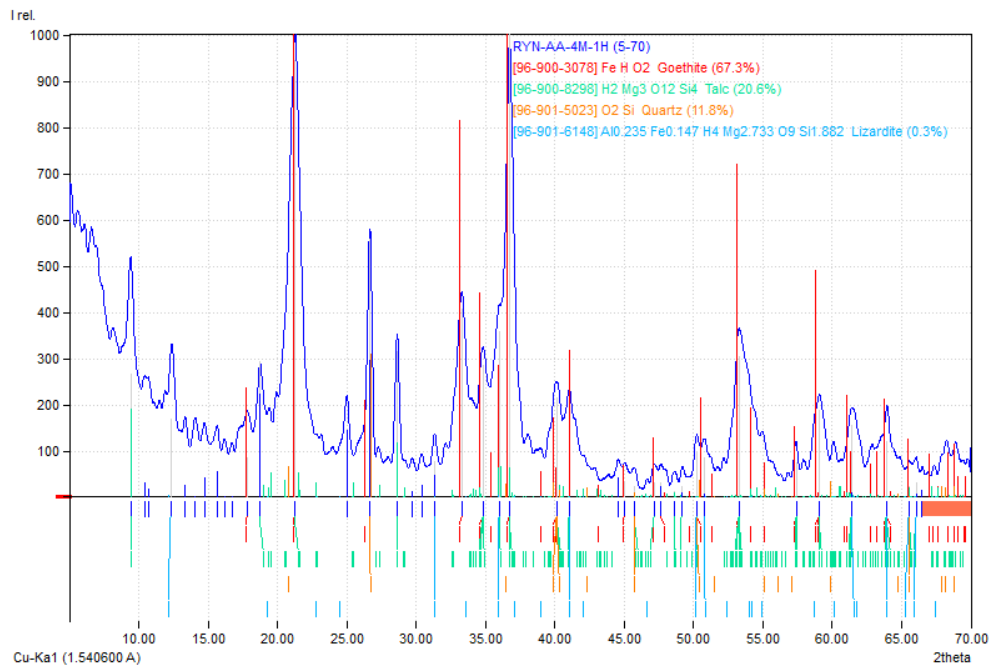
Asam Asetat 2 Molar 1 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.48	9.3218	211.81	13.22	0.4352	B
2	10.52	8.4025	44.87	6.35	0.9867	
3	12.4	7.1324	105.13	19.03	1.2624	D
4	13.18	6.712	40.21	8.19	1.2796	
5	13.68	6.4678	25.25	5.18	1.2882	
6	14.26	6.206	15.41	2.87	1.2969	
7	14.78	5.9888	44.63	8.52	1.3313	
8	15.32	5.7789	26.71	5.36	1.4003	
9	15.84	5.5904	7.31	1.71	1.4692	
10	16.36	5.4138	11.75	2.81	1.5037	
11	17.72	5.0013	100.59	24.35	1.5209	
12	17.74	4.9957	93.59	20.64	1.5381	A
13	18.14	4.8864	63.68	14.05	1.3856	E
14	18.88	4.6965	154.72	27.35	1.233	
15	18.9	4.6916	139.45	25.68	1.1568	B
16	19.32	4.5906	61.28	10.91	1.1186	B,D
17	19.62	4.521	89.57	13.88	1.0805	B
18	21.2	4.1875	908.46	120.88	0.928	A,B
19	24.58	3.6188	50.83	5.75	0.7885	D
20	24.9	3.573	55.66	5.18	0.649	
21	26.66	3.341	397.73	21.1	0.3701	A,C
22	28.64	3.1144	254.78	10.04	0.2749	B
23	30.1	2.9666	11.86	1.14	0.6692	E
24	30.88	2.8934	106.12	12.97	0.7677	
25	31.3	2.8555	109.99	15.17	0.8663	D

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
26	33.28	2.69	331.51	50.55	1.0635	A
27	34.8	2.5759	312.3	30.39	0.6787	A,B
28	36.68	2.4481	1000	91.76	0.64	A,B,C,E
29	38.66	2.3271	53.8	7.88	1.0218	B
30	40.24	2.2393	167.46	33.7	1.4036	A,B,C
31	41.2	2.1893	184.71	37.17	1.4036	A,B,D
32	42.58	2.1215	16.03	3.23	1.4036	C,E
33	43.36	2.0851	9.81	1.97	1.4036	A,B
34	44.64	2.0283	20.36	4.1	1.4036	
35	45.18	2.0053	28.83	5.8	1.4036	A
36	47.36	1.9179	34.05	6.85	1.4036	A
37	47.96	1.8953	11.21	2.26	1.4036	B
38	48.42	1.8784	15.05	3.03	1.4036	A,B
39	48.9	1.8611	3.5	0.78	1.4036	B
40	50.22	1.8152	99.83	20.09	1.4036	A,B,C,D
41	51.14	1.7847	73.53	14.8	1.4036	A,D
42	53.26	1.7185	340.38	68.5	1.4036	A,B,E
43	57.38	1.6046	53.08	10.11	1.1967	B
44	59.14	1.5609	191.05	27.11	0.9898	A,B
45	61.46	1.5075	157.36	24.79	0.9898	A,B,D
46	64.02	1.4532	103.1	16.24	0.9898	A,B,D
47	65.84	1.4174	38.78	6.11	0.9898	A,B,C,D
48	66.56	1.4038	19.86	3.13	0.9898	

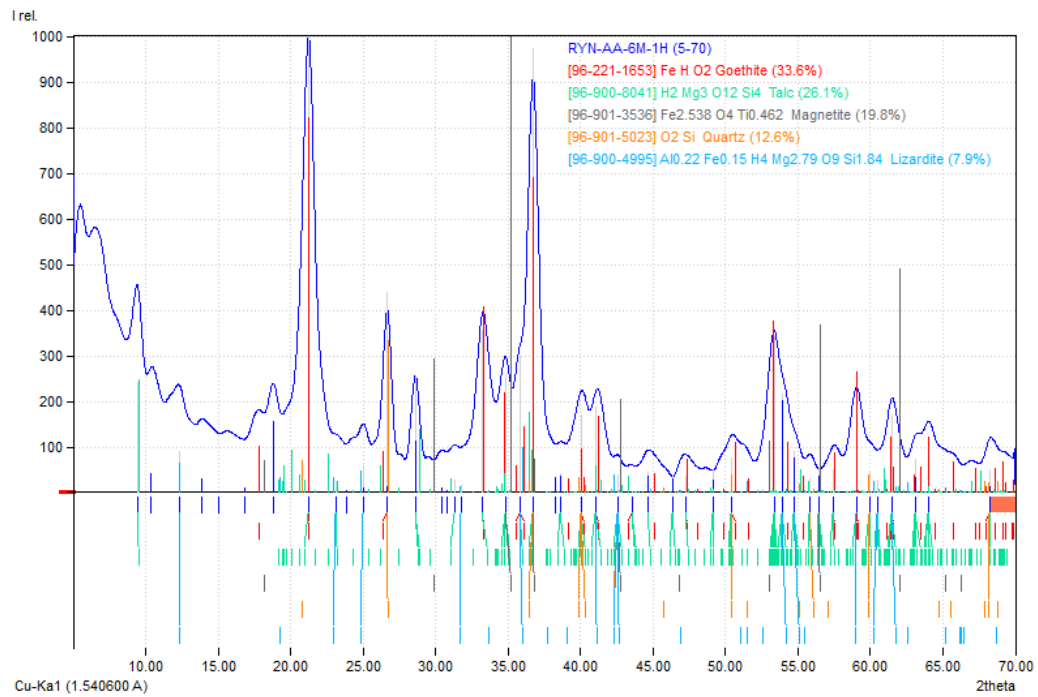
Asam Asetat 4 Molar 1 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.42	9.381	266.64	15.15	0.4117	B
2	10.44	8.4667	31.64	1.57	0.36	
3	10.7	8.2615	17.38	0.1	0.0417	
4	12.38	7.1439	168.19	8.36	0.36	D
5	13.36	6.622	26.8	1.33	0.36	
6	14.08	6.285	2.01	0.1	0.36	
7	14.74	6.005	41.82	1.29	0.2238	
8	15.68	5.6471	54.37	2.7	0.36	
9	16.18	5.4737	2.01	0.1	0.36	
10	16.72	5.2981	2.27	0.07	0.2276	
11	17.8	4.979	84.16	8.11	0.6985	A
12	18.74	4.7313	292.2	14.52	0.36	B
13	21.28	4.172	944.35	132.41	1.0159	A,B
14	25	3.559	144.84	8.02	0.4014	
15	26.68	3.3385	559.11	26.72	0.3463	C
16	28.64	3.1144	315.95	12.77	0.2928	B
17	29.7	3.0056	13.05	0.53	0.2934	
18	30.4	2.938	24.34	0.99	0.2937	
19	31.32	2.8537	77.77	3.16	0.2939	D
20	33.3	2.6884	407.62	46.3	0.8229	A
21	34.82	2.5745	285.4	32.41	0.8229	A,B
22	36	2.4927	357.66	41.04	0.7715	A,B,D
23	36.74	2.4442	1000	99.37	0.72	A,B
24	40.16	2.2436	216.02	41.29	1.3849	A,B,C

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
25	41.06	2.1965	170.33	45.77	1.9469	A,B,D
26	44.58	2.0309	43.23	11.59	1.943	
27	45.02	2.012	35.06	9.38	1.9392	A
28	45.72	1.9829	23.28	6.21	1.9314	B,C
29	47.16	1.9256	29.78	7.87	1.916	A,B
30	47.66	1.9066	30.41	7.91	1.8851	A
31	48.64	1.8704	12.03	3.08	1.8541	B
32	49.2	1.8504	22.19	5.63	1.8387	B
33	50.24	1.8145	96.35	24.24	1.8232	A,B,C,D
34	50.78	1.7965	86.07	20.19	1.6995	D
35	53.26	1.7185	303.62	60.85	1.4522	A,B
36	57.4	1.604	75.47	14.93	1.433	A,B
37	59.06	1.5629	186.72	36.44	1.4139	A,B
38	61.42	1.5083	154.51	29.34	1.3757	A,B,D
39	63.94	1.4548	120.57	21.62	1.2992	A,B,D
40	65.54	1.4231	23.24	4.49	1.2992	A,B,C,D
41	66.06	1.4132	32.28	6.24	1.2992	B,D
42	66.48	1.4053	14.93	2.88	1.2992	
44	59.14	1.5609	191.05	27.11	0.9898	A,B
45	61.46	1.5075	157.36	24.79	0.9898	A,B,D
46	64.02	1.4532	103.1	16.24	0.9898	A,B,D
47	65.84	1.4174	38.78	6.11	0.9898	A,B,C,D
48	66.56	1.4038	19.86	3.13	0.9898	

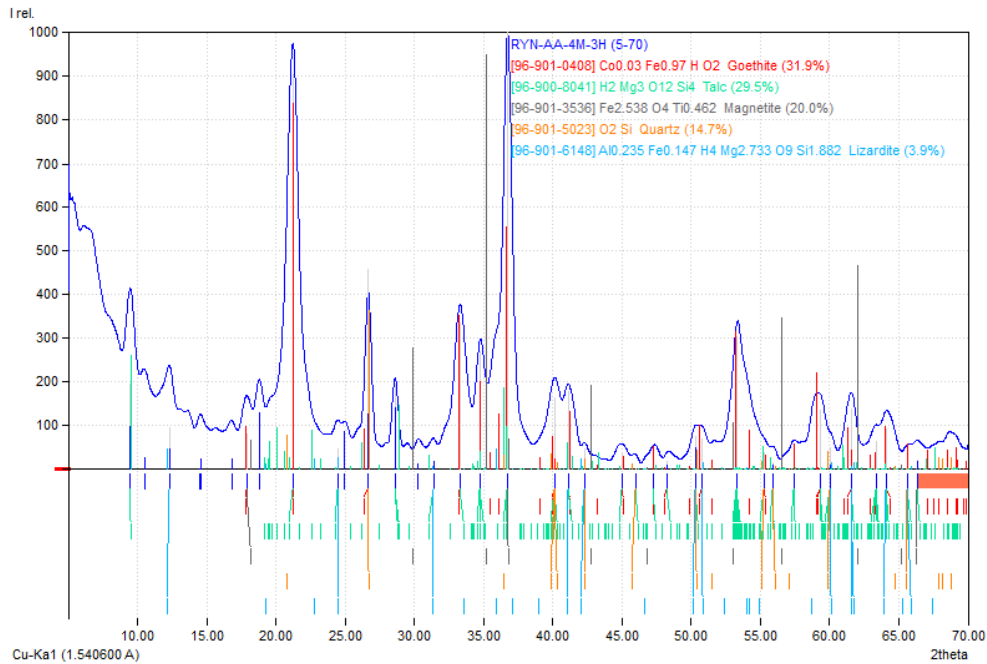
Asam Asetat 6 Molar 1 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.48	9.3218	241.68	14.56	0.42	B
2	10.32	8.5649	42.33	1.55	0.2554	
3	12.34	7.167	90.83	5.47	0.42	E
4	13.86	6.3842	29.6	2.04	0.48	
5	15.08	5.8704	1.45	0.1	0.48	
6	16.8	5.273	10.58	1.46	0.96	
7	18.82	4.7114	155.94	16.23	0.7256	
8	21.24	4.1797	1000	126.24	0.88	A,B
9	23.16	3.8374	23.52	3.65	0.96	B,E
10	23.82	3.7325	5.21	2.46	3.2944	
11	25.04	3.5534	59.2	4.08	0.48	E
12	26.66	3.341	437.49	26.36	0.42	A,D
13	28.6	3.1186	254.6	12.47	0.3414	B
14	30.4	2.938	9.54	0.68	0.4987	
15	30.8	2.9007	3.97	0.37	0.5773	
16	31.3	2.8555	27.87	2.62	0.6559	B
17	31.74	2.8169	15.61	2.05	0.8132	E
18	33.24	2.6931	356.9	49.69	0.9705	A,B
19	34.88	2.5702	257.37	35.83	0.9705	A,B,C
20	35.8	2.5062	298.38	37.04	0.8652	A,B,E
21	36.7	2.4468	973.54	106.14	0.76	A,B,C,D
22	38.3	2.3482	34.18	5.21	0.9413	

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
23	38.62	2.3294	40.33	7.33	1.1227	B
24	40.1	2.2468	171.14	36.47	1.4853	A,B,D
25	41.1	2.1944	188	40.06	1.4853	A,B,E
26	42.58	2.1215	39.89	8.42	1.4721	B,C,D,E
27	43.58	2.0751	0.58	0.14	1.4655	A,B
28	44.7	2.0257	45.12	9.44	1.4589	B
29	46.36	1.957	35.28	8.25	1.4456	B
30	47.28	1.921	34.8	7.15	1.4324	A,B
31	49.14	1.8526	49.52	11.27	1.4059	B
32	50.44	1.8078	75.82	15	1.3795	A,B,D
33	53.36	1.7156	341.2	67.52	1.3795	A,B
34	53.94	1.6985	214.5	43.42	1.4111	B,E
35	54.78	1.6744	88.8	18.38	1.4427	B,E
36	55.86	1.6446	30.82	6.45	1.4585	B,D
37	56.46	1.6285	51.65	12.25	1.4664	B,C
38	57.46	1.6025	50.34	10.65	1.4743	A,B
39	59.04	1.5633	194.05	41.92	1.506	A,B,E
40	59.92	1.5425	47.1	11.72	1.5376	B,D
41	60.48	1.5295	27.3	6.93	1.5692	B,E
42	61.48	1.507	168.65	39.49	1.6325	A,B,E
43	63.14	1.4713	73.04	18.43	1.759	A,B
44	64.02	1.4532	89.85	24.3	1.8855	A,B
45	68.22	1.3736	49.39	13.36	1.8855	A,B,D

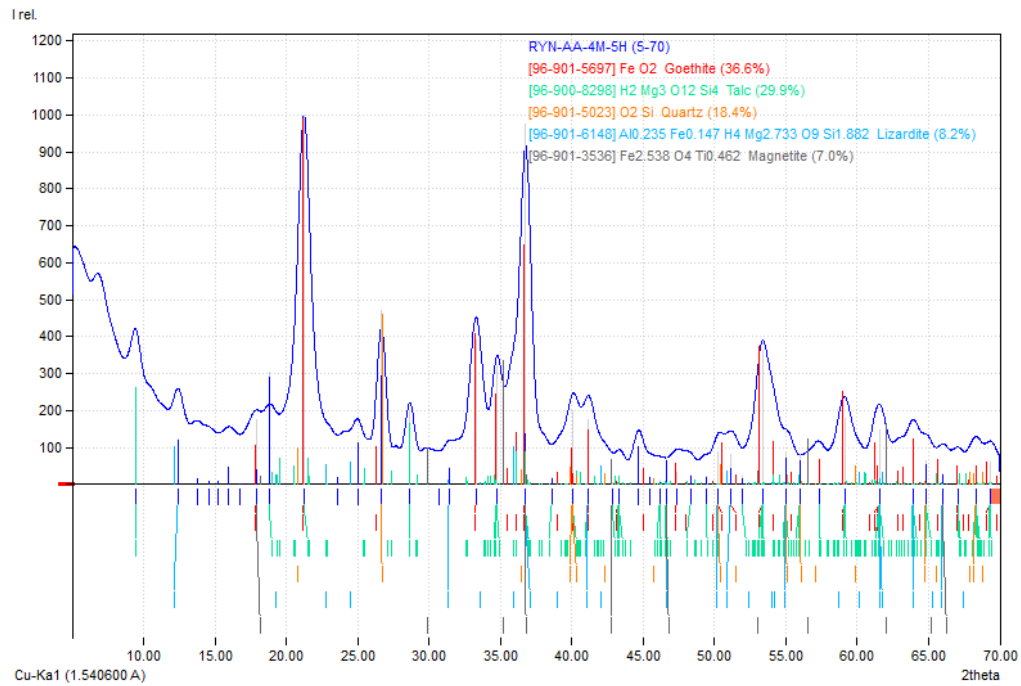
Asam Asetat 4 Molar 3 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.46	9.3415	195.18	15.2	0.4994	B
2	10.52	8.4025	28.32	2.07	0.4691	
3	12.3	7.1902	96.34	6.59	0.4387	E
4	14.54	6.0872	1.89	0.1	0.34	
5	14.56	6.0788	23.73	1.28	0.3451	
6	14.56	6.0788	21.82	1.19	0.3503	
7	16.8	5.273	24.64	1.96	0.5101	
8	17.88	4.9569	81.85	8.61	0.675	A,C
9	18.8	4.7163	129.3	16.23	0.8051	
10	21.22	4.1836	904.51	131.88	0.9353	A,B
11	24.46	3.6363	47.38	1.57	0.2127	B,E
12	24.98	3.5618	86.37	4.58	0.34	
13	26.64	3.3435	457.94	24.27	0.34	A,D
14	28.6	3.1186	197	8.78	0.2859	B
15	30.28	2.9493	13.64	0.42	0.1957	
16	31.38	2.8484	0.17	0.01	0.34	B,E
17	31.38	2.8484	17.39	0.74	0.2714	
18	33.28	2.69	336.54	50.22	0.9572	A,B
19	34.76	2.5788	271.19	40.47	0.9572	A,B
20	36.74	2.4442	1000	112.24	0.72	A,B,C
21	40.16	2.2436	165.15	51.51	2.0008	A,B,D
22	41.14	2.1924	177.37	18.8	0.68	A,B,E
23	42.28	2.1359	46.35	5.1	0.7053	B,D,E
24	45	2.0129	37.31	4.25	0.7306	A,B

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
25	45.98	1.9722	1.89	0.1	0.34	B,D
26	47.3	1.9202	42.69	2.26	0.34	A,B
27	48.3	1.8828	17.86	0.51	0.1843	A,B
28	50.3	1.8125	74.33	9.13	0.7881	B,D,E
29	50.78	1.7965	71.35	9.97	0.8962	A,E
30	53.32	1.7168	304.47	52.8	1.1125	A,B
31	55.24	1.6615	38.4	5.56	0.9294	A,B,D
32	55.9	1.6435	17.04	2.23	0.8379	B
33	55.92	1.6429	16.9	2.09	0.7921	B,D
34	57.4	1.604	30.81	3.58	0.7463	B
35	57.44	1.603	31.4	3.82	0.7795	A,B
36	59.3	1.5571	135.22	17.13	0.8127	A,B
37	60.02	1.5401	49.01	6.72	0.879	B,D,E
38	61.6	1.5044	138.96	20.48	0.9453	A,B,E
39	63.36	1.4668	63.22	10.62	1.078	A,B
40	64.14	1.4508	93.21	17.59	1.2107	A,B,E
41	65.64	1.4212	13.58	2.56	1.2107	A,B,D,E
42	66.32	1.4083	22.67	4.28	1.2107	B,C

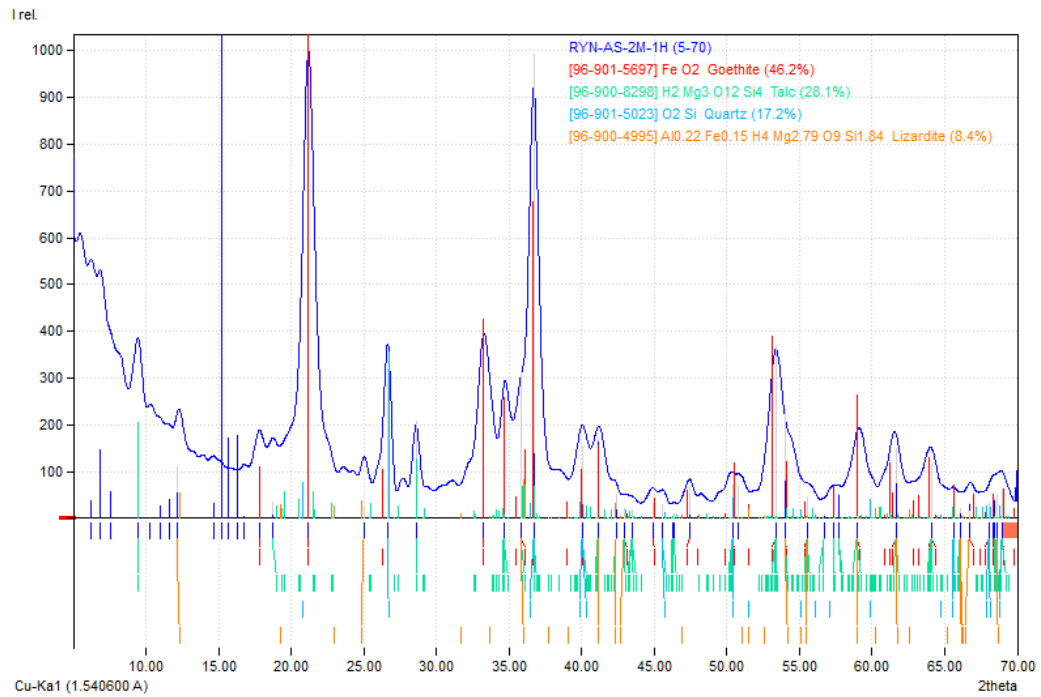
Asam Asetat 4 Molar 5 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.44	9.3612	169.14	11.53	0.5107	B
2	12.42	7.121	124.9	7.67	0.46	D
3	13.74	6.4397	17.03	1.05	0.46	
4	14.56	6.0788	10.28	0.71	0.52	
5	15.24	5.8091	7.78	0.54	0.52	
6	15.92	5.5625	48.11	3.34	0.52	
7	16.76	5.2855	0.72	0.1	1.04	
8	17.9	4.9514	175.38	12.17	0.52	A,E
9	18.86	4.7015	303.82	21.08	0.52	B
10	21.26	4.1758	1000	122.75	0.92	A,B
11	23.6	3.7668	19.73	4.84	1.8381	
12	25.02	3.5562	1.44	0.1	0.52	
13	25.02	3.5562	111.45	7.73	0.52	
14	26.68	3.3385	472.56	29	0.46	C
15	28.66	3.1122	198.86	10.34	0.3899	B
16	30.7	2.9099	0.82	0.1	0.917	
17	31.42	2.8449	45.89	3.18	0.52	D
18	33.28	2.69	390.45	64.03	1.2292	A
19	34.78	2.5773	323.3	53.02	1.2292	A,B
20	36.76	2.4429	976.02	109.39	0.84	A,B,D,E
21	38.6	2.3306	20.64	3.33	1.067	B
22	40.08	2.2479	201.1	34.72	1.2941	A,B,C

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
23	41.16	2.1914	175.53	40.94	1.7482	A,B,D
24	42.9	2.1064	3.65	0.85	1.748	B,E
25	43.34	2.0861	15.04	3.51	1.7478	A,B
26	44.68	2.0266	102.45	23.89	1.7474	
27	45.44	1.9944	18.21	4.24	1.7467	
28	46.2	1.9634	10.78	2.51	1.7453	B
29	46.6	1.9474	72.54	19.15	1.7439	B,D,E
30	47.38	1.9172	32.45	7.54	1.7424	A
31	48.34	1.8813	27.73	6.43	1.7367	B
32	49.42	1.8427	21.63	4.98	1.7253	B
33	50.26	1.8139	88.77	20.16	1.7025	A,B,C,D
34	51.18	1.7834	82.92	18.33	1.6568	A,D
35	51.96	1.7584	21.16	5.16	1.6111	B
36	53.36	1.7156	363.45	75.91	1.5654	A,B
37	55	1.6682	87.4	16.12	1.3826	B,C,D
38	55.98	1.6413	80.46	15.72	1.2913	B,C
39	57.34	1.6056	42.51	6.81	1.1999	A,B
40	59.14	1.5609	179.27	24.33	1.0171	A,B
41	61.56	1.5052	147.84	20.06	1.0171	A,B,D
42	63.92	1.4552	104.24	14.15	1.0171	A,B,D
43	64.86	1.4364	63.4	8.6	1.0171	B,C
44	66.02	1.414	30.88	4.19	1.0171	B,D,E
45	67.08	1.3942	13.69	1.86	1.0171	A,B
46	68.34	1.3715	35.35	4.8	1.0171	A,B,C
47	69.36	1.3538	59.97	8.14	1.0171	A,B

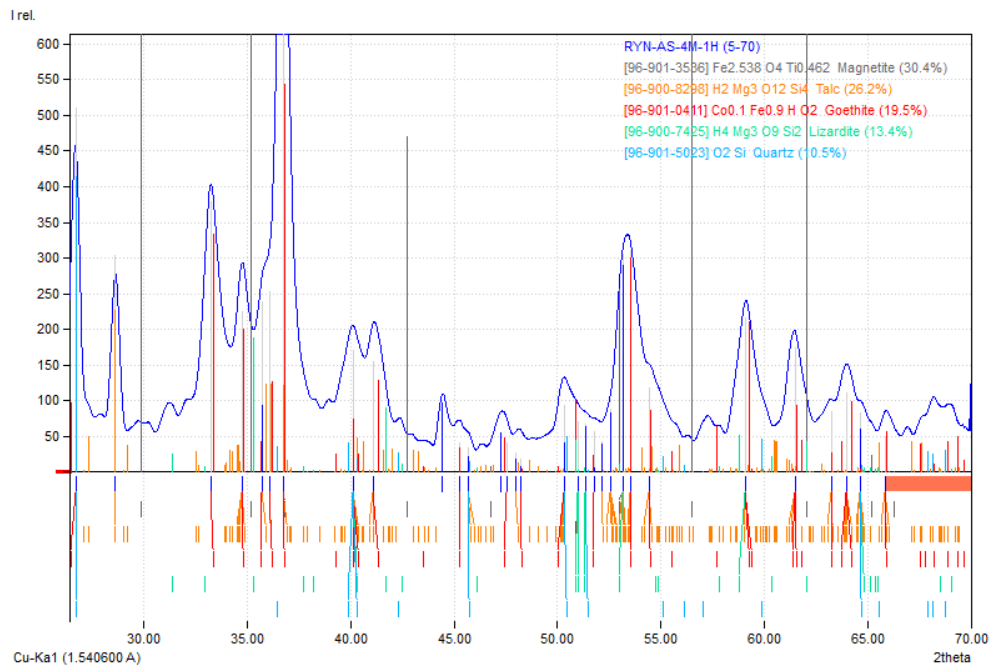
Asam Sitrat 2 Molar 1 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	6.22	14.1983	39.06	1.54	0.2799	
2	6.88	12.8376	145.66	5.74	0.2799	
3	7.54	11.7153	58.25	2.6	0.3171	
4	9.46	9.3415	126.1	7.81	0.44	B
5	10.3	8.5814	0.81	0.1	0.88	
6	11.02	8.0223	25.41	1.57	0.44	
7	11.58	7.6356	40.89	0.56	0.0982	
8	12.2	7.2489	110.15	3.35	0.2164	D
9	14.72	6.0131	31.61	1.36	0.3052	
10	15.18	5.8319	-0.02	0	0.3496	
11	15.66	5.6542	171.47	8.97	0.3718	
12	16.28	5.4403	177.76	9.58	0.3829	
13	16.76	5.2855	4.4	0.24	0.3885	
14	17.8	4.979	77.18	4.78	0.44	A
15	18.76	4.7263	35.3	2.03	0.4083	B
16	21.18	4.1914	1000	122.89	0.8734	A
17	25.02	3.5562	22.72	1.41	0.44	D
18	26.68	3.3385	320.38	19.83	0.44	C
19	28.6	3.1186	207.77	7.81	0.2673	B
20	33.18	2.6979	369.27	55.47	1.0677	A
21	34.7	2.5831	258.11	40.2	1.1071	A,B
22	35.86	2.5022	314.81	45.53	1.028	A,B,D
23	36.72	2.4455	992.01	110.35	0.7906	A,B,C

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
24	40.04	2.25	139.59	52.24	2.6597	A,B,C
25	40.04	2.25	156	36.93	1.6824	
26	41.16	2.1914	172.15	30.83	1.2727	B,D
27	41.18	2.1904	143.59	54.51	2.698	A
28	42.38	2.1311	52.24	12.71	1.729	B,C,D
29	42.94	2.1046	22.08	2.36	0.76	A,B,D
30	43.5	2.0788	17.08	4.01	1.6681	B
31	44.94	2.0154	31.64	2.84	0.6383	A
32	45.52	1.9911	28.02	2.27	0.5769	B,C
33	46.32	1.9586	7.55	0.54	0.5036	B
34	46.36	1.957	8.49	0.56	0.467	B
35	47.48	1.9134	69.2	4.19	0.4304	A
36	50.42	1.8085	70.79	15.14	1.52	A,B,C
37	50.74	1.7978	68.4	15.69	1.6302	
38	53.36	1.7156	369.87	61.53	1.1824	A,B
39	54.02	1.6962	232.13	116.92	3.5798	A,B,D
40	55.54	1.6533	46.97	5.02	0.76	A,B,D
41	56.68	1.6227	9.83	1.25	0.9014	B
42	57.38	1.6046	27.23	3.99	1.0427	A,B
43	57.74	1.5954	52.88	5.65	0.76	B
44	58.94	1.5658	159.73	25.74	1.1454	A,B,D
45	61.64	1.5035	149.73	21.8	1.0349	A,B,D
46	64.08	1.452	115.67	16.57	1.0183	A,B
47	65.6	1.422	40.77	4.44	0.7749	A,B,C
48	66.06	1.4132	20.37	1.61	0.5631	B,D
49	66.7	1.4012	33.33	1.65	0.3512	D
50	66.72	1.4008	15.33	1.15	0.5316	A
51	68.1	1.3757	33.58	2.51	0.5316	A,B,C
52	68.3	1.3722	34.13	11.57	2.409	A
53	68.4	1.3704	43.53	8.19	1.3378	B
54	68.62	1.3666	50.72	11.61	1.6274	B,D
55	68.92	1.3614	61.53	6.91	0.798	A,B,C

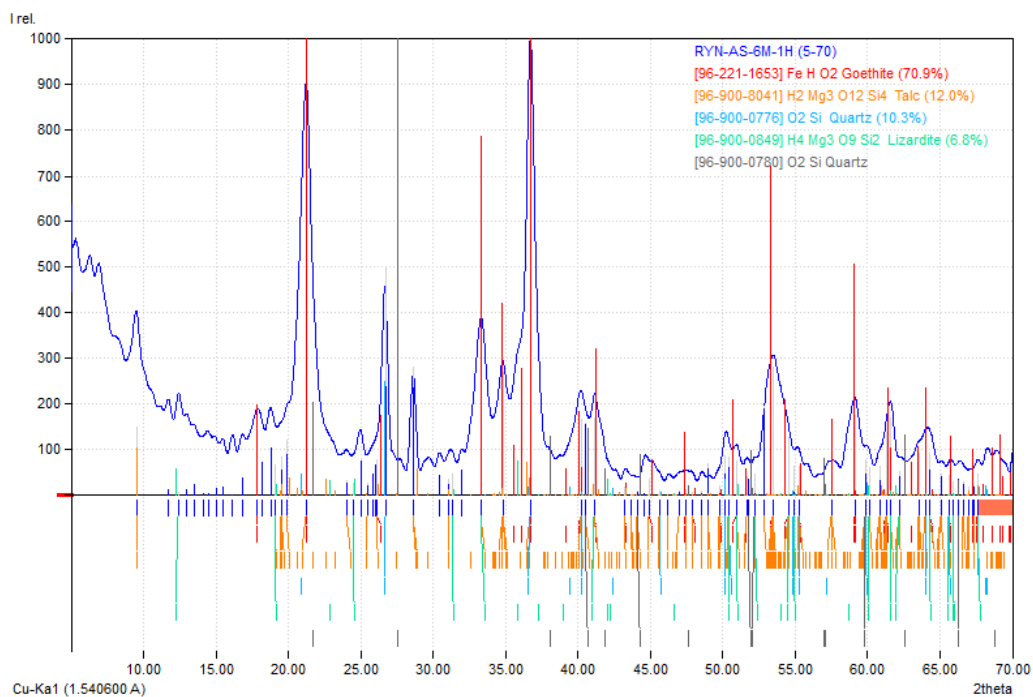
Asam Sitrat 4 Molar 1 Hari



No.	2theta [°]	d [Å]	I/I ₀ (peak height)	Counts (peak area)	FWHM	Matched
1	9.46	9.3415	243.26	16.10	0.4509	B
2	11.70	7.5576	35.79	0.97	0.1851	
3	12.42	7.1210	133.93	4.87	0.2476	D
4	13.36	6.6220	16.46	0.64	0.2655	
5	13.86	6.3842	23.11	0.96	0.2833	
6	14.48	6.1122	21.57	1.90	0.6009	
7	16.00	5.5348	47.95	8.05	1.1430	
8	16.78	5.2793	39.13	6.49	1.1289	
9	17.86	4.9624	76.76	12.56	1.1149	A,C
10	18.66	4.7514	118.17	18.86	1.0868	
11	18.68	4.7464	114.52	17.33	1.0307	B,D
12	20.20	4.3925	140.74	20.14	0.9745	
13	21.20	4.1875	841.38	113.45	0.9184	B,C
14	21.86	4.0626	270.91	34.43	0.7610	B
15	24.48	3.6334	53.78	4.77	0.6036	
16	24.92	3.5702	130.16	5.52	0.2888	D
17	26.70	3.3361	510.54	24.27	0.3238	C,E
18	28.62	3.1165	303.17	11.13	0.2500	B
19	33.26	2.6916	378.19	41.19	0.7418	C
20	34.74	2.5802	225.70	45.62	1.3767	B,C
21	35.74	2.5103	239.26	41.45	1.0374	B,C
22	36.10	2.4861	252.69	36.62	0.8678	B,C
23	36.74	2.4442	1000.00	102.49	0.6981	A,B,C
24	40.14	2.2447	170.10	36.82	1.4746	B,C,D,E

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
25	41.12	2.1934	154.92	61.70	2.7128	B,C
26	44.44	2.0369	97.63	5.88	0.4102	
27	45.26	2.0019	41.74	5.31	0.8670	C
28	45.70	1.9837	34.28	4.36	0.8670	B,E
29	47.24	1.9225	54.43	5.30	0.6635	
30	47.54	1.9111	41.04	8.22	1.3647	C
31	47.98	1.8946	26.66	10.86	2.7739	B
32	48.22	1.8857	18.96	4.12	1.4803	C
33	50.36	1.8105	93.82	17.71	1.2854	B,C,E
34	50.98	1.7899	70.91	28.02	2.6917	C,D
35	51.34	1.7782	67.04	5.91	0.6000	D,E
36	51.78	1.7641	56.73	5.00	0.6000	C
37	52.14	1.7528	43.30	3.81	0.6000	B
38	52.56	1.7398	88.94	7.83	0.6000	B
39	53.20	1.7203	305.96	56.15	1.2499	A,B,D
40	53.52	1.7108	310.31	65.26	1.4326	B,C
41	54.42	1.6846	118.31	23.82	1.2057	B,C
42	59.12	1.5614	216.11	31.05	0.9787	B,C,D
43	61.50	1.5066	173.99	21.98	0.8604	B,C
44	63.26	1.4688	85.37	14.96	1.1933	B,C
45	64.00	1.4536	110.81	24.83	1.5261	B,C
46	64.66	1.4404	82.32	18.44	1.5261	B,C,D,E
47	65.88	1.4166	50.64	12.91	1.5261	B,C

Asam Sitrat 6 Molar 1 Hari

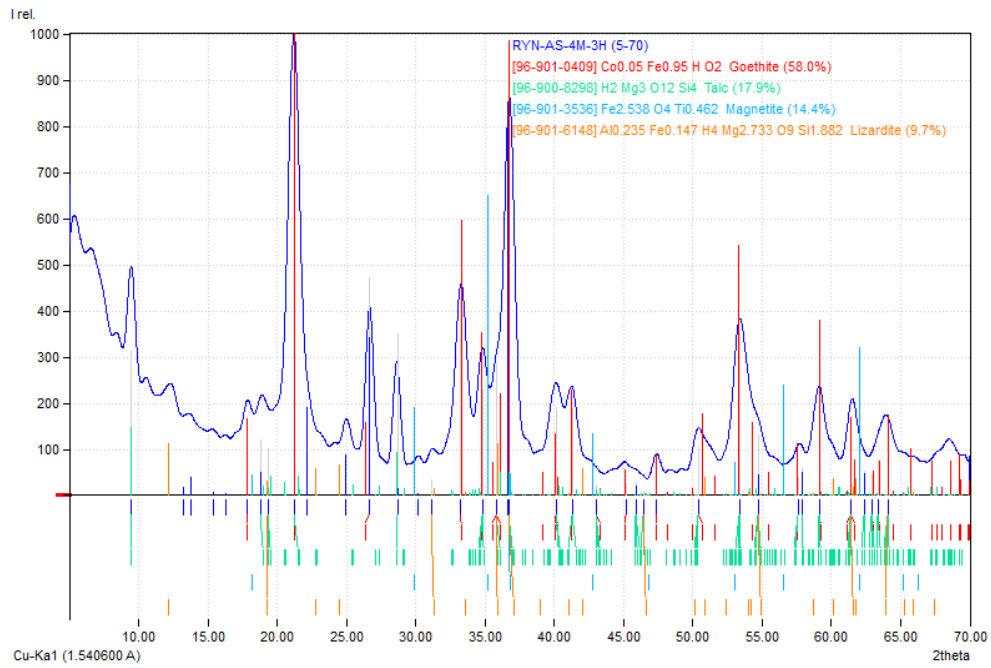


No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	9.52	9.2827	148.61	7.4	0.3558	B
2	11.74	7.5319	12.04	2.03	1.202	
3	12.42	7.121	6.82	1.95	2.0482	D
4	17.86	4.9624	84.5	13.16	1.1121	A
5	18.18	4.8758	73.28	27.73	2.7023	
6	18.8	4.7163	104.29	26.77	1.8336	
7	19.12	4.6381	67.76	13.28	1.3993	B,D
8	19.5	4.5486	84.61	14	1.1821	B
9	19.94	4.4492	121.08	18.2	1.0735	B
10	21.26	4.1758	847.53	114.5	0.9649	A,B
11	24.06	3.6958	32.49	3.76	0.8267	B
12	24.5	3.6304	26.07	2.51	0.6885	D
13	25.02	3.5562	75.53	4.36	0.412	
14	25.5	3.4903	27.85	1.55	0.3979	B
15	25.86	3.4425	47.59	2.56	0.3838	

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
16	26.04	3.4191	66.42	3.44	0.3697	
17	26.14	3.4063	77.95	3.96	0.3627	A,B
18	26.7	3.3361	500.29	24.91	0.3556	C
19	28.62	3.1165	281.92	11.41	0.289	B
20	30.42	2.9361	44.03	7.32	1.044	
21	31.02	2.8806	36.67	9.24	1.799	B
22	31.36	2.8502	46.67	10.36	1.3942	D
23	31.92	2.8014	54.56	10.35	1.1918	
24	33.32	2.6869	366.65	50.79	0.9894	A,B,D
25	34.86	2.5716	269.84	29.38	0.7776	A,B
26	36.7	2.4468	1000	104.13	0.7437	A,B,C
27	40.26	2.2383	167.76	59.4	2.529	A,B,C
28	40.56	2.2224	158.87	12.46	0.56	B
29	41.16	2.1914	169.37	36.98	1.5594	A,B,D
30	43.26	2.0897	18.85	3.81	1.4436	A,B
31	43.68	2.0706	1.87	0.35	1.3278	B
32	44.08	2.0527	8.72	1.34	1.0963	B
33	44.58	2.0309	3.27	0.38	0.8211	
34	44.92	2.0163	36.53	3.73	0.7294	A,B
35	45.64	1.9861	9.12	1.05	0.8211	B,C
36	46.22	1.9626	1.21	0.14	0.8211	B
37	47.02	1.931	8.74	1	0.8211	B
38	47.44	1.9149	13.32	1.53	0.8211	A,B
39	47.9	1.8976	6.54	0.75	0.8211	A,B
40	48.56	1.8733	9.11	1.05	0.8211	B
41	48.98	1.8582	68.73	7.9	0.8211	B
42	49.78	1.8302	20.4	2.34	0.8211	A,B
43	50.14	1.8179	85.97	8.98	0.7465	B,C
44	50.44	1.8078	84.63	12.42	1.0478	B,C,D
45	50.96	1.7906	75.51	12.28	1.1613	A,B,D

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
46	51.64	1.7686	41.4	7.72	1.3315	A,B
47	51.8	1.7635	35.99	7.14	1.4165	
48	52.2	1.7509	45.87	9.37	1.4591	B,D
49	52.86	1.7306	196.36	62.37	2.2686	B
50	53.52	1.7108	281.11	59.1	1.5016	A,B
51	54.52	1.6818	128.39	22.38	1.2448	A,B,D
52	54.96	1.6693	65.45	10.82	1.1806	B,C,D
53	55.28	1.6604	63.46	9.92	1.1164	A,B,C
54	57.52	1.601	25.1	4.2	1.0522	A,B
55	59.12	1.5614	176.44	24.41	0.9879	A
56	59.84	1.5443	78.69	9.73	0.883	B,C
57	60.1	1.5383	60.71	7.06	0.8306	B,D
58	60.9	1.52	64.34	7.25	0.8043	B
59	61.3	1.511	139.7	21.21	1.0843	A,B
60	61.58	1.5048	170.81	18.61	0.7781	A,B,D
61	62.22	1.4909	52.51	5.72	0.7781	B,D
62	63.6	1.4618	94.21	10.26	0.7781	A,B
63	64.02	1.4532	107.58	20.74	1.377	A,B,C
64	64.32	1.4472	92.3	21.71	1.6803	A,B,D
65	65.06	1.4325	45.96	10.81	1.6803	B
66	65.66	1.4208	42.96	10.11	1.6803	A,B,C,D
67	65.92	1.4159	30.45	7.16	1.6803	B,D
68	66.28	1.409	36.52	8.59	1.6803	B
69	66.64	1.4023	28.72	6.76	1.6803	B
70	67.02	1.3953	18.28	4.3	1.6803	B
71	67.24	1.3912	15.98	3.76	1.6803	A
72	67.36	1.389	22.76	5.36	1.6803	B

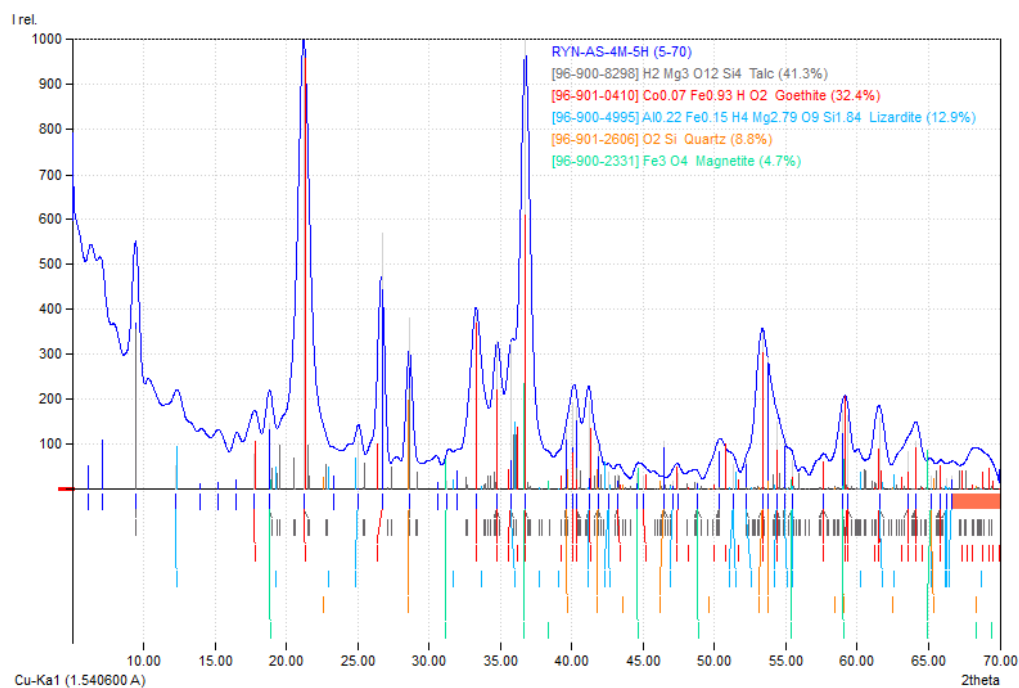
Asam Sitrat 4 Molar 3 Hari



No.	2theta [°]	d [Å]	I/10 (peak height)	Counts (peak area)	FWHM	Matched
1	9.46	9.3415	313.02	16.35	0.3777	B
2	13.28	6.6617	17.60	1.47	0.6037	
3	13.82	6.4026	38.77	1.28	0.2393	
4	15.36	5.7640	7.85	0.40	0.3344	
5	16.26	5.4469	3.77	0.22	0.3820	
6	17.82	4.9734	125.27	7.44	0.4296	A
7	18.84	4.7064	119.62	12.90	0.7798	B
8	19.32	4.5906	100.51	11.27	0.8113	B,D
9	21.26	4.1758	1000.00	125.25	0.9059	A,B
10	22.12	4.0154	190.79	17.23	0.6533	
11	24.94	3.5674	88.11	4.88	0.4006	
12	26.68	3.3385	472.33	23.65	0.3621	A
13	28.68	3.1101	350.20	13.05	0.2696	B
14	30.20	2.9570	3.55	0.22	0.4437	
15	31.18	2.8662	33.87	2.89	0.6178	D
16	33.26	2.6916	426.06	56.91	0.9661	A
17	34.80	2.5759	228.01	67.45	2.1395	A,B
18	35.84	2.5035	284.51	60.44	1.5366	A,B,D
19	36.64	2.4507	842.96	108.82	0.9337	
20	36.76	2.4429	894.01	104.11	0.8422	A,B,C,D
21	40.12	2.2457	191.25	46.88	1.7729	A,B
22	41.36	2.1812	189.07	32.70	1.2510	A,B
23	43.06	2.0990	21.97	4.07	1.3408	A,B
24	45.22	2.0036	26.18	5.18	1.4305	A

<i>No.</i>	<i>2theta [°]</i>	<i>d [Å]</i>	<i>I/I0 (peak height)</i>	<i>Counts (peak area)</i>	<i>FWHM</i>	<i>Matched</i>
25	45.96	1.9731	27.63	3.75	0.9813	B
26	46.44	1.9538	10.15	1.06	0.7567	B,D
27	47.32	1.9195	18.27	1.34	0.5321	A
28	50.44	1.8078	102.90	16.46	1.1569	A,B
29	53.36	1.7156	353.83	61.51	1.2574	A,B
30	54.74	1.6755	130.70	19.93	1.1028	B,D
31	57.62	1.5984	38.88	16.38	3.0475	A,B
32	57.88	1.5919	59.55	16.45	1.9979	B
33	59.16	1.5605	192.63	25.26	0.9483	A,B
34	61.42	1.5083	158.17	18.16	0.8303	A,B,D
35	62.36	1.4878	53.39	12.87	1.7429	B
36	62.90	1.4764	45.93	5.33	0.8400	A,B
37	63.40	1.4659	78.35	28.77	2.6556	A,B
38	64.08	1.4520	108.18	21.01	1.4048	A,B,D

Asam Sitrat 4 Molar 5 Hari



No.	2theta [°]	d [Å]	I/I0 (peak height)	Counts (peak area)	FWHM	Matched
1	6.16	14.3364	53.09	1.4	0.1938	
2	7.08	12.4754	109.56	5.03	0.3386	
3	9.44	9.3612	370.4	19.63	0.3906	A
4	12.24	7.2253	50.34	4.49	0.6573	
5	12.26	7.2136	52.78	4.4	0.6145	C
6	14	6.3207	12.21	0.89	0.5374	
7	15.24	5.8091	16.99	1.06	0.4603	
8	16.48	5.3747	20.07	1.44	0.5301	
9	17.72	5.0013	79.05	7.18	0.6696	B
10	18.8	4.7163	145.87	10.48	0.5296	A,E
11	21.24	4.1797	976.47	123.33	0.9308	A,B
12	23.3	3.8146	30.42	3.06	0.6325	
13	25.06	3.5506	103.78	4.71	0.3341	C
14	26.7	3.3361	570.24	27.17	0.3512	B
15	28.6	3.1186	380.32	15.22	0.2948	A,D
16	30.58	2.9211	16.84	0.67	0.2927	
17	31.26	2.8591	17.47	0.69	0.2905	E
18	31.98	2.7963	40.81	3.27	0.5913	
19	33.28	2.69	393.73	47.66	0.8921	B
20	34.76	2.5788	330.89	29.96	0.6673	A,B
21	35.76	2.5089	327.88	29.69	0.6673	A,B,C
22	36.72	2.4455	1000	108.5	0.7996	A,B,E
23	39.66	2.2707	135.52	43.39	2.3593	A,D
24	40.06	2.249	193.01	39.89	1.5231	B

<i>No.</i>	<i>2theta</i> [°]	<i>d</i> [Å]	<i>I/I0</i> (<i>peak height</i>)	<i>Counts</i> (<i>peak area</i>)	<i>FWHM</i>	<i>Matched</i>
25	40.38	2.2319	183.49	63.36	2.5446	A,B
26	41.26	2.1863	195.29	31.66	1.1949	A,B,C
27	41.84	2.1573	100.35	10.33	0.7587	A,D
28	42.62	2.1196	38.56	2.97	0.5676	C
29	43.18	2.0934	33.08	1.69	0.3765	A,B
30	44.58	2.0309	36.33	1.59	0.3224	E
31	44.98	2.0137	25.95	2.39	0.6783	B
32	46.48	1.9522	106.37	13.12	0.9088	A,D
33	47.06	1.9295	17.65	2.45	1.024	A,C
34	47.44	1.9149	36.83	5.69	1.1393	B
35	48.84	1.8632	15.05	2.27	1.1115	A,E
36	50.3	1.8125	82.97	12.2	1.0837	A
37	51.34	1.7782	55.22	8.89	1.186	C
38	52.26	1.7491	66.24	11.12	1.2371	A,C
39	53.38	1.715	350.77	61.32	1.2883	A,B,D
40	53.78	1.7032	293.93	73.1	1.8329	D
41	54.42	1.6846	149.74	33.01	1.6244	A,B,C
42	54.9	1.671	100.52	20.74	1.5202	A,C
43	55.42	1.6566	64.47	12.39	1.416	A,B,C,E
44	57.6	1.5989	42.45	6.96	1.2076	A,B
45	58.98	1.5648	175.88	23.85	0.9992	A,C,D,E
46	59.32	1.5566	163.28	24.28	1.0959	A,B
47	61.62	1.5039	157.61	17.72	0.8284	A,B,C
48	63.56	1.4626	84.32	25.51	2.2294	A,B
49	64.1	1.4516	107.82	18.44	1.2605	A,B
50	65.18	1.4301	30.48	5.21	1.2605	A,C,D,E
51	65.78	1.4185	39.74	6.8	1.2605	A,B
52	66.22	1.4102	22.96	3.93	1.2605	A,C
53	66.64	1.4023	30.78	5.27	1.2605	C

LAMPIRAN 4 HASIL ANALISIS AAS



KEMENTERIAN KESEHATAN RI
DIREKTORAT JENDERAL PELAYANAN KESEHATAN
BALAI BESAR LABORATORIUM KESEHATAN MAKASSAR
Jl. Perintis Kemerdekaan KM.11 Tamalanrea Makassar 90245



LAPORAN HASIL UJI

Report of Analysis

No : 22024392 - 22024402 / LHU / BBLK-MKS / IX / 2022

Nama Customer : LOUW RIYON KRIS AFRENDO
Customer Name :
Alamat : Fakultas Teknik Universitas Hasanuddin
Address :
Jenis Sampel : Larutan & Bubuk
Type of Sample (S) :
No. Sampel : 22024392 - 22024402
No. Sample :
Tanggal Penerimaan : 22 September 2022
Received Date : September 22, 2022
Tanggal Pengujian : 22 September s/d 11 Oktober 2022
Test Date : September 22, 2022 to October 11, 2022

HASIL PEMERIKSAAN

No	No. Lab	Kode Sampel	Satuan	Nikel (Ni)
1	22024392	Asam Sitrat 2 M (1 Hari)	mg/L	0,94
2	22024393	Asam Sitrat 4 M (1 Hari)	mg/L	66,48
3	22024394	Asam Sitrat 6 M (1 Hari)	mg/L	81,44
4	22024395	Asam Sitrat 4 M (3 Hari)	mg/L	5,26
5	22024396	Asam Sitrat 4 M (5 Hari)	mg/L	3,34
6	22024397	Asam Asetat 2 M (1 Hari)	mg/L	13,23
7	22024398	Asam Asetat 6 M (1 Hari)	mg/L	43,78
8	22024399	Asam Asetat 4 M (1 Hari)	mg/L	35,76
9	22024400	Asam Asetat 4 M (3 Hari)	mg/L	31,81
10	22024401	Asam Asetat 4 M (5 Hari)	mg/L	25,12
11	22024402	Bubuk (Sampel Awal)	µg/g	12571,26

Makassar, 11 Oktober 2022
Sub Koordinator Labkesmas,

ARRAZ KARTANEGERA, S.Farm
NIP : 196802061488031002

LAMPIRAN 5

PERHITUNGAN KADAR Ni

Kadar nikel dihitung dengan rumus sebagai berikut:

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100\%$$

1. Kadar Ni sampel awal

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (\mu/g)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100\%$$

$$\text{Kadar (\%)} = \frac{12571,26 (\mu/g) \times 0,10(L)}{10000(mg)} \times 100\%$$

$$\text{Kadar (\%)} = 1.2\%$$

2. Asam Sitrat 2 Molar 1 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{0,94 (\text{mg/L}) \times 0,10(L)}{10000(mg)} \times 100\%$$

$$\text{Kadar (\%)} = 0,00094\%$$

3. Asam Sitrat 4 Molar 1 hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{66,48 (\text{mg/L}) \times 0,10(L)}{10000(mg)} \times 100\%$$

$$\text{Kadar (\%)} = 0,06648\%$$

4. Asam Sitrat 6 Molar 1 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100\%$$

$$\text{Kadar (\%)} = \frac{81,44 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,08144\%$$

5. Asam Sitrat 4 Molar 3 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{5,26 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,00526\%$$

6. Asam Sitrat 4 Molar 5 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{3,34 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,00334\%$$

7. Asam Asetat 2 Molar 1 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{13,33 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,01333\%$$

8. Asam Asetat 4 Molar 1 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{35,76 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,03576\%$$

9. Asam Asetat 6 Molar 1 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{43,78 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,04378\%$$

10. Asam Asetat 4 Molar 3 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{31,81 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,03181\%$$

11. Asam Asetat 4 Molar 5 Hari

$$\text{Kadar (\%)} = \frac{\text{Hasil AAS (mg/L)} \times \text{fp} \times \text{volume (L)}}{\text{massa sampel (mg)}} \times 100$$

$$\text{Kadar (\%)} = \frac{25,12 \text{ (mg/L)} \times 0,10(\text{L})}{10000(\text{mg})} \times 100\%$$

$$\text{Kadar (\%)} = 0,02512\%$$

LAMPIRAN 6 PERHITUNGAN *RECOVERY* Ni

Recovery Ni dapat dihitung dengan rumus sebagai berikut:

$$Recovery = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

1. Asam Sitrat 2 Molar 1 Hari

$$Recovery = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$Recovery = \frac{0,00094\%}{1,2\%} \times 100\%$$

$$Recovery = 0,078\%$$

2. Asam Sitrat 4 Molar 1 Hari

$$Recovery = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$Recovery = \frac{0,06648\%}{1,2\%} \times 100\%$$

$$Recovery = 5,540\%$$

3. Asam Sitrat 6 Molar 1 Hari

$$Recovery = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$Recovery = \frac{0,08114\%}{1,2\%} \times 100\%$$

$$Recovery = 6,787\%$$

4. Asam Sitrat 4 Molar 3 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,00526\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 0,44\%$$

5. Asam Sitrat 4 Molar 5 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,00334\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 0,28\%$$

6. Asam Asetat 2 Molar 1 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,01323\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 1,10\%$$

7. Asam Asetat 4 Molar 1 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,03576\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 2,98\%$$

8. Asam Asetat 6 Molar 1 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,04378\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 3,65\%$$

9. Asam Asetat 4 Molar 3 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,03181\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 2,65\%$$

10. Asam Asetat 4 Molar 1 Hari

$$\text{Recovery} = \frac{\text{Kadar hasil pelindian}}{\text{Kadar awal}} \times 100\%$$

$$\text{Recovery} = \frac{0,02512\%}{1,2\%} \times 100\%$$

$$\text{Recovery} = 2,09\%$$

LAMPIRAN 7 HASIL ANALISIS MIKROSKOPIS

Lokasi sampel : PT Bukit Makmur Istindi Nikeltama	Kode Sampel : SA
Mineral Bijih	: goetit, lizardit, magnetit
Mineral Oksida	: kuarsa, talk
Deskripsi Mineralogi	
Kenampakan mikroskopis memperlihatkan mineral goetit, kuarsa, talk, lizardit dan magnetit	
Foto	

Komposisi Mineral	Jumlah (%)	Keterangan optik mineral
Goetit (Goe)		Sistem kristal ortorombik, berwarna hitam kecoklatan dengan bentuk (<i>subhedral</i>), ukuran mineral yang tampak yaitu 50 μm -100 μm .
Talk (Tlc)		Sistem kristal trigonal, berwarna abu-abu kehijauan (<i>anhedral-subhedral</i>), ukuran mineral yang tampak yaitu 20 μm -50 μm
Kuarsa (Qz)		Sistem kristal trigonal, putih abu-abu terang dengan bentuk (<i>anhedral-subhedral</i>), ukuran mineral yang tampak yaitu 20 μm -50 μm
Lizardit (Liz)		sistem kristal trigonal, berwarna abu-abu terang hingga kuning dengan bentuk (<i>anhedral-subhedral</i>). ukuran mineral yang tampak yaitu 20 μm -50 μm
Magnetit (Mag)		Sistem kristal isometrik, berwarna putih keabu-abuan dengan bentuk (<i>subhedral</i>), ukuran mineral yang tampak yaitu 20 μm -50 μm