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Lampiran 1. Bagan Kerja

1. Preparasi Sampel

20 gram Madu

-Dimasukkan dalam gelas kimia

-Dilarutkan dengan akuabides 70 mL

-Dihomogenkan

-Disaring

Larutan Madu

2. Optimasi perbandingan komposisi

Larutan $HAuCl_4$ 0,5 mM 10 mL

- Dimasukkan dalam gelas kimia
- Dimasukkan 10 mL larutan madu
- Distirrer selama 3 jam
- Diamati hingga berubah warna menjadi ungu
- Diukur spektrum UV-Vis (1 hari, 2 hari, 4 hari, 7 hari, 14 hari) pada panjang gelombang 200-700 nm

Koloid Nanopartikel Emas

Catatan : Larutan emas divariasikan penambahan larutan HAuCl4 0,5 mM yatu masing-masing 20 mL, 30 mL dan 40 mL

3. Sintesis Nanopartikel Emas

Larutan $HAuCl_4$ 300 mL

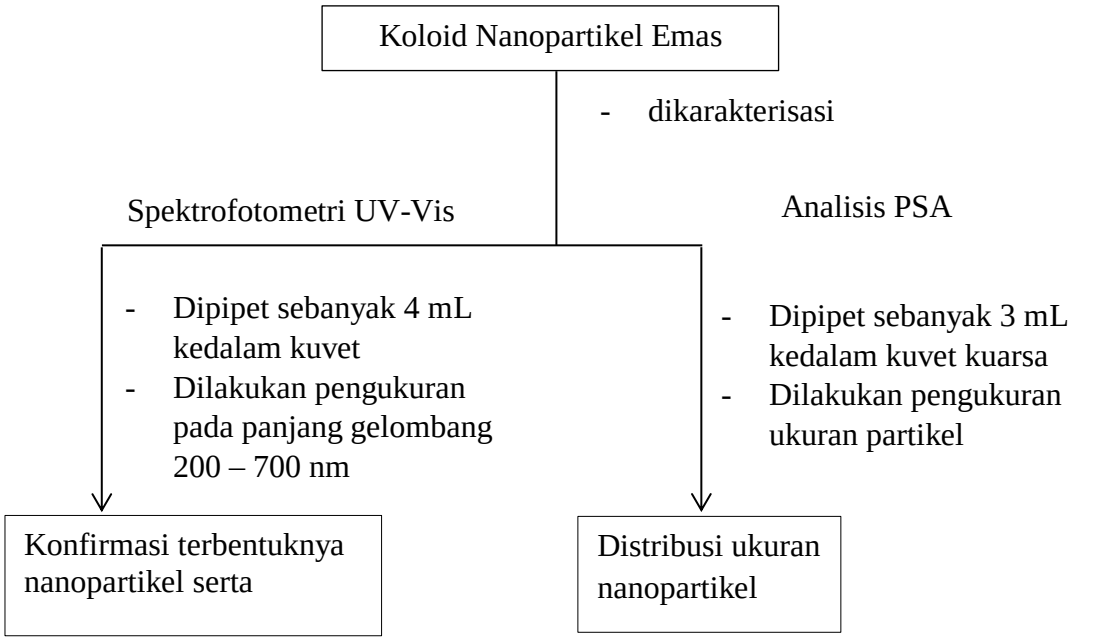
- Dimasukkan dalam gelas kimia
- Dimasukkan 100 mL larutan madu
- Distirrer selama 3 jam
- Diamati hingga berubah warna menjadi ungu
- Diukur spektrum UV-Vis (1 hari, 2 hari, 4 hari, 7 hari, 14 hari) pada panjang gelombang 200-700 nm

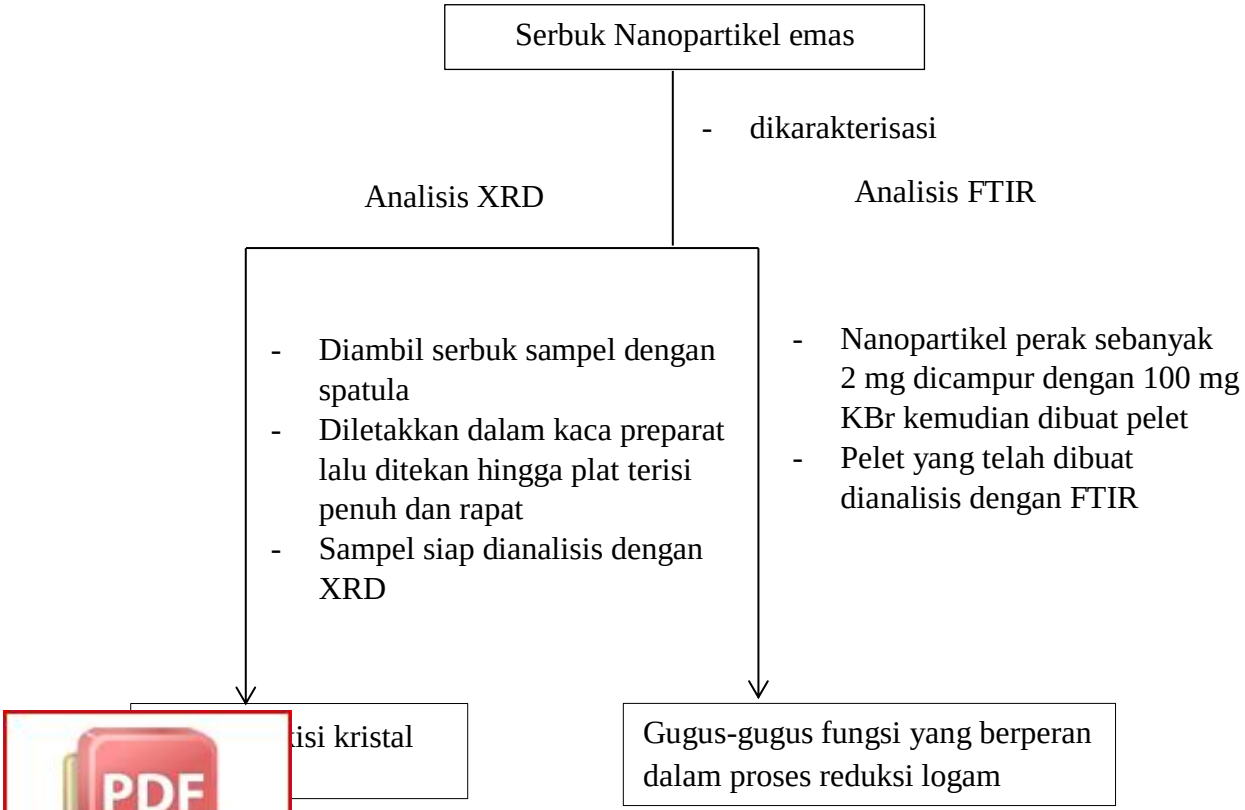
Koloid Nanopartikel Emas

- Disentrifuse dengan kecepatan 10.000 rpm selama 25 menit pada suhu 27 °C sebanyak 3-5 kali.

Nanopartikel Emas

4. Karakterisasi Nanopartikel Emas





5. Bagan kerja uji bioaktivitas antibakteri

Nutrien Agar

- Ditimbang sebanyak 5 gram dimasukkan kedalam gelas kimia
- Dilarutkan dengan 250 mL akuades di dalam labu erlenmeyer
- Dihomogenkan dengan stirrer diatas penangas air hingga mendidih dan diatur pH nya menjadi pH 7.
- Nutrien agar dimasukkan ke dalam tabung reaksi sebanyak ± 5 mL
- Disterilkan dalam autoklaf pada suhu 121^{o}C tekanan 2 atm selama 15 menit
- Didinginkan hingga suhu mencapai 40 – 45^{o}C pada kemiringan 30^{o}

Nutrien Agar Miring

- Bakteri *Escherichia coli* sebanyak 2-3 ose di gores ke dalam medium nutrient agar miring secara aseptis
- Diinkubasi dalam inkubator pada suhu 37 ^{o}C selama 18-24 jam

Bakteri Uji

- Diswab merata pada permukaan media Mueller Hinton Agar (MHA) yang terdapat pada cawan petri
- Didiamkan selama 5 menit

Media Uji Bioaktivitas Bakteri

- Nanopartikel perak ditimbang sebanyak 7,2 mg kemudian dilarutkan dengan 2 mL akuades steril, kemudian disonikasi agar homogen.
- Kertas cakram dicelupkan kedalam larutan nanopartikel, $HAuCl_4$ 0,5 mM; larutan madu; *ampicillin* (kontrol positif); dan akuades (kontrol negatif); selama 15 menit.
- Diletakkan diatas media MHA yang telah berisi bakteri yang diinkubasi pada suhu 37^{o}C selama 2×24 jam
- Diamati dan diukur diameter hambat yang terbentuk

Hambat Bakteri

Diberikan perlakuan yang sama berdasarkan bagan kerja diatas untuk bakteri *Staphylococus aureus*.

Lampiran 2. Perhitungan

a. Pembuatan Larutan $HAuCl_4$ 0,5 mM

$$V_1 . M_1 = V_2 . M_2$$

$$V_1 . 5\ mM = 50\ mL . 0,5\ mM$$

$$V_2 = \frac{50\ mL . 0,5\ mM}{5\ mM}$$

$$V_2 = 5\ mL$$

b. Perhitungan Ukuran Partikel dengan XRD

Persamaan Debye-Scherer

$$D = \frac{K\lambda}{\beta \cos\theta}$$

Keterangan:

D = Ukuran partikel (nm)

K = Faktor bentuk dari kristal (0,98)

λ = Panjang gelombang dari sinar X (1,54178 Å)

β = Nilai FWHM (rad)

θ = Sudut Bragg/sudut difraksi (2θ/2)

2Ɵ (º)	**FWHM (º)**	**d (nm)**
37.9170 : 18.9585	0.60360	15,26
44.0518: 22.0259	0.37800	24,76
64.4081: 32.2009	0.38170	26,98
77.5079 : 38.75395	0.38030	29,62
	Ukuran Rata-rata partikel	24,15

gan Diameter Nanopartikel Perak

2Ɵ= 37.9170

$$Ɵ = \frac{37,9170}{2} = 18,9585$$

FWHM = 0,60360

Dit: D=.....?

Penye: D=Kλ/β.cos (θ)

$$D = \frac{(0,98)x\ (0,154178)}{\left(\frac{3,14}{180}\ x\ 0,60360\right)\ x\ Cos(18,9585)}$$

$$= \frac{0,151094}{0,0105\ x\ 0,9457}$$

$$= \frac{0,151094}{0,0099}$$

= 15,26 nm

2. Dik: 2Θ= 44,0518

$$\Theta = \frac{44,0518}{2} = 22,0259$$

FWHM = 0.37800

Dit: D =.....?

Penye: D =Kλ/β.cos (θ)

$$D = \frac{(0,98)x\ (0,154178)}{\left(\frac{3,14}{180}x\ 0,37800\right)\ x\ Cos(22.0259)}$$

$$= \frac{0,151094}{0,0066\ x\ 0,9270}$$

$$= \frac{0,151094}{0,0061}$$

= 24,76 nm

2Θ= 64,4081

$$\Theta = \frac{64,4018}{2} = 32,2009$$

FWHM = 0,38170

Dit: D =.....?

Penye: $D = K\lambda/\beta.\cos(\theta)$

$$D = \frac{(0,98)x\ (0,154178)}{\left(\frac{3,14}{180} x\ 0,3817\right)\ x\ \mathrm{Cos}(32.2009)}$$

$$= \frac{0,151094}{0,0066\ x\ 0,8462}$$

$$= \frac{0,151094}{0,0056}$$

= 26, 98 nm

4. Dik: $2\Theta = 77,5079$

$$\Theta = \frac{64,4279}{2} = 38.75395$$

FWHM = 0,38030

Dit: D =.....?

Penye: $D = K\lambda/\beta.\cos(\theta)$

$$D = \frac{(0,98)x\ (0,154178)}{\left(\frac{3,14}{180} x\ 0,38030\right)\ x\ \mathrm{Cos}(38,7539)}$$

$$= \frac{0,151094}{0,0066\ x\ 0,7798}$$

$$= \frac{0,151094}{0,0051}$$

= 29,62 nm

Lampiran 3. Hasil analisis spektrofotometer UV-Vis

1. Panjang gelombang maksimum dan absorbansi $HAuCl_4$ dan larutan madu

	$HAuCl_4$	Larutan madu
λ_{max} (nm)	313	246,5
Absorbansi	2,412	4,628

2. Optimasi variasi perbandingan komposisi larutan madu dengan larutan $HAuCl_4$

Perbandingan 1 : 1

Waktu (hari)	λ_{max} (nm)	Absorbansi
1	534	0,798
2	532	0,991
4	-	-
7	-	-
14	-	-

Perbandingan 1 : 2

Waktu (hari)	λ_{max} (nm)	Absorbansi
1	534	0,975
2	534,5	1,065
4	-	-
7	-	-
14	-	-

Perbandingan 1 : 3

Waktu (hari)	λ_{max} (nm)	Absorbansi
1	543	1,095
2	540	1,314
4	537	1,371
7	533,5	1,527
14	523,5	1,508

Perbandingan 1 : 4

Waktu (hari)	λ_{max} (nm)	Absorbansi
1	546	1,254
2	544,5	1,470
4	542,5	1,533
7	540,5	1,189
14	540,5	1,768

Lampiran 4. Hasil Analisis (XRD) *X- Ray Diffraction*

*** Basic Data Process ***

Group : Standard
Data : AuNan10

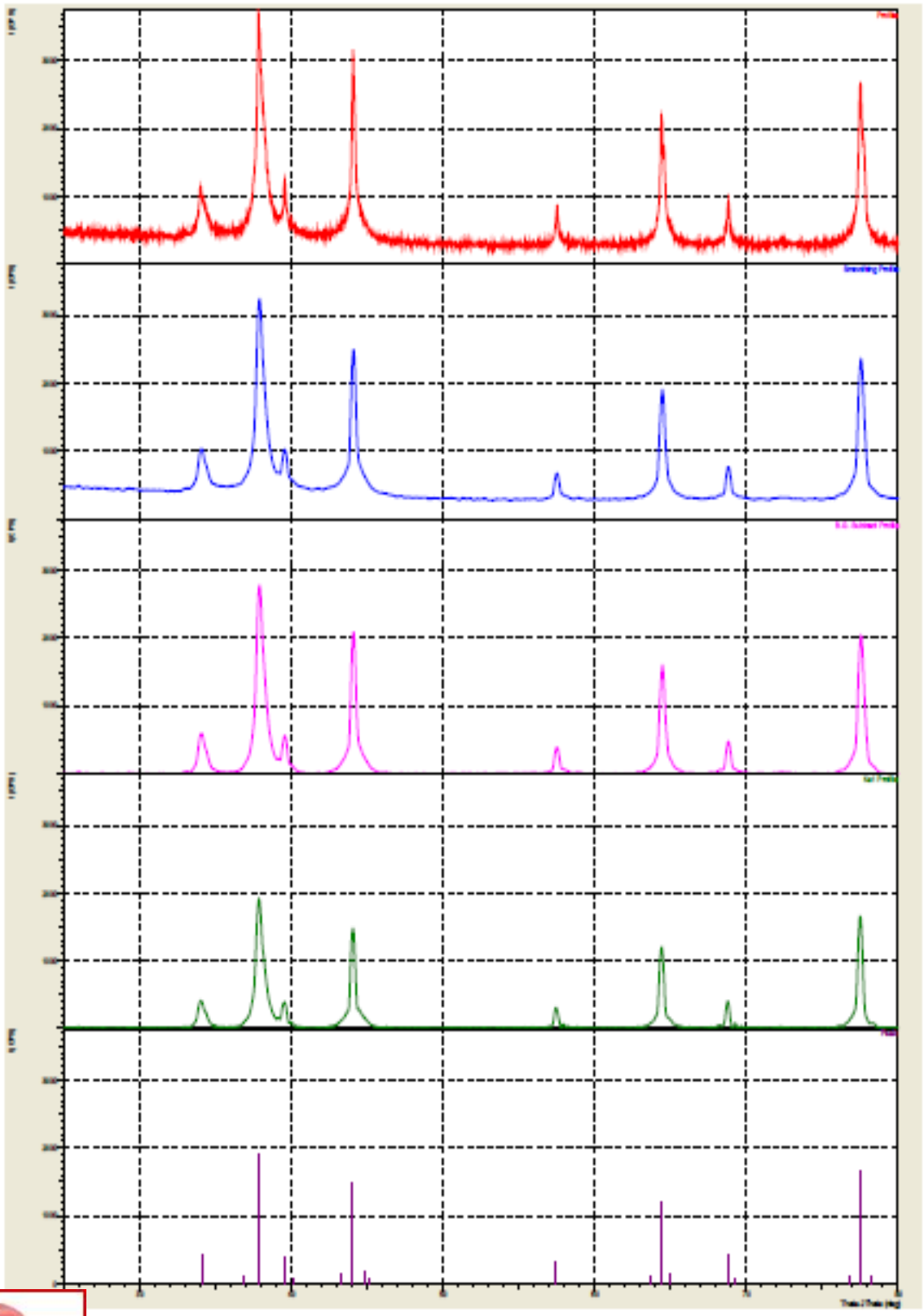
Strongest 3 peaks

no.	peak no.	2Theta (deg)	d (A)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)
1	3	37.9170	2.37101	100	0.60360	1147	40507
2	17	77.5079	1.23056	86	0.38030	992	19657
3	7	44.0518	2.05399	77	0.37800	883	16931

Peak Data List

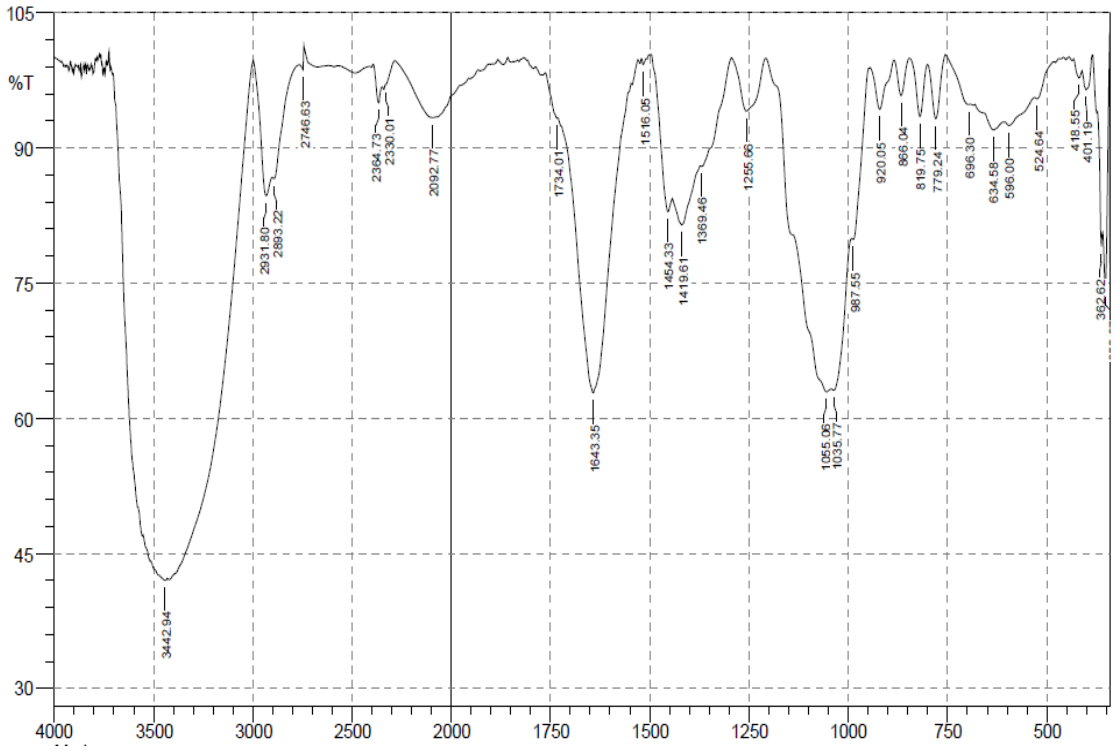
peak no.	2Theta (deg)	d (A)	I/I1	FWHM (deg)	Intensity (Counts)	Integrated Int (Counts)
1	34.0973	2.62736	21	0.62350	244	9235
2	36.9000	2.43398	6	0.40800	64	3217
3	37.9170	2.37101	100	0.60360	1147	40507
4	39.5220	2.27834	20	0.40200	232	6311
5	40.0600	2.24897	4	0.36000	46	1332
6	43.3000	2.08790	7	0.56000	75	4061
7	44.0518	2.05399	77	0.37800	883	16931
8	44.8400	2.01970	8	0.60000	92	4045
9	45.1800	2.00529	3	0.50660	40	1220
10	57.4643	1.60240	16	0.32670	182	3898
11	63.7400	1.45892	5	0.56000	53	2803
12	64.4081	1.44539	62	0.38170	716	13025
13	65.0200	1.43326	6	0.50000	73	3340
14	68.7674	1.36401	21	0.30200	241	4276
15	69.2703	1.35533	4	0.19070	43	603
16	76.7400	1.24094	6	0.49000	67	3504
17	77.5079	1.23056	86	0.38030	992	19657
18	78.3000	1.22008	4	0.49600	50	2385

```
          ***  Basic Data Process  ***

# Data Infomation
          Group                : Standard
          Data                 : AuNan10
          Sample Nmae          : serbuk
          Comment              :
          Data & Time          : 10-29-18 11:18:14

# Measurement Condition
    X-ray tube
          target               : Cu
          voltage              : 40.0 (kV)
          current              : 30.0 (mA)
    Slits
          Auto Slit            : Used
          divergence slit      :   1.00000 (deg)
          scatter slit         :   1.00000 (deg)
          receiving slit       :   0.30000(mm)
    Scanning
          drive axis           : Theta-2Theta
          scan range           :   25.0200 - 80.0000 (deg)
          scan mode            : Continuous Scan
          scan speed           :    2.0000 (deg/min)
          sampling pitch       :    0.0200 (deg)
          preset time          :    0.60 (sec)

# Data Process Condition
    Smoothing                  [ AUTO ]
          smoothing points     : 29
    B.G.Subtruction            [ AUTO ]
          sampling points      : 35
          repeat times         : 30
    Ka1-a2 Separate            [ MANUAL ]
          Ka1 a2 ratio         : 50 (%)
    Peak Search                [ AUTO ]
          differential points  : 31
          FWHM threhold        : 0.050 (deg)
          intensity threhold   : 30 (par mil)
          FWHM ratio  (n-1)/n  : 2
    System error Correction    [ NO ]
    Precise peak Correction    [ NO ]
```



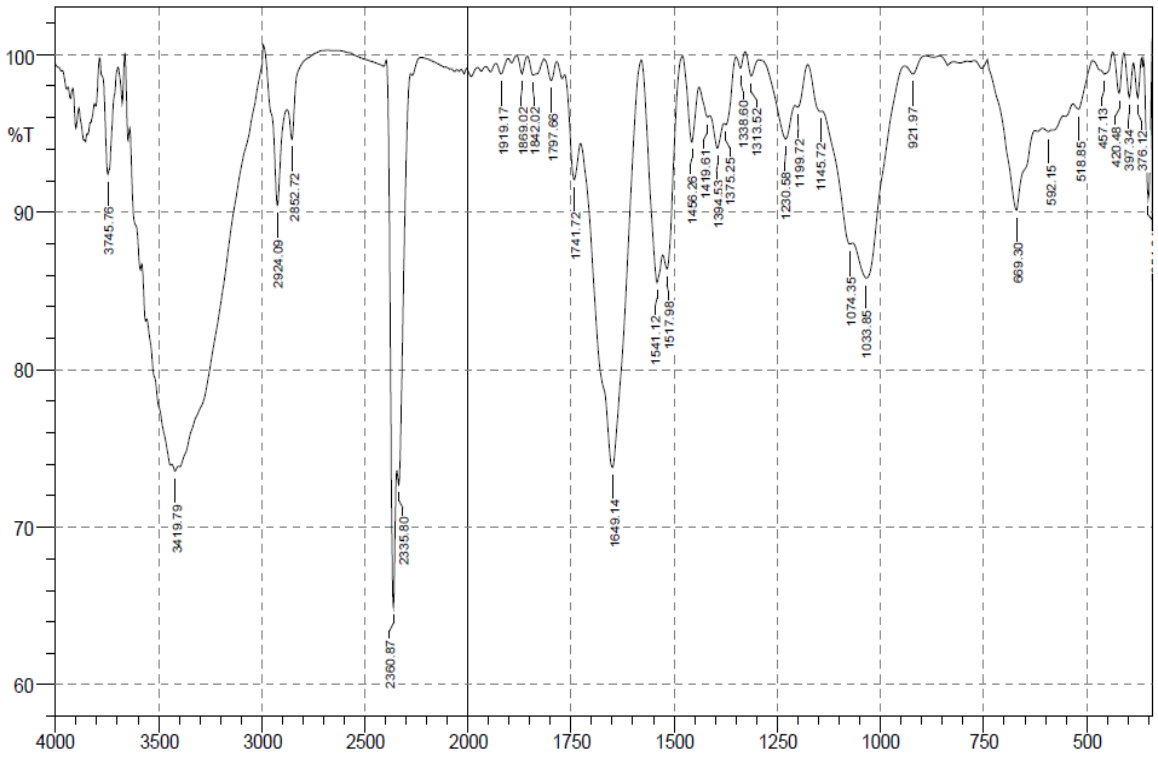
Lampiran 5. Spektrum hasil analisis FTIR

a. Spektrum Madu



No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area
1	352.97	74.307	12.806	358.76	343.33	1.321	0.611
2	362.62	79.073	5.375	372.26	358.76	0.929	0.116
3	401.19	96.453	2.798	410.84	385.76	0.267	0.207
4	418.55	97.796	1.255	432.05	410.84	0.144	0.073
5	524.64	95.453	0.639	530.42	482.2	0.526	0.013
6	596	92.499	0.653	603.72	532.35	2	0.163
7	634.58	92.015	1.627	680.87	605.65	2.34	0.262
8	696.3	94.828	0.362	756.1	692.44	0.724	0.046
9	779.24	93.244	6.552	800.46	756.1	0.65	0.615
10	819.75	93.503	6.064	844.82	800.46	0.6	0.526
11	866.04	95.823	4.026	885.33	844.82	0.353	0.327
12	920.05	94.276	4.987	945.12	885.33	0.805	0.63
13	987.55	79.858	1.701	991.41	945.12	2.378	0.226
14	1035.77	63.111	2.121	1041.56	993.34	7.657	0.634
15	1055.06	62.924	2.912	1207.44	1043.49	18.111	2.182
16	1255.66	94.085	5.856	1292.31	1209.37	1.282	1.26
17	1369.46	87.954	0.351	1371.39	1294.24	2.441	0.365
18	1419.61	81.445	4.157	1442.75	1373.32	5.221	0.755
19	1454.33	82.923	4.406	1494.83	1444.68	2.388	0.498
20	1516.05	99.278	0.64	1521.84	1508.33	0.022	0.017
21	1643.35	62.828	32.291	1730.15	1546.91	18.575	14.68
22	1734.01	93.3	0.368	1762.94	1732.08	0.625	0.052
23	2092.77	93.371	0.499	2281.79	2079.26	3.505	0.396
24	2330.01	97	0.136	2331.94	2283.72	0.346	-0.004
25	2364.73	95.011	2.693	2393.66	2347.37	0.658	0.254
26	2746.63	98.692	2.265	2763.99	2742.78	0.075	0.1
27	2893.22	86.607	0.838	2900.94	2763.99	3.565	0.101
28	2931.8	84.701	6.028	2997.38	2902.87	4.279	1.259
29	3442.94	41.984	0.279	3458.37	3431.36	10.15	0.05

b. Spektrum Nanopartikel Emas



No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area
1	351.04	90.822	9.636	362.62	341.4	0.479	0.516
2	376.12	97.267	2.377	387.69	366.48	0.137	0.102
3	397.34	97.294	2.462	408.91	387.69	0.136	0.116
4	420.48	97.572	2.56	435.91	408.91	0.126	0.142
5	457.13	98.772	1.166	486.06	435.91	0.171	0.148
6	518.85	96.556	1.124	532.35	486.06	0.46	0.104
7	592.15	95.122	0.14	607.58	584.43	0.493	0.007
8	669.3	90.124	6.787	740.67	624.94	2.916	1.579
9	921.97	98.786	0.745	941.26	891.11	0.154	0.068
10	1033.85	85.817	5.168	1066.64	941.26	4.814	1.259
11	1074.35	87.98	0.719	1141.86	1068.56	2.6	0.081
12	1145.72	96.4	0.344	1176.58	1141.86	0.367	0.044
13	1199.72	96.676	0.744	1207.44	1176.58	0.319	0.057
14	1230.58	94.664	2.895	1292.31	1207.44	1.105	0.439
15	1313.52	98.662	1.311	1327.03	1294.24	0.097	0.087
16	1338.6	99.153	0.869	1350.17	1327.03	0.037	0.039
17	1375.25	95.562	0.634	1379.1	1350.17	0.353	0.063
18	1394.53	94.079	1.775	1413.82	1379.1	0.76	0.126
19	1419.61	96.03	0.518	1438.9	1413.82	0.357	0.029
20	1456.26	94.454	4.338	1479.4	1438.9	0.566	0.376
21	1517.98	86.395	3.014	1525.69	1481.33	1.489	0.283
22	1541.12	85.535	5.073	1577.77	1527.62	2.214	0.638
23	1649.14	73.803	23.349	1726.29	1579.7	10.428	8.496
24	1741.72	92.068	4.04	1764.87	1726.29	0.948	0.354
25	1797.66	98.353	1.282	1815.02	1784.15	0.129	0.082
26	1842.02	98.708	1.139	1855.52	1815.02	0.152	0.12
27	1869.02	98.791	1.141	1882.52	1855.52	0.066	0.058
28	1919.17	98.774	0.809	1932.67	1901.81	0.104	0.05
29	2335.8	72.726	3.814	2343.51	2277.93	4.461	0.45
30	2360.87	64.9	16.704	2395.59	2345.44	5.326	1.93
31	2852.72	94.618	2.359	2877.79	2679.13	0.9	-0.511
32	2924.09	90.444	7.729	2991.59	2877.79	2.262	1.515
33	3419.79	73.568	0.362	3435.22	3404.36	4.079	0.031

Lampiran 6. Hasil Analisis *Particle Size Analyzer* (PSA)

Delsa™ Nano

BECKMAN COULTER

Common

Condition Summary S/N : 123909

User	: Common	Group	:	Repetition	: 1/1
Date	: 11/19/2018	File Name	: AuNps-Noda_20181119_140627		
Time	: 14:06:27	Sample Information	:		
SOP Name	: Sampel Uji PSA			Security	: No Security

Version 2.31 / 2.03

Measurement Condition

Sampling Time	: N/A	(µs)			
Correlation Channel	440	(ch)	Correlation Method	: TD	
Accumulation times	30	(times)	Attenuator 1	: 52.64	(%)
Cell Center	: Z : 3.000	(mm)	Pinhole	50	(µm)
	X : 7.500	(mm)			
Scattering Angle	: 165.0	(°)	Temperature	: 25.0	(°C)
Diluent Name	: WATER				
Refractive Index	: 1.3328		Viscosity	: 0.8878	(cP)
Intensity	: 11597	(cps)			

Cumulants Results

Mean Diameter	(d)	: 219.8	(nm)	Diffusion Constant	(D)	: 2.238e-008	(cm²/sec)
Polydispersity Index	(P.I.)	: 0.249		Decay Constant	(Γ)	: 1416.4	(1/sec)

Fitting Parameter

: CONTIN					
: 10.0 - 4000.0	(nm)	Cut	Left	: 0	Right : 0
: 1.003 - 2					
: 0.3	(%)				
: 1.059e-002 [OK]					

Cumulative Size Distribution Table S/N : 123909

User	: Common	Group	:	Repetition	: 1/1
Date	: 11/19/2018	File Name	: AuNps-Noda_20181119_140627		
Time	: 14:06:27	Sample Information	:		
SOP Name	: Sampel Uji PSA			Security	: No Security

Version 2.31 / 2.03

Cum.%	d (nm) Int. Dist.	d (nm) Vol. Dist.	d (nm) No. Dist.
5	1.4	1.1	1.1
10	48.6	1.1	1.1
15	60.4	1.1	1.1
20	69.6	1.1	1.1
25	78.5	1.1	1.1
30	87.5	1.1	1.1
35	97.2	1.1	1.1
40	107.9	1.1	1.1
45	120.3	1.2	1.1
50	135.3	1.2	1.1
55	154.0	1.2	1.1
60	179.4	1.2	1.2
65	217.7	1.3	1.2
70	282.9	1.3	1.2
75	396.2	1.4	1.2
80	555.6	1.4	1.3
85	754.8	1.4	1.3
90	1019.6	1.5	1.4
95	1436.2	1.6	1.5
100	2631.1	2225.2	1.8

Intensity Distribution S/N : 123909

User : Common Group :

Repetition : 1/1 Date : 11/19/2018 File Name :

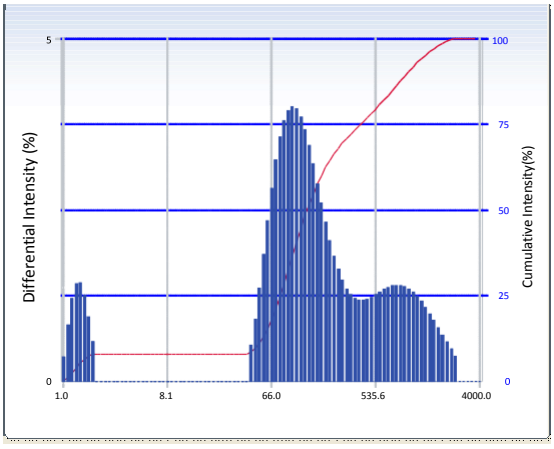
AuNps-Noda_20181119_140627

Time : 14:06:27 Sample Information :

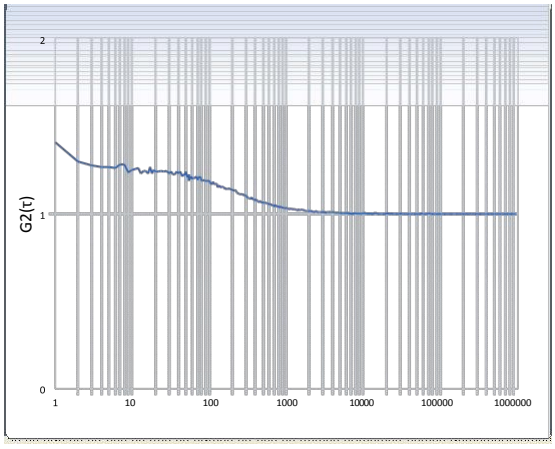
SOP Name : Sampel Uji PSA Security : No Security

Version 2.31 / 2.03

Intensity Distribution



ACF



Distribution Results (Contin)

Peak	Diameter (nm)	Std. Dev.
1	1.4	0.2
2	139.8	79.4
3	1,046.3	539.6
4	0.0	0.0
5	0.0	0.0
Average	359.6	490.9

Residual : 1.059e-002 (O.K)

Cumulants Results

			(nm)
Diameter	(d)	:219.8	
Polydispersity Index (P.I.)		: 0.249	
Diffusion Const.	(D)	:2.238e-008	(cm²/sec)
Temperature		: 25.0	(°C)
Diluent Name		: WATER	
Refractive Index		:1.3328	
Viscosity		:0.8878	(cP)
Scattering Intensity		: 11597	(cps)

BECKMAN COULTER

Size Distribution Table S/N : 123909

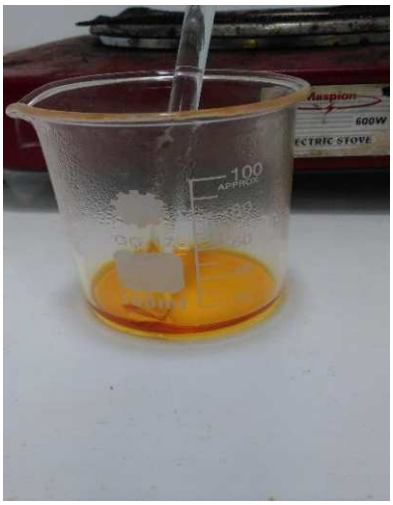
User	: Common	Group	:	Repetition	: 1/1
Date	: 11/19/2018	File Name	: AuNps-Noda_20181119_140627		
Time	: 14:06:27	Sample Information	:		
SOP Name	: SampelUji PSA			Security	: No Security

Version 2.31 / 2.03

Γ (1/sec)	d(nm)	f(%)Int.	f(cum.%)int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
311407.3	1.0	0.4	0.4	10.0	10.0	18.26	18.26
286381.0	1.1	0.8	1.2	17.7	27.7	25.23	43.48
263366.1	1.2	1.2	2.4	20.3	47.9	22.47	65.95
242200.7	1.3	1.4	3.9	18.6	66.5	16.00	81.95
222736.3	1.4	1.4	5.3	14.5	81.0	9.71	91.67
204836.1	1.5	1.3	6.6	9.8	90.8	5.13	96.79
188374.5	1.7	0.9	7.5	5.7	96.6	2.33	99.12
173235.8	1.8	0.6	8.1	2.8	99.4	0.88	100.00
159313.7	2.0	0.0	8.1	0.0	99.4	0.00	100.00
146510.5	2.1	0.0	8.1	0.0	99.4	0.00	100.00
134736.2	2.3	0.0	8.1	0.0	99.4	0.00	100.00
123908.1	2.5	0.0	8.1	0.0	99.4	0.00	100.00
113950.3	2.7	0.0	8.1	0.0	99.4	0.00	100.00
104792.7	3.0	0.0	8.1	0.0	99.4	0.00	100.00
96371.0	3.2	0.0	8.1	0.0	99.4	0.00	100.00
88626.2	3.5	0.0	8.1	0.0	99.4	0.00	100.00
81503.8	3.8	0.0	8.1	0.0	99.4	0.00	100.00
74953.7	4.2	0.0	8.1	0.0	99.4	0.00	100.00
68930.1	4.5	0.0	8.1	0.0	99.4	0.00	100.00
63390.5	4.9	0.0	8.1	0.0	99.4	0.00	100.00
58296.1	5.3	0.0	8.1	0.0	99.4	0.00	100.00
53611.2	5.8	0.0	8.1	0.0	99.4	0.00	100.00
49302.7	6.3	0.0	8.1	0.0	99.4	0.00	100.00
45340.5	6.9	0.0	8.1	0.0	99.4	0.00	100.00
41696.7	7.5	0.0	8.1	0.0	99.4	0.00	100.00
38345.8	8.1	0.0	8.1	0.0	99.4	0.00	100.00
35264.1	8.8	0.0	8.1	0.0	99.4	0.00	100.00
32430.1	9.6	0.0	8.1	0.0	99.4	0.00	100.00
29823.9	10.4	0.0	8.1	0.0	99.4	0.00	100.00
27427.1	11.4	0.0	8.1	0.0	99.4	0.00	100.00
25222.9	12.3	0.0	8.1	0.0	99.4	0.00	100.00
23195.9	13.4	0.0	8.1	0.0	99.4	0.00	100.00
21331.8	14.6	0.0	8.1	0.0	99.4	0.00	100.00
19617.4	15.9	0.0	8.1	0.0	99.4	0.00	100.00
18040.9	17.3	0.0	8.1	0.0	99.4	0.00	100.00
16591.0	18.8	0.0	8.1	0.0	99.4	0.00	100.00
15257.7	20.4	0.0	8.1	0.0	99.4	0.00	100.00
14031.5	22.2	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].1	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].2	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].5	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].0	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].7	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].7	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].9	0.0	8.1	0.0	99.4	0.00	100.00
[illegible]	[illegible].4	0.5	8.6	0.0	99.4	0.00	100.00
[illegible]	[illegible].2	0.9	9.5	0.1	99.5	0.00	100.00

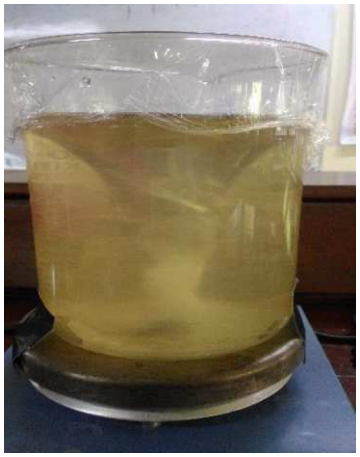
Γ (1/sec)	d(nm)	f(%)Int.	f(cum.%)int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
6071.0	51.3	1.4	10.9	0.1	99.5	0.00	100.00
5583.1	55.8	1.9	12.7	0.1	99.6	0.00	100.00
5134.4	60.7	2.4	15.1	0.1	99.7	0.00	100.00
4721.8	66.0	2.8	17.9	0.1	99.7	0.00	100.00
4342.3	71.7	3.2	21.1	0.1	99.8	0.00	100.00
3993.4	78.0	3.6	24.7	0.0	99.8	0.00	100.00
3672.4	84.8	3.8	28.5	0.0	99.9	0.00	100.00
3377.3	92.2	4.0	32.5	0.0	99.9	0.00	100.00
3105.9	100.3	4.0	36.5	0.0	99.9	0.00	100.00
2856.3	109.0	4.0	40.5	0.0	99.9	0.00	100.00
2626.7	118.6	3.9	44.3	0.0	100.0	0.00	100.00
2415.6	128.9	3.7	48.0	0.0	100.0	0.00	100.00
2221.5	140.2	3.4	51.5	0.0	100.0	0.00	100.00
2043.0	152.4	3.2	54.6	0.0	100.0	0.00	100.00
1878.8	165.7	2.9	57.5	0.0	100.0	0.00	100.00
1727.8	180.2	2.6	60.1	0.0	100.0	0.00	100.00
1588.9	196.0	2.3	62.5	0.0	100.0	0.00	100.00
1461.2	213.1	2.1	64.5	0.0	100.0	0.00	100.00
1343.8	231.7	1.8	66.4	0.0	100.0	0.00	100.00
1235.8	252.0	1.6	68.0	0.0	100.0	0.00	100.00
1136.5	274.0	1.5	69.5	0.0	100.0	0.00	100.00
1045.2	297.9	1.4	70.8	0.0	100.0	0.00	100.00
961.2	324.0	1.3	72.1	0.0	100.0	0.00	100.00
883.9	352.3	1.2	73.3	0.0	100.0	0.00	100.00
812.9	383.1	1.2	74.5	0.0	100.0	0.00	100.00
747.6	416.6	1.2	75.7	0.0	100.0	0.00	100.00
687.5	453.0	1.2	76.9	0.0	100.0	0.00	100.00
632.2	492.5	1.2	78.2	0.0	100.0	0.00	100.00
581.4	535.6	1.3	79.4	0.0	100.0	0.00	100.00
534.7	582.4	1.3	80.7	0.0	100.0	0.00	100.00
491.7	633.3	1.3	82.1	0.0	100.0	0.00	100.00
452.2	688.6	1.4	83.5	0.0	100.0	0.00	100.00
415.9	748.8	1.4	84.9	0.0	100.0	0.00	100.00
382.4	814.2	1.4	86.3	0.0	100.0	0.00	100.00
351.7	885.4	1.4	87.7	0.0	100.0	0.00	100.00
323.4	962.8	1.4	89.1	0.0	100.0	0.00	100.00
297.5	1046.9	1.4	90.4	0.0	100.0	0.00	100.00
273.5	1138.4	1.3	91.7	0.0	100.0	0.00	100.00
251.6	1237.9	1.2	93.0	0.0	100.0	0.00	100.00
231.3	1346.1	1.2	94.2	0.0	100.0	0.00	100.00
212.8	1463.7	1.1	95.2	0.0	100.0	0.00	100.00
195.7	1591.6	1.0	96.2	0.0	100.0	0.00	100.00
179.9	1730.7	0.9	97.1	0.0	100.0	0.00	100.00
165.5	1881.9	0.8	97.9	0.0	100.0	0.00	100.00
152.2	2046.4	0.7	98.6	0.0	100.0	0.00	100.00
139.9	2225.2	0.6	99.2	0.0	100.0	0.00	100.00
	19.7	0.5	99.6	0.0	100.0	0.00	100.00
	31.1	0.4	100.0	0.0	100.0	0.00	100.00
	61.0	0.0	100.0	0.0	100.0	0.00	100.00
	11.0	0.0	100.0	0.0	100.0	0.00	100.00
	82.9	0.0	100.0	0.0	100.0	0.00	100.00
	78.5	0.0	100.0	0.0	100.0	0.00	100.00
	00.0	0.0	s100.0	0.0	100.0	0.00	100.00

Lampiran 7. Dokumentasi Penelitian



Pelarutan Emas dengan Akuaregia

Madu Hutan dari Desa Sadar, Kabupaten Bone



Sintesis nanopartikel emas dengan menggunakan *magnetic stirrer*

Hasil sentrifugasi nanopartikel emas dengan kecepatan 10000 rpm pada suhu 4 ^{o}C

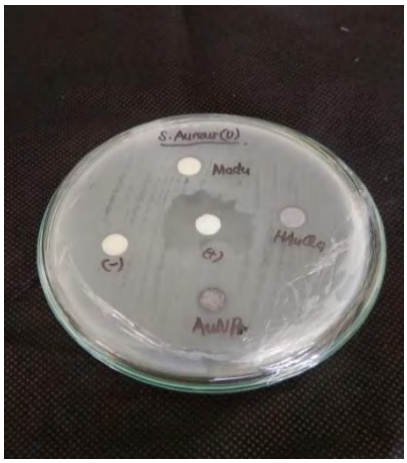
Foto 5. Nanopartikel emas yang telah dikeringkan

Alat Sentrifugasi Tomi MX- 305

Freeze Dryer Alpha 1-2 D Plus

umen *particle size analyzer* Beckman Coulter Delta Nano C *Particle Analyzer*

Zona hambat nanopartikel emas, larutan madu, dan $HAuCl_4$ 0,5 mM pada bakteri *Escherichia coli*



Zona hambat nanopartikel emas, larutan madu, dan $HAuCl_4$ 0,5 mM pada bakteri *Staphylococus aureus*