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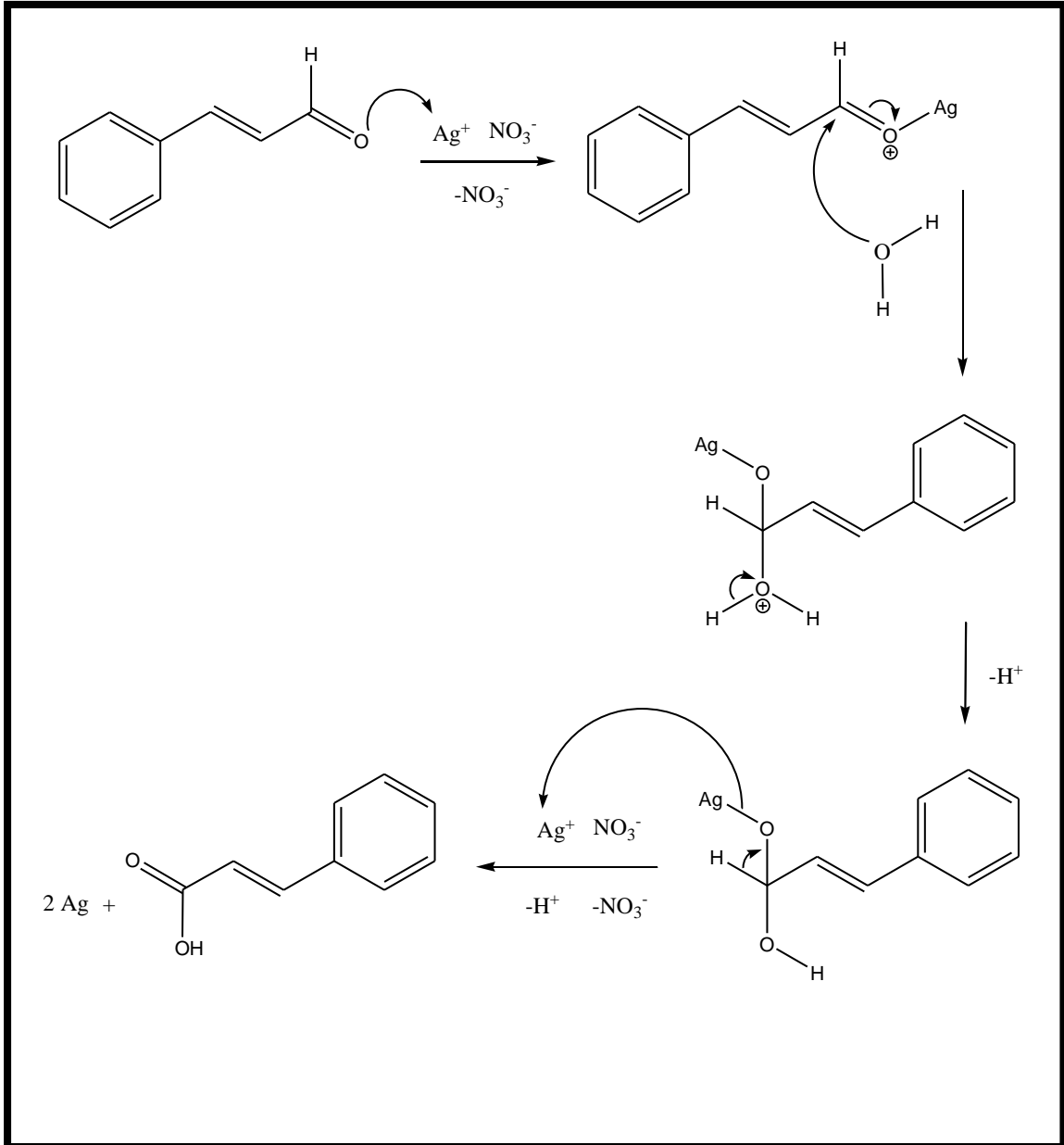
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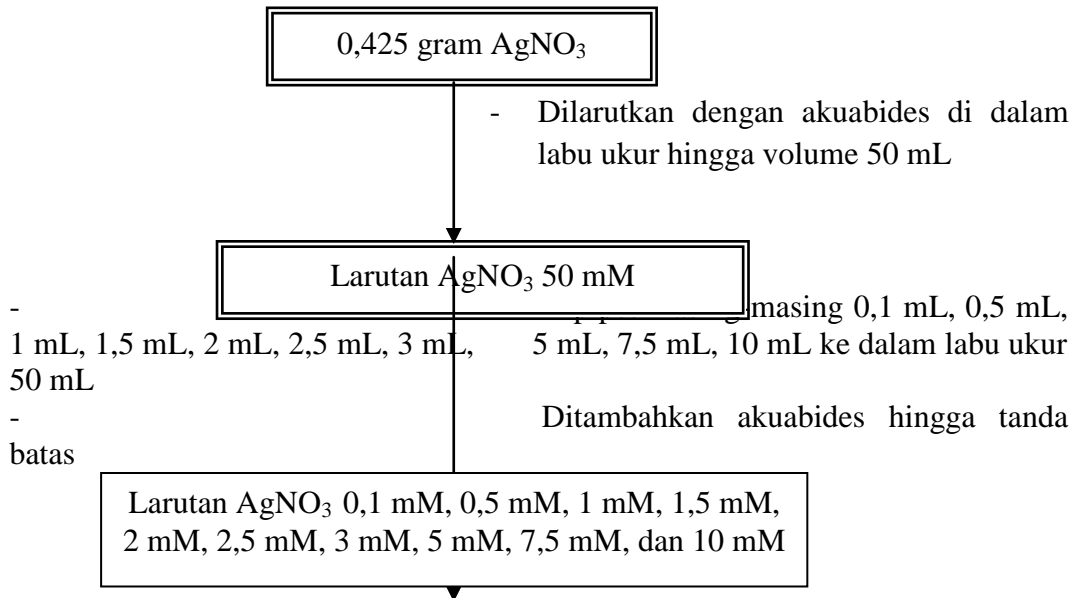
LAMPIRAN

Lampiran 1. Mekanisme Reaksi pada Proses Bioreduksi AgNO_3 oleh Sinamaldehyd

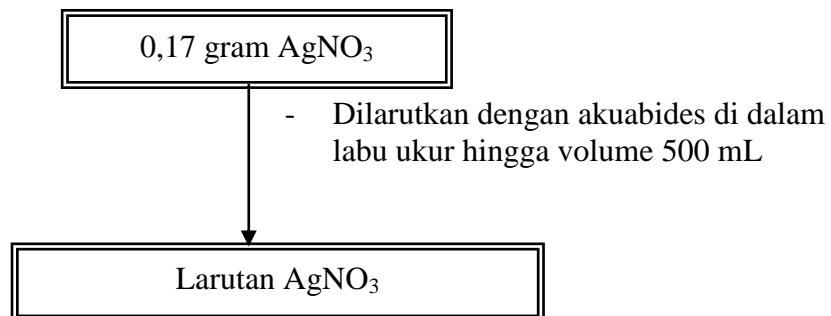


Lampiran 2. Bagan Kerja

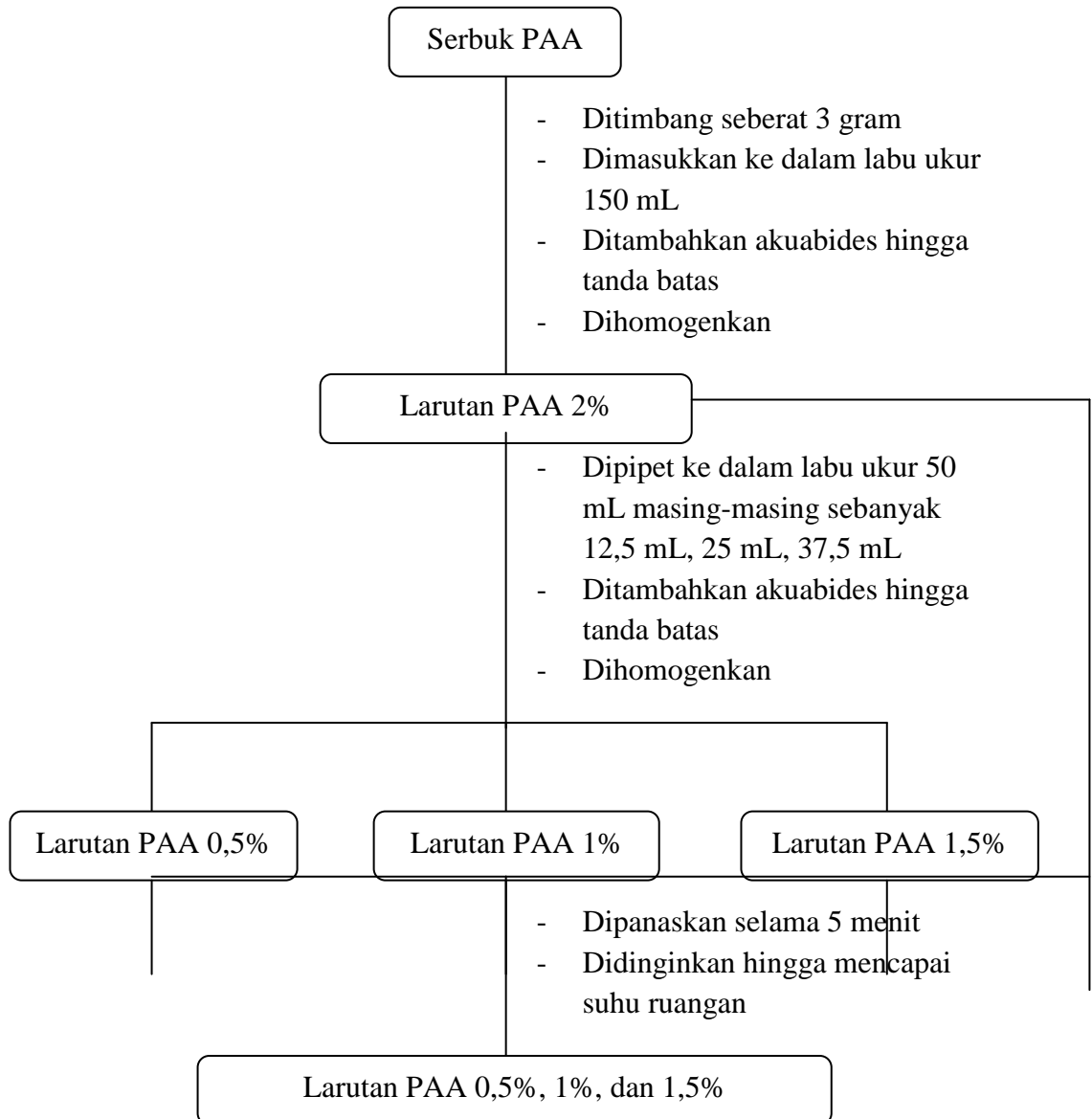
1. Pembuatan Larutan AgNO_3 Variasi Konsentrasi



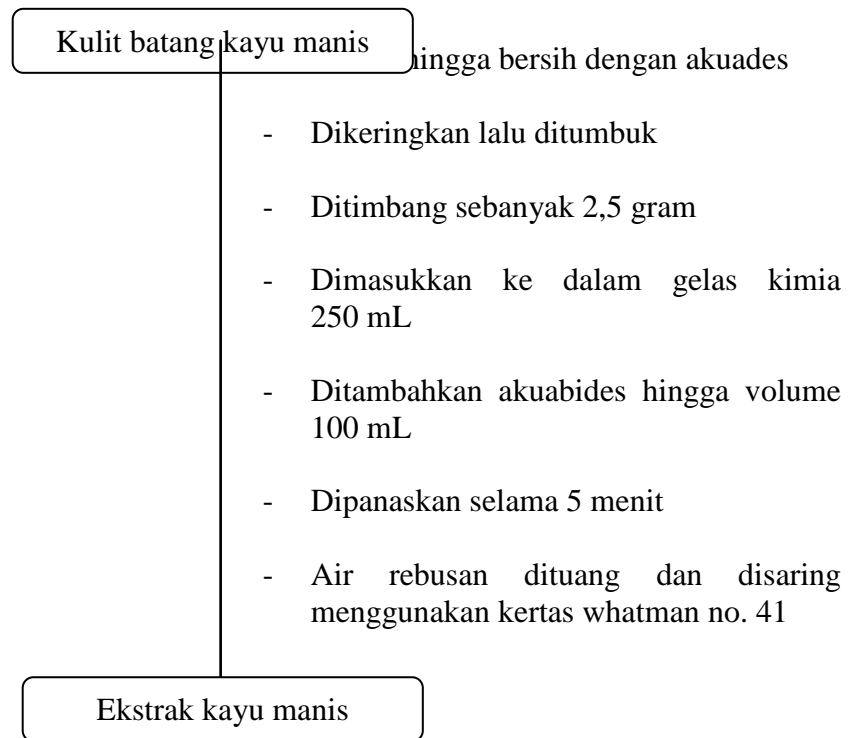
2. Pembuatan Larutan AgNO_3 2 mM



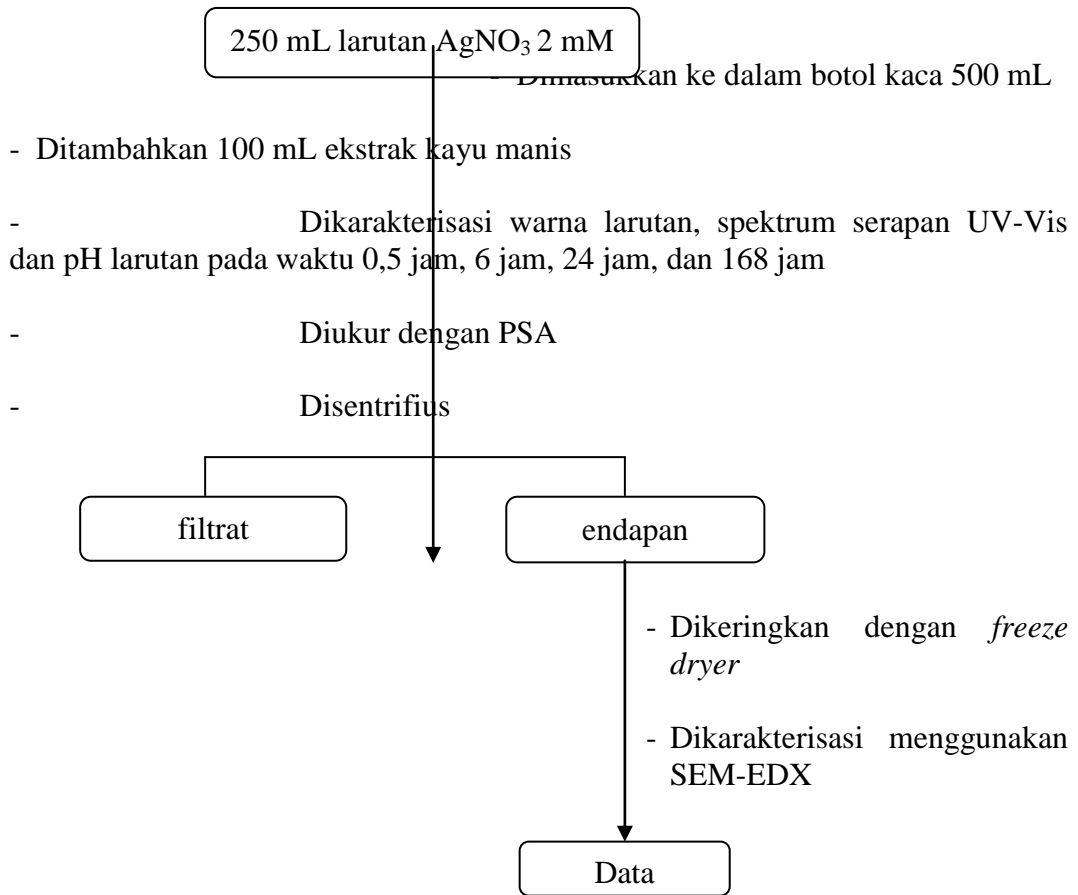
3. Pembuatan Larutan PAA 0,5%, 1%, dan 1,5%



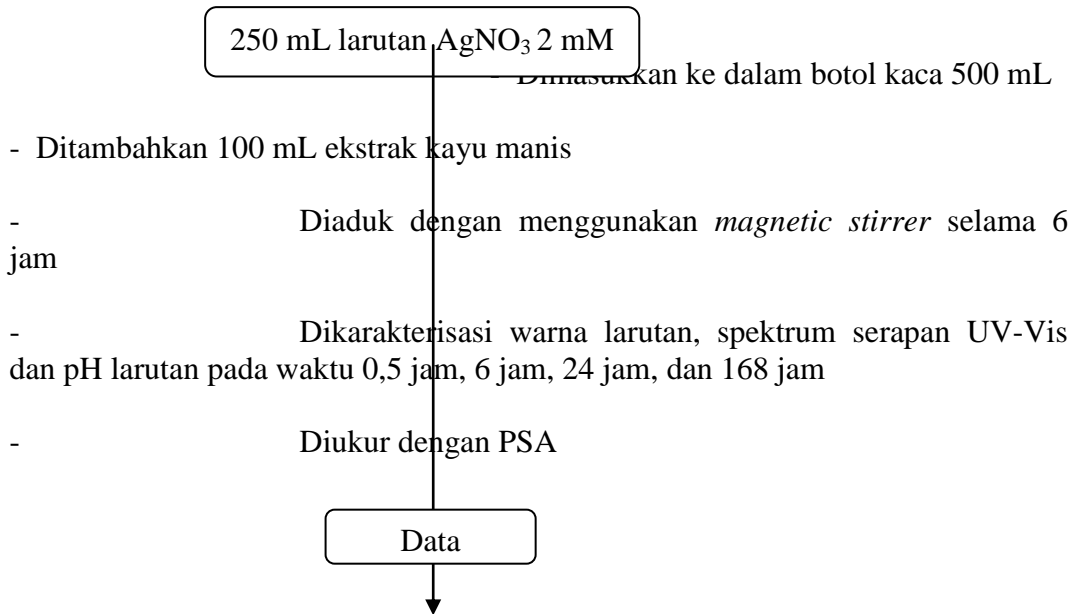
4. Pembuatan Ekstrak Kayu Manis



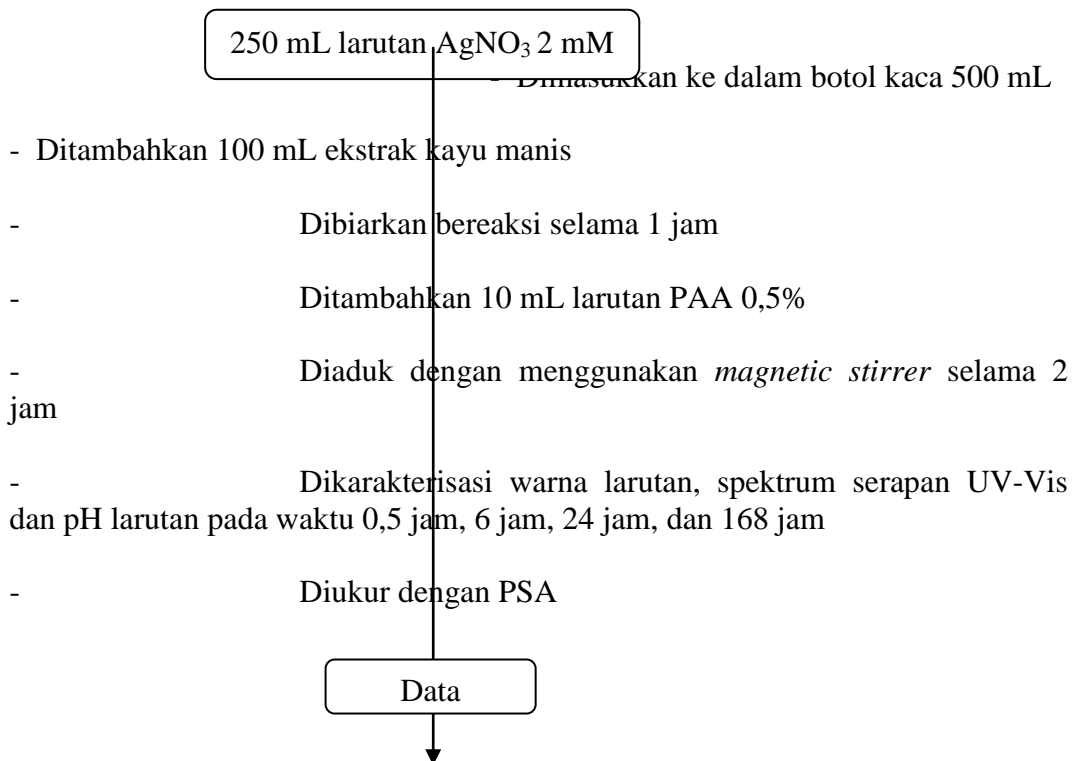
5. Sintesis Nanopartikel Perak Tanpa Pengadukan (Sampel A)



6. Sintesis Nanopartikel Perak Dengan Pengadukan (Sampel B)



7. Sintesis Nanopartikel Perak Dengan Penambahan Larutan PAA 0,5% (Sampel C)



Lampiran 3. Gambar Kondisi Larutan Nanopartikel Perak dengan Variasi Larutan AgNO_3



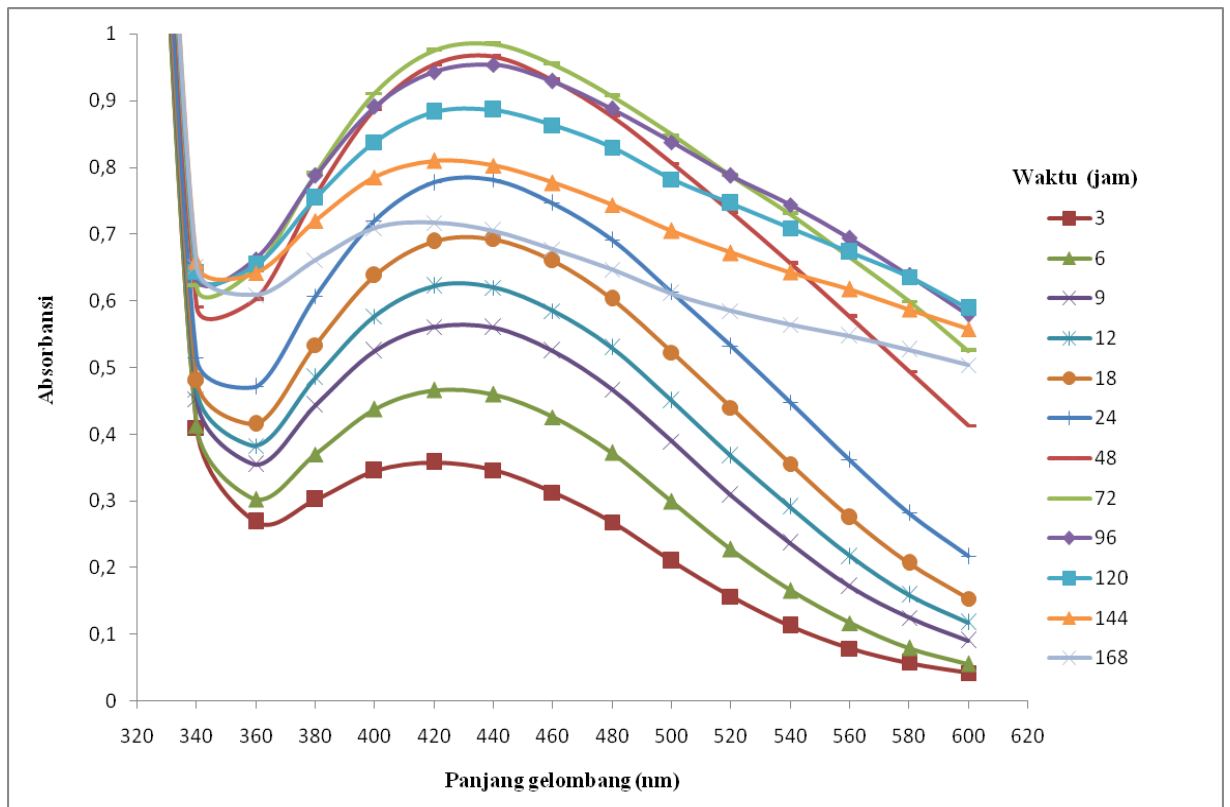
Lampiran 4. Penentuan Waktu Optimum

1. Sampel A (tanpa pengadukan)

Tabel

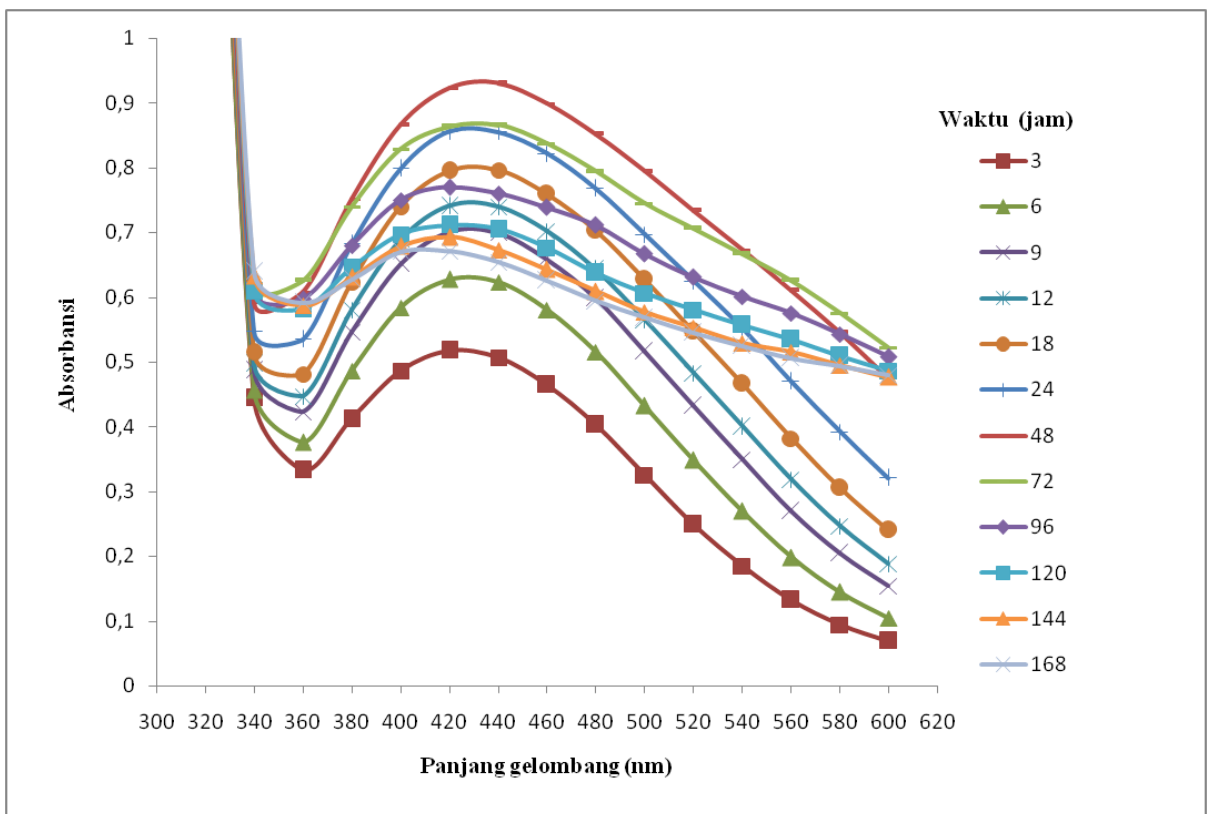
	3	6	9	12	18	24	48	72	96	120	144	168
320	1,966	1,976	2,004	2,013	2,022	2,07	2,181	2,211	2,23	2,206	2,247	2,229
340	0,410	0,413	0,453	0,467	0,481	0,514	0,591	0,622	0,639	0,644	0,659	0,652
360	0,269	0,302	0,355	0,383	0,415	0,471	0,602	0,649	0,663	0,654	0,642	0,609
380	0,302	0,37	0,444	0,485	0,534	0,607	0,758	0,791	0,788	0,754	0,72	0,661
400	0,345	0,438	0,525	0,577	0,638	0,72	0,887	0,911	0,891	0,838	0,785	0,709
420	0,358	0,466	0,561	0,622	0,689	0,777	0,954	0,975	0,943	0,883	0,81	0,717
440	0,346	0,46	0,56	0,62	0,692	0,781	0,966	0,985	0,954	0,886	0,803	0,705
460	0,313	0,426	0,525	0,585	0,66	0,746	0,931	0,955	0,929	0,863	0,777	0,677
480	0,268	0,372	0,467	0,53	0,603	0,691	0,877	0,907	0,888	0,83	0,744	0,647
500	0,21	0,299	0,389	0,45	0,523	0,613	0,806	0,849	0,838	0,782	0,705	0,611
520	0,157	0,228	0,309	0,368	0,44	0,532	0,733	0,788	0,788	0,746	0,672	0,585
540	0,113	0,166	0,237	0,291	0,356	0,448	0,656	0,73	0,744	0,709	0,643	0,564
560	0,079	0,117	0,172	0,217	0,275	0,361	0,576	0,665	0,694	0,673	0,617	0,547
580	0,057	0,08	0,125	0,159	0,207	0,282	0,494	0,599	0,638	0,636	0,587	0,527
600	0,042	0,056	0,091	0,118	0,154	0,217	0,413	0,525	0,579	0,589	0,558	0,504

Grafik



	3	6	9	12	18	24	48	72	96	120	144	168
320	1,958	1,954	2,015	1,994	1,987	2,08	2,038	2,082	2,109	2,118	2,102	2,191
340	0,444	0,456	0,487	0,497	0,514	0,547	0,591	0,62	0,61	0,609	0,633	0,639
360	0,333	0,376	0,423	0,447	0,481	0,535	0,608	0,626	0,597	0,582	0,587	0,591
380	0,412	0,486	0,546	0,58	0,623	0,682	0,752	0,74	0,68	0,645	0,631	0,627
400	0,486	0,584	0,651	0,689	0,74	0,799	0,866	0,829	0,75	0,697	0,679	0,67
420	0,518	0,627	0,701	0,741	0,795	0,856	0,923	0,864	0,77	0,711	0,693	0,671
440	0,507	0,623	0,699	0,74	0,796	0,855	0,931	0,866	0,76	0,705	0,673	0,654
460	0,465	0,58	0,658	0,702	0,759	0,822	0,899	0,837	0,739	0,676	0,643	0,626
480	0,403	0,515	0,598	0,643	0,703	0,768	0,852	0,794	0,711	0,638	0,609	0,594
500	0,325	0,432	0,516	0,565	0,627	0,697	0,794	0,745	0,667	0,606	0,577	0,568
520	0,249	0,348	0,432	0,483	0,547	0,625	0,734	0,706	0,631	0,58	0,553	0,545
540	0,185	0,269	0,349	0,4	0,466	0,552	0,673	0,667	0,601	0,557	0,529	0,525
560	0,132	0,198	0,269	0,318	0,382	0,47	0,61	0,626	0,575	0,535	0,515	0,506
580	0,094	0,144	0,204	0,246	0,305	0,392	0,545	0,575	0,543	0,509	0,495	0,494
600	0,069	0,104	0,154	0,188	0,24	0,321	0,475	0,522	0,508	0,486	0,477	0,479

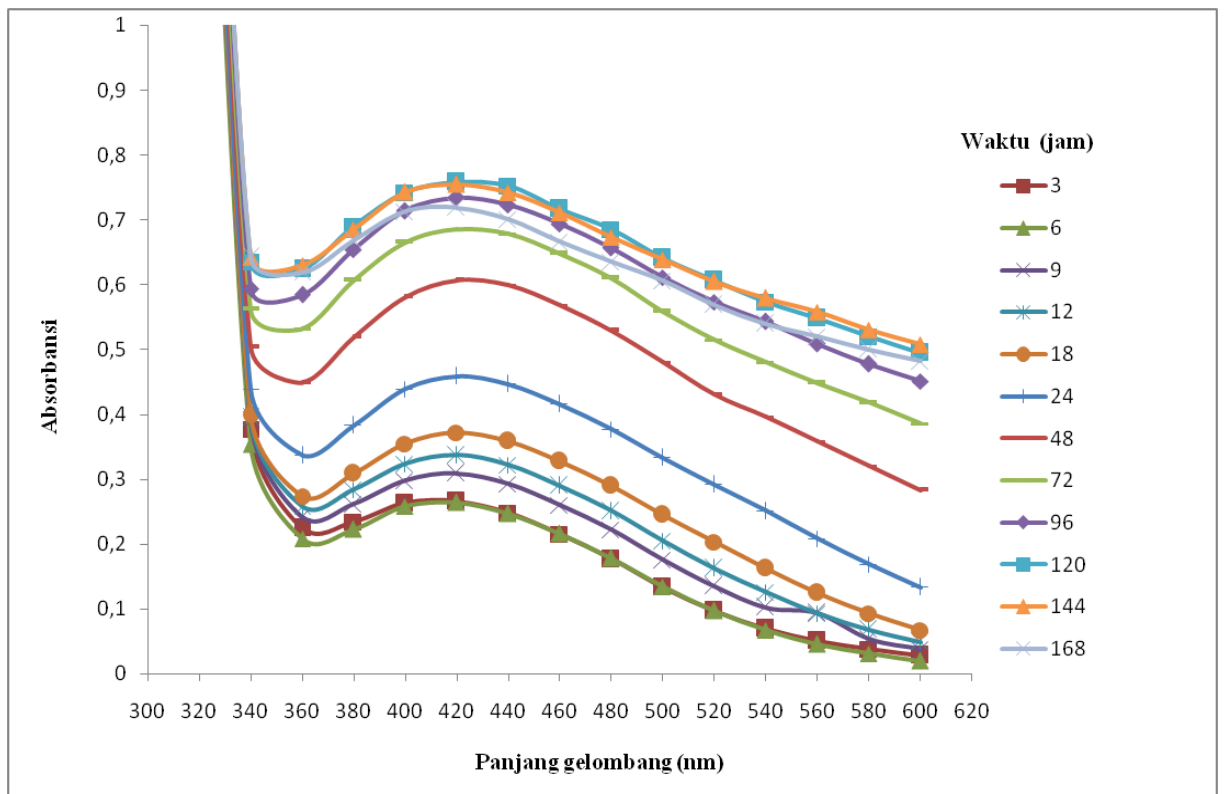
Grafik



Tabel

	3	6	9	12	18	24	48	72	96	120	144	168
320	1,885	1,82	1,869	1,907	1,876	1,897	1,97	1,992	2,065	2,077	2,067	2,058
340	0,377	0,354	0,39	0,395	0,399	0,439	0,504	0,562	0,594	0,635	0,642	0,643
360	0,225	0,208	0,242	0,258	0,274	0,337	0,449	0,532	0,584	0,624	0,63	0,619
380	0,234	0,223	0,262	0,284	0,309	0,383	0,519	0,607	0,654	0,69	0,685	0,669
400	0,263	0,258	0,298	0,324	0,355	0,439	0,581	0,665	0,714	0,742	0,743	0,713
420	0,266	0,264	0,309	0,337	0,372	0,459	0,607	0,685	0,734	0,758	0,755	0,719
440	0,248	0,247	0,293	0,322	0,359	0,447	0,599	0,678	0,723	0,752	0,742	0,701
460	0,215	0,216	0,26	0,29	0,328	0,416	0,568	0,648	0,694	0,717	0,711	0,666
480	0,177	0,178	0,222	0,251	0,29	0,377	0,529	0,61	0,657	0,685	0,673	0,635
500	0,133	0,134	0,176	0,205	0,245	0,333	0,48	0,559	0,611	0,641	0,639	0,606
520	0,097	0,097	0,135	0,163	0,203	0,292	0,43	0,515	0,573	0,607	0,605	0,569
540	0,07	0,067	0,102	0,126	0,163	0,251	0,396	0,48	0,543	0,573	0,579	0,54
560	0,051	0,046	0,094	0,093	0,125	0,208	0,358	0,448	0,509	0,548	0,558	0,52
580	0,038	0,031	0,053	0,068	0,093	0,169	0,32	0,418	0,478	0,52	0,53	0,5
600	0,028	0,02	0,038	0,049	0,067	0,133	0,283	0,386	0,451	0,495	0,508	0,482

Grafik

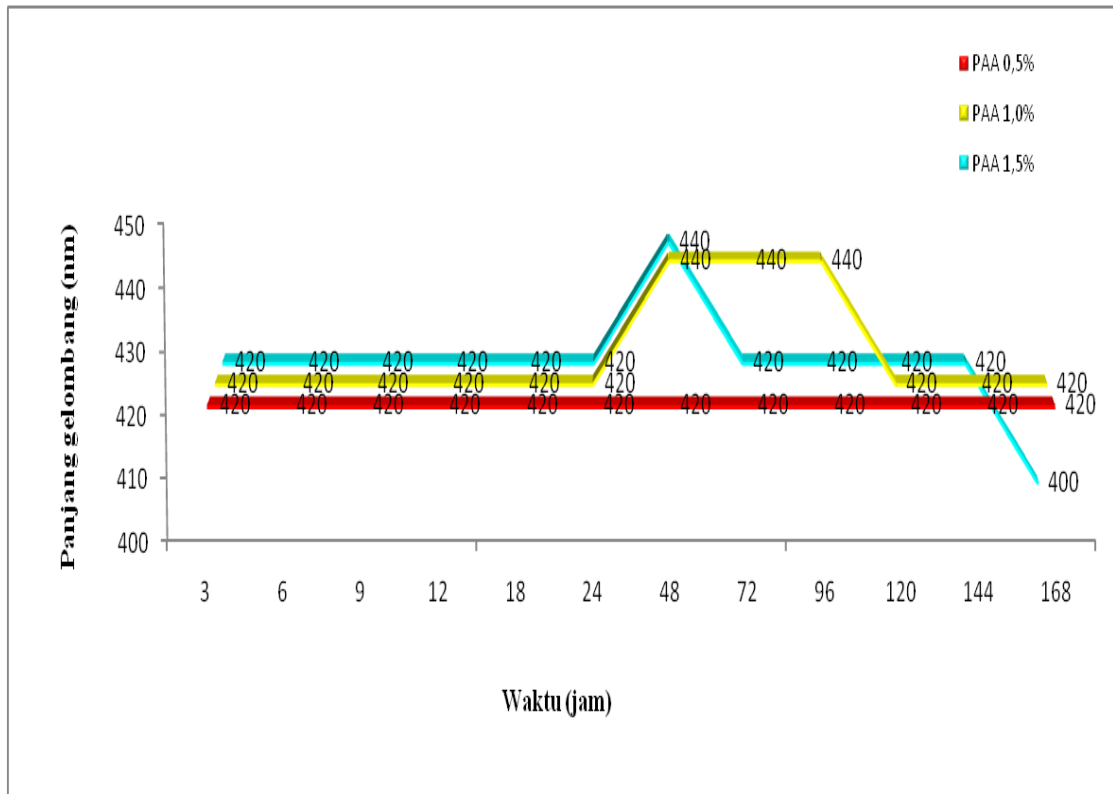


Lampiran 5. Perbandingan Kestabilan Sintesis Nanopartikel Perak dengan Penambahan Larutan PAA 0,5%, 1%, dan 1,5%

Tabel

	3	6	9	12	18	24	48	72	96	120	144	168
PAA 0,5%	420	420	420	420	420	420	420	420	420	420	420	420
PAA 1,0%	420	420	420	420	420	420	440	440	440	420	420	420
PAA 1,5%	420	420	420	420	420	420	440	420	420	420	420	400

Grafik



Lampiran 6. Perbandingan Kestabilan Sintesis Nanopartikel Perak antara Sampel A, Sampel B, dan Sampel C

Tabel

	3	6	9	12	18	24	48	72	96	120	144	168
sampel A	420	420	420	420	440	440	440	440	440	440	420	420
sampel B	420	420	420	420	440	420	440	440	420	420	420	420
sampel C	420	420	420	420	420	420	420	420	420	420	420	420

Lampiran 7. Gambar Sampel A, Sampel B, dan Sampel C

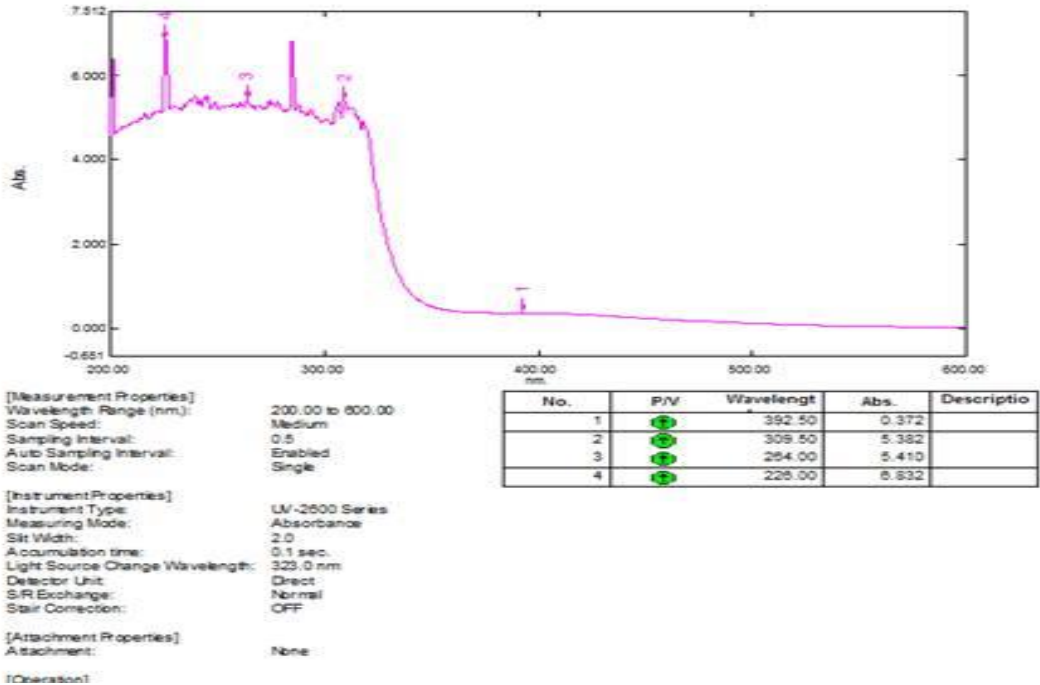


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Lampiran 8. Hasil Analisa dengan Spektrofotometer UV-Vis

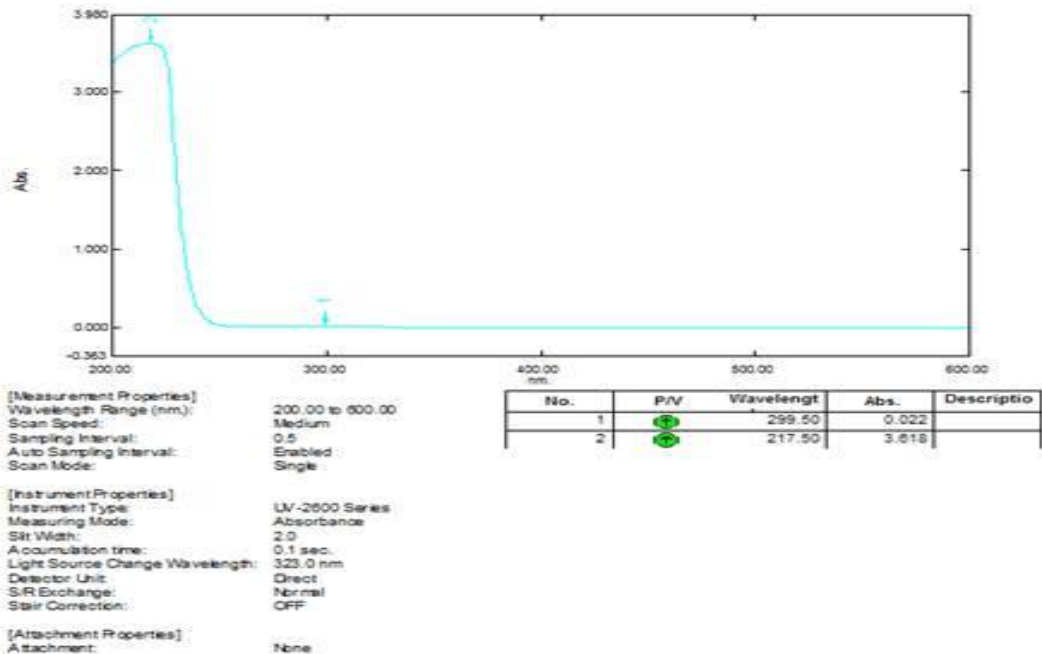
1. Ekstrak Kayu Manis

Data Set: Ekstrak fix - RawData



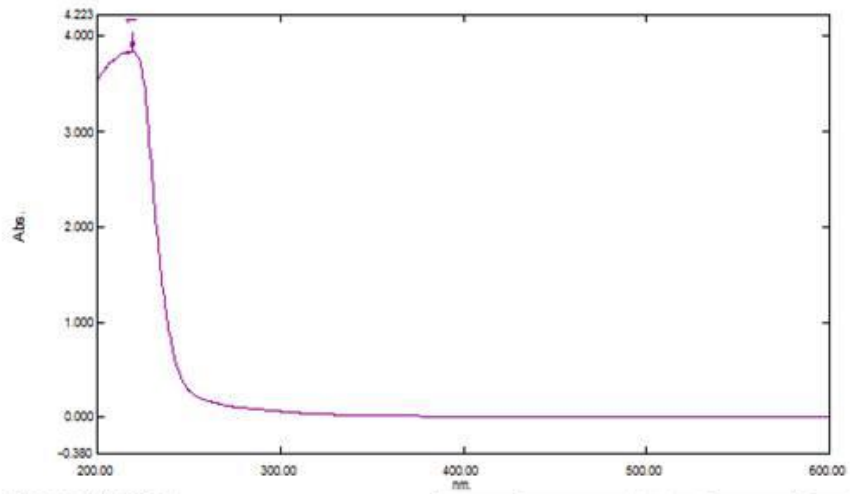
2. Larutan AgNO₃ 2 mM

Data Set: Larutan AgNO3 2 mM - RawData



3. Larutan PAA 0,5%

Data Set: PAA 0.5 ul - RawData

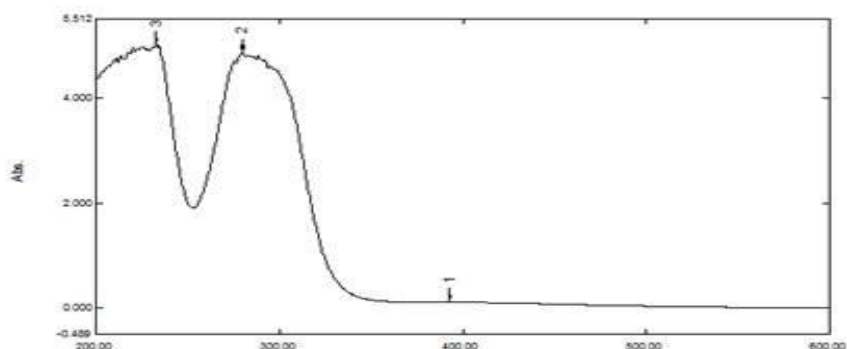


[Measurement Properties]
Wavelength Range (nm): 200.00 to 600.00
Scan Speed: Medium
Sampling Interval: 0.5
Auto Sampling Interval: Enabled
Scan Mode: Single

No.	P/V	Wavelength	Abs.	Descriptio
1	①	219.00	3.840	

[Instrument Properties]
Instrument Type: UV-2600 Series
Measuring Mode: Absorbance
Slit Width: 2.0
Accumulation time: 0.1 sec.
Light Source Change Wavelength: 323.0 nm
Detector Unit: Direct
S/R Exchange: Normal

Data Set: Sampel 19 30 menit - RawData



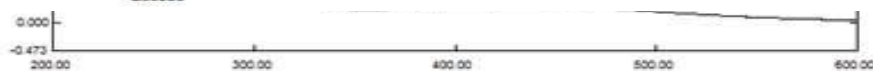
[Measurement Properties]
 Wavelength Range (nm): 200.00 to 600.00
 Scan Speed: Medium
 Sampling Interval: 0.5
 Auto Sampling Interval: Enabled
 Scan Mode: Single

No.	P/V	Wavelength	Abs.	Descriptio
1	●	392.50	0.118	
2	●	280.00	4.889	
3	●	233.00	5.012	

[Instrument Properties]
 Instrument Type: UV-2600 Series
 Measuring Mode: Absorbance
 Slit Width: 2.0
 Accumulation time: 0.1 sec.
 Light Source Change Wavelength: 323.0 nm
 Detector Unit: Direct
 S/R Exchange: Normal
 Slit Correction: OFF

[Attachment Properties]
 Attachment: None

[Operation]
 Threshold: 0.0010000
 Points: 4
 Interpolate: Disabled
 Average: Disabled



[Measurement Properties]
 Wavelength Range (nm): 200.00 to 600.00
 Scan Speed: Medium
 Sampling Interval: 0.5
 Auto Sampling Interval: Enabled
 Scan Mode: Single

No.	P/V	Wavelength	Abs.	Descriptio
1	●	418.00	0.323	
2	●	280.50	5.020	
3	●	232.50	5.194	

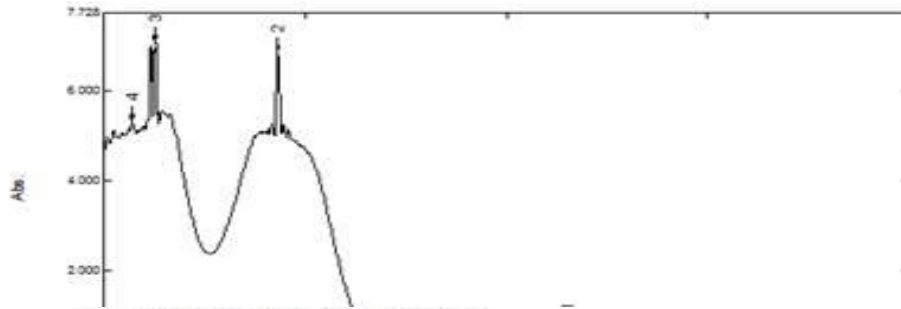
[Instrument Properties]
 Instrument Type: UV-2600 Series
 Measuring Mode: Absorbance
 Slit Width: 2.0
 Accumulation time: 0.1 sec.
 Light Source Change Wavelength: 323.0 nm
 Detector Unit: Direct
 S/R Exchange: Normal
 Slit Correction: OFF

[Attachment Properties]
 Attachment: None

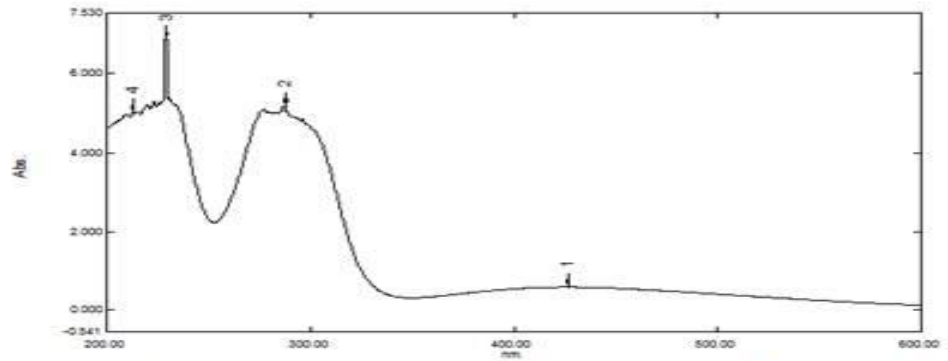
[Operation]
 Threshold: 0.0010000
 Points: 4
 Interpolate: Disabled
 Average: Disabled

7. Sampel A 168 jam

Data Set: Sampel 19 7 hari - RawData



Data Set: Sampel 19 1 hari - RawData



[Measurement Properties]
 Wavelength Range (nm): 200.00 to 600.00
 Scan Speed: Medium
 Sampling Interval: 0.5
 Auto Sampling Interval: Enabled
 Scan Mode: Single

[Instrument Properties]
 Instrument Type: UV-2800 Series
 Measuring Mode: Absorbance
 Slit Width: 2.0
 Accumulation time: 0.1 sec.
 Light Source Change Wavelength: 323.0 nm
 Detector Unit: Direct
 S/R Exchange: Normal
 Slit Correction: OFF

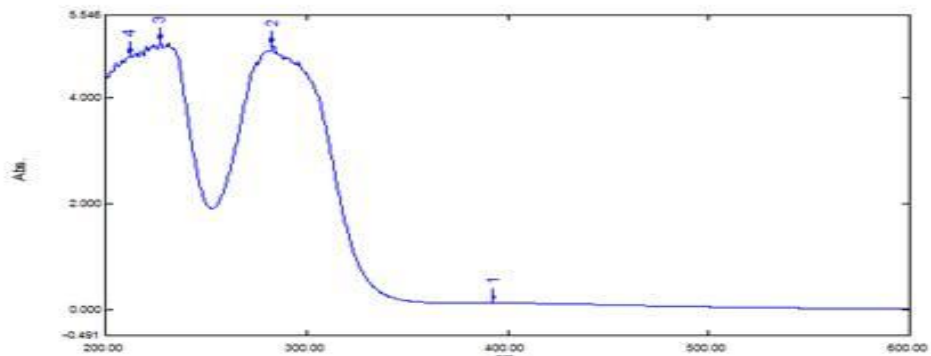
[Attachment Properties]
 Attachment: None

[Operation]
 Threshold: 0.0010000
 Points: 4
 Interpolate: Disabled
 Average: Disabled

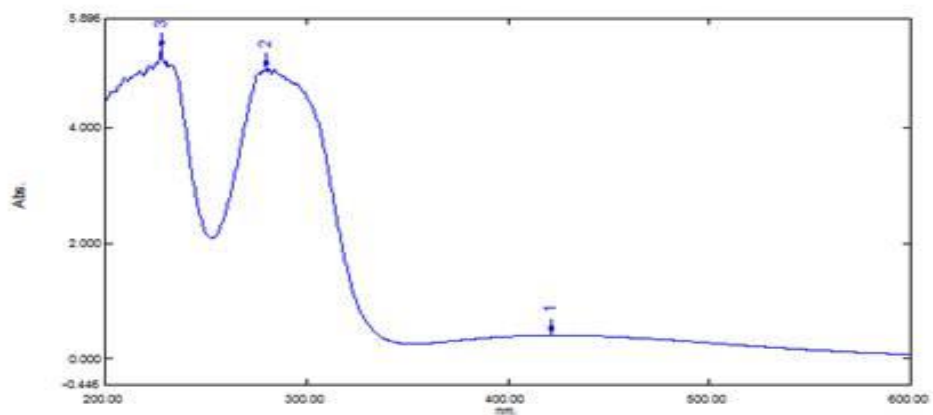
No.	P/V	Wavelength	Abs.	Descriptio
1	●	429.50	0.590	
2	●	387.50	5.172	
3	●	229.00	8.857	
4	●	212.50	5.005	

8. Sampel B 0,5 jam

Data Set: Sampel 20 30 menit - RawData



Data Set: Sampel 20 6 jam - RawData



1

[Measurement Properties]
Wavelength Range (nm): 200.00 to 600.00
Scan Speed: Medium
Sampling Interval: 0.5
Auto Sampling Interval: Enabled
Scan Mode: Single

[Instrument Properties]
Instrument Type: UV-2000 Series
Measuring Mode: Absorbance
Slit Width: 2.0
Accumulation time: 0.1 sec.
Light Source Change Wavelength: 323.0 nm
Detector Unit: Direct
S/R Exchange: Normal
Slit Correction: OFF

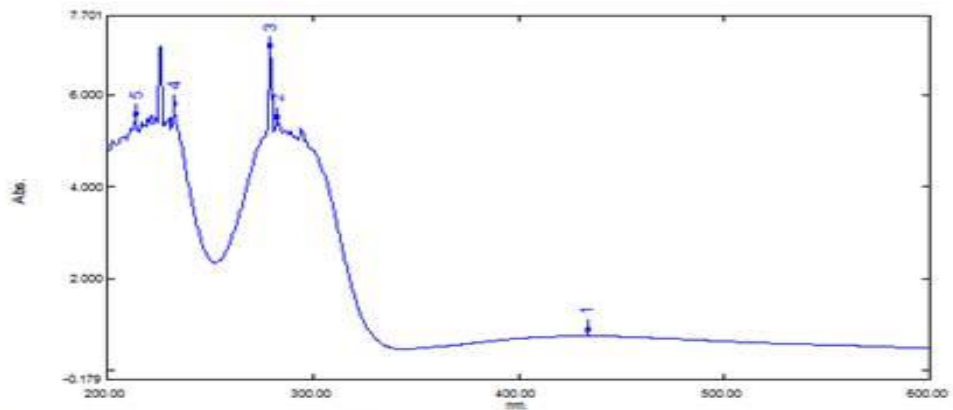
[Attachment Properties]
Attachment: None

[Operation]
Threshold: 0.0010000
Points: 4
Interpolate: Disabled
Average: Disabled

No.	P/V	Wavelength	Abs.	Description
1	●	421.00	0.413	
2	●	280.00	5.018	
3	●	228.00	5.357	

11. Sampel B 168 jam

Data Set: Sampel 20 7 hari - RawData



1

[Measurement Properties]
Wavelength Range (nm): 200.00 to 600.00
Scan Speed: Medium
Sampling Interval: 0.5
Auto Sampling Interval: Enabled
Scan Mode: Single

[Instrument Properties]
Instrument Type: UV-2500 Series
Measuring Mode: Absorbance
Slit Width: 2.0
Accumulation time: 0.1 sec.
Light Source Change Wavelength: 323.0 nm
Detector Unit: Direct
S/R Exchange: Normal
Slair Correction: OFF

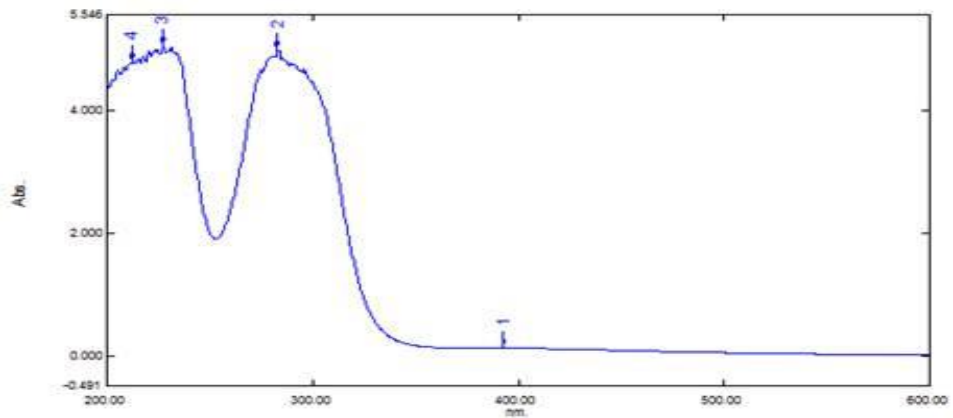
[Attachment Properties]
Attachment: None

[Operation]
Threshold: 0.0010000
Points: 4
Insr/Plate: Disabled
Average: Disabled

No.	P/V	Wavelength	Abs.	Descriptio
1	●	433.50	0.793	
2	●	263.00	5.375	
3	●	279.00	6.911	
4	●	232.50	5.643	
5	●	214.50	5.450	

13. Sampel C 6 jam

Data Set: Sampel 21 30 menit - RawData



1

[Measurement Properties]

Wavelength Range (nm): 200.00 to 600.00
 Scan Speed: Medium
 Sampling Interval: 0.5
 Auto Sampling Interval: Enabled
 Scan Mode: Single

[Instrument Properties]

Instrument Type: UV-2600 Series
 Measuring Mode: Absorbance
 Slit Width: 2.0
 Accumulation time: 0.1 sec.
 Light Source Change Wavelength: 323.0 nm
 Detector Unit: Direct
 S/R Exchange: Normal
 Stair Correction: OFF

[Attachment Properties]

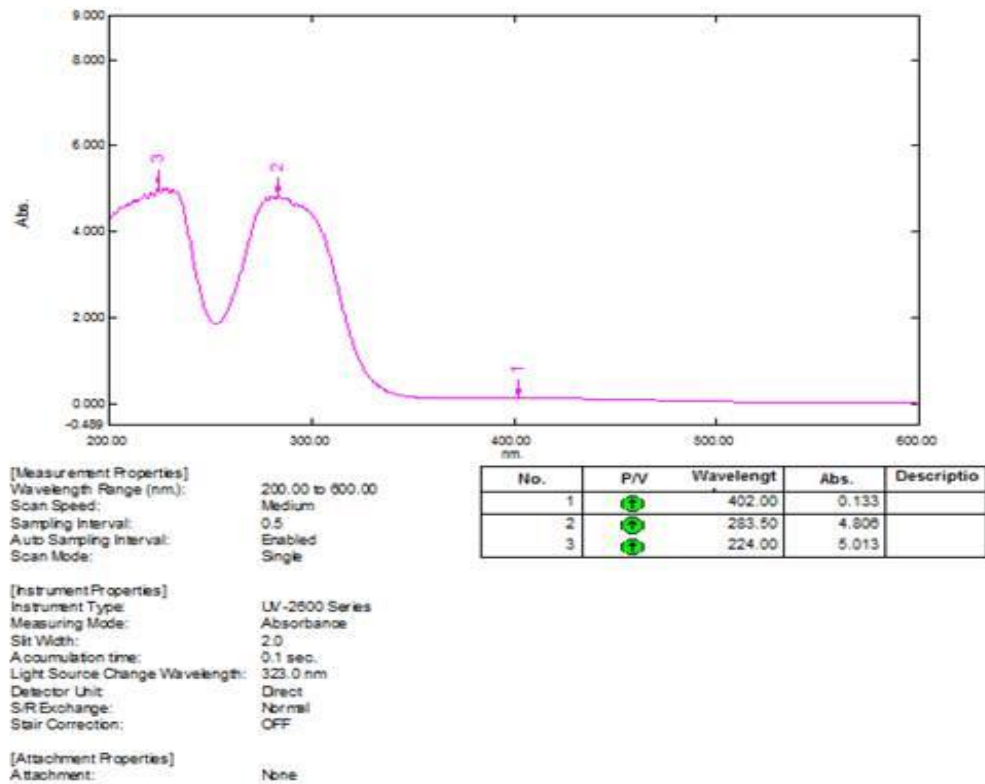
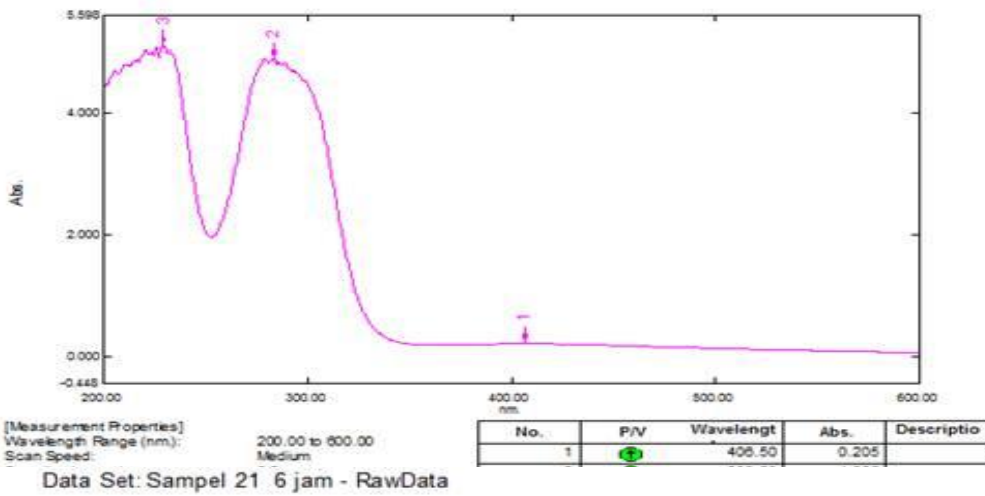
Attachment: None
 Interpolate: Disabled
 Average: Disabled

No.	P/V	Wavelength	Abs.	Descriptio
1	③	392.50	0.119	
2	③	283.00	4.967	
3	③	227.00	5.043	
4	③	212.00	4.770	

15. Sampel C 168 jam


Data Set: Sampel 21 7 hari - RawData

Data Set: Sampel 21 1 hari - RawData



Lampiran 9. Hasil Analisa dengan PSA

1. Sampel A

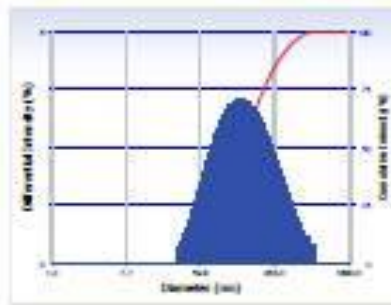

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1 / 4 Scale Distribution S/N :

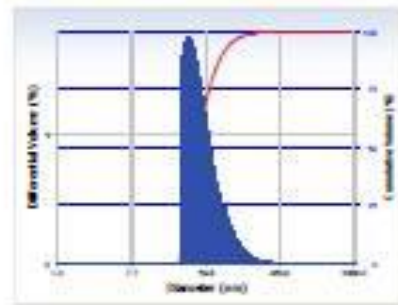
User : DelsaNano	Group : JAMALUDDIN	Repetition : 1/1
Date : 11/14/2013	File Name : A_20131114_093206	
Time : 09:32:06	Sample Information : A	
SOP Name : Nanotech		Security : Security

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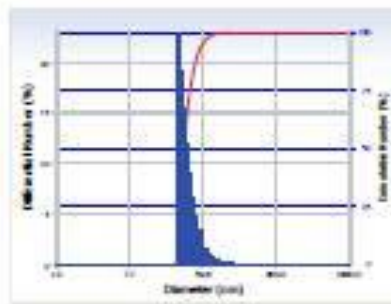
Intensity Distribution



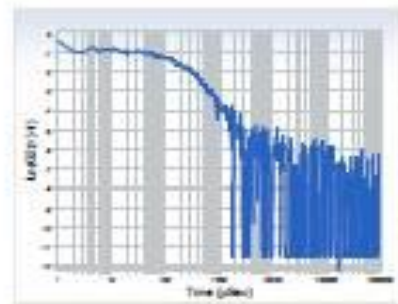
Volume Distribution



Number Distribution



LN(G2(τ)-1) vs τ



Cumulants Results

Diameter (d) : 156.0 (nm)
 Polydispersity Index (P.I.) : 0.329
 Diffusion Const. (D) : 3.154e-008 (cm²/sec)
 Residual : 1.882e-002 (O.K)

Measurement Condition

Temperature : 25.0 (°C)
 Diluent Name : WATER
 Refractive Index : 1.3332
 Viscosity : 0.8878 (cP)
 Scattering Intensity : 6911 (cps)

Distribution Results (Contin)

Intensity Distribution			Volume Distribution			Number Distribution		
Peak	Diameter (nm)	Std. Dev.	Peak	Diameter (nm)	Std. Dev.	Peak	Diameter (nm)	Std. Dev.
1	274.5	241.3	1	59.9	37.6	1	40.2	11.6
2	0.0	0.0	2	0.0	0.0	2	0.0	0.0
3	0.0	0.0	3	0.0	0.0	3	0.0	0.0
4	0.0	0.0	4	0.0	0.0	4	0.0	0.0
5	0.0	0.0	5	0.0	0.0	5	0.0	0.0
Average	274.5	241.3	Average	59.9	37.6	Average	40.2	11.6
4.0	0.0	0.0	31.1	22.9	22.9	44.6	0.0	100.0
4.4	0.0	0.0	33.7	19.2	42.1	261.1	0.0	100.0
4.7	0.0	0.0	36.6	15.4	57.4	283.3	0.0	100.0
5.1	0.0	0.0	39.7	11.9	69.3	307.5	0.0	100.0
5.6	0.0	0.0	43.1	9.0	78.3	333.7	0.0	100.0
6.1	0.0	0.0	46.8	6.6	84.9	362.2	0.0	100.0
6.6	0.0	0.0	50.8	4.7	89.6	393.1	0.0	100.0
7.1	0.0	0.0	55.1	3.3	92.9	426.6	0.0	100.0
D (10%) : 29.7 (nm)			D (50%) : 35.2 (nm)			D (90%) : 51.3 (nm)		



Size Distribution Table

S/N : 1

User : DelsaNano	Group : JAMALUDDIN	Repetition : 1/1
Date : 11/14/2013	File Name : A_20131114_093206	
Time : 09:32:06	Sample Information : A	
SOP Name : Nanotech		Security : Security

Γ (1/Sec)	d(nm)	f(%)Int.	f(cum.%)Int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
4420.6	70.5	2.2	13.0	4.4	79.3	1.08	97.93
4073.3	76.5	2.4	15.4	3.8	83.0	0.72	98.65
3753.2	83.0	2.6	18.0	3.2	86.2	0.48	99.13
3458.3	90.1	2.7	20.7	2.7	88.9	0.31	99.44
3186.6	97.8	2.9	23.7	2.2	91.1	0.20	99.65
2936.2	106.1	3.1	26.7	1.8	92.9	0.13	99.78
2705.5	115.2	3.2	29.9	1.5	94.4	0.08	99.86
2492.9	125.0	3.3	33.2	1.2	95.6	0.05	99.91
2297.0	135.7	3.4	36.6	1.0	96.5	0.03	99.95
2116.5	147.2	3.5	40.1	0.8	97.3	0.02	99.97
1950.2	159.8	3.5	43.6	0.6	97.9	0.01	99.98
1797.0	173.4	3.5	47.2	0.5	98.4	0.01	99.99
1655.8	188.2	3.5	50.7	0.4	98.8	0.00	99.99
1525.7	204.2	3.5	54.3	0.3	99.1	0.00	100.00
1405.8	221.7	3.5	57.7	0.2	99.3	0.00	100.00
1295.3	240.6	3.4	61.2	0.2	99.5	0.00	100.00
1193.5	261.1	3.3	64.5	0.1	99.6	0.00	100.00
1099.8	283.3	3.2	67.8	0.1	99.7	0.00	100.00
1013.3	307.5	3.1	70.9	0.1	99.8	0.00	100.00
933.7	333.7	3.0	73.9	0.1	99.8	0.00	100.00
860.3	362.2	2.9	76.8	0.0	99.9	0.00	100.00
792.7	393.1	2.7	79.5	0.0	99.9	0.00	100.00
730.5	426.6	2.5	82.0	0.0	99.9	0.00	100.00
673.1	463.0	2.4	84.4	0.0	100.0	0.00	100.00
620.2	502.4	2.2	86.6	0.0	100.0	0.00	100.00
571.4	545.3	2.0	88.6	0.0	100.0	0.00	100.00
526.5	591.8	1.8	90.4	0.0	100.0	0.00	100.00
485.2	642.2	1.7	92.1	0.0	100.0	0.00	100.00
447.0	697.0	1.5	93.6	0.0	100.0	0.00	100.00
411.9	756.5	1.3	94.9	0.0	100.0	0.00	100.00
379.6	821.0	1.1	96.0	0.0	100.0	0.00	100.00
349.7	891.0	1.0	97.0	0.0	100.0	0.00	100.00
322.2	967.0	0.8	97.9	0.0	100.0	0.00	100.00
296.9	1049.4	0.7	98.6	0.0	100.0	0.00	100.00
273.6	1138.9	0.6	99.2	0.0	100.0	0.00	100.00
252.1	1236.0	0.5	99.6	0.0	100.0	0.00	100.00
232.3	1341.4	0.4	100.0	0.0	100.0	0.00	100.00
214.0	1455.8	0.0	100.0	0.0	100.0	0.00	100.00
197.2	1580.0	0.0	100.0	0.0	100.0	0.00	100.00
181.7	1714.7	0.0	100.0	0.0	100.0	0.00	100.00
167.4	1860.9	0.0	100.0	0.0	100.0	0.00	100.00
154.3	2019.6	0.0	100.0	0.0	100.0	0.00	100.00
142.2	2191.9	0.0	100.0	0.0	100.0	0.00	100.00
131.0	2378.8	0.0	100.0	0.0	100.0	0.00	100.00
120.7	2581.6	0.0	100.0	0.0	100.0	0.00	100.00
111.2	2801.8	0.0	100.0	0.0	100.0	0.00	100.00
102.5	3040.7	0.0	100.0	0.0	100.0	0.00	100.00
94.4	3300.0	0.0	100.0	0.0	100.0	0.00	100.00

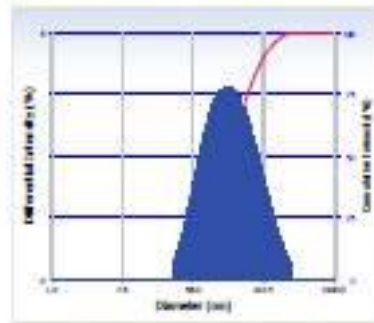
1 / 4 Scale Distribution

S/N :

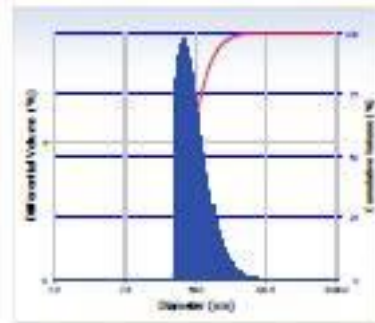
User : DelsaNano	Group : JAMALUDIN	Repetition : 1/1
Date : 11/13/2013	File Name : B_20131113_094812	
Time : 09:48:12	Sample Information : B	
SOP Name : Nanotech	Security : Security	

Version 2.31 / 2.00

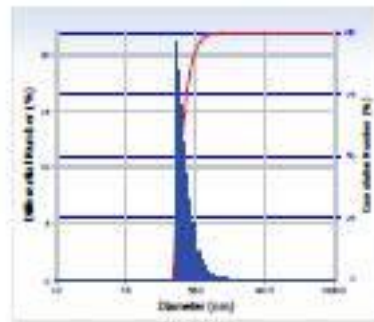
Intensity Distribution



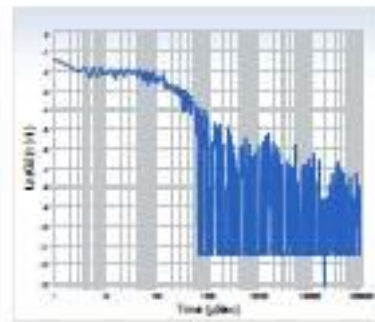
Volume Distribution



Number Distribution



LN(G2(γ)-1) vs τ



Cumulants Results

Diameter (d) : 138.5 (nm)
 Polydispersity Index (P.I.) : 0.377
 Diffusion Const. (D) : 3.551e-008 (cm²/sec)
 Residual : 1.784e-002 (O.K)

Measurement Condition

Temperature : 25.0 (°C)
 Diluent Name : WATER
 Refractive Index : 1.3332
 Viscosity : 0.8878 (cP)
 Scattering Intensity : 8853 (cps)

Distribution Results (Contin)

Intensity Distribution			Volume Distribution			Number Distribution		
Peak	Diameter (nm)	Std. Dev.	Peak	Diameter (nm)	Std. Dev.	Peak	Diameter (nm)	Std. Dev.
1	222.2	176.3	1	62.5	36.3	1	42.8	12.2
2	0.0	0.0	2	0.0	0.0	2	0.0	0.0
3	0.0	0.0	3	0.0	0.0	3	0.0	0.0
4	0.0	0.0	4	0.0	0.0	4	0.0	0.0
5	0.0	0.0	5	0.0	0.0	5	0.0	0.0
Average	222.2	176.3	Average	62.5	36.3	Average	42.8	12.2

2.6	0.0	0.0	20.2	0.0	0.0	153.6	0.0	100.0	1169.9	0.0	100.0
2.9	0.0	0.0	21.9	0.0	0.0	166.6	0.0	100.0	1268.9	0.0	100.0
3.1	0.0	0.0	23.7	0.0	0.0	180.7	0.0	100.0	1376.3	0.0	100.0
3.4	0.0	0.0	25.7	0.0	0.0	196.0	0.0	100.0	1492.7	0.0	100.0
3.7	0.0	0.0	27.9	0.0	0.0	212.6	0.0	100.0	1618.9	0.0	100.0
4.0	0.0	0.0	30.3	0.0	0.0	230.6	0.0	100.0	1755.9	0.0	100.0
4.3	0.0	0.0	32.8	21.2	21.2	250.1	0.0	100.0	1904.4	0.0	100.0
4.7	0.0	0.0	35.6	18.6	39.8	271.3	0.0	100.0	2065.5	0.0	100.0
5.1	0.0	0.0	38.6	15.4	55.3	294.2	0.0	100.0	2240.3	0.0	100.0
5.5	0.0	0.0	41.9	12.2	67.5	319.1	0.0	100.0	2429.8	0.0	100.0
6.0	0.0	0.0	45.4	9.4	76.9	346.1	0.0	100.0	2635.3	0.0	100.0
6.5	0.0	0.0	49.3	7.0	83.8	375.4	0.0	100.0	2858.2	0.0	100.0
7.0	0.0	0.0	53.5	5.0	88.9	407.1	0.0	100.0	3100.0	0.0	100.0



Size Distribution Table

S/N :

User : DelsaNano	Group : JAMALUDDIN	Repetition : 1/1
Date : 11/13/2013	File Name : B_20131113_094812	
Time : 09:48:12	Sample Information : B	
SOP Name : Nanotech		Security : Security

Version 2.31 / 2.00

Γ (1/sec)	d(nm)	f(%)Int.	f(cum.%)Int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
311597.5	1.0	0.0	0.0	0.0	0.0	0.00	0.00
287294.7	1.1	0.0	0.0	0.0	0.0	0.00	0.00
264887.4	1.2	0.0	0.0	0.0	0.0	0.00	0.00
244227.8	1.3	0.0	0.0	0.0	0.0	0.00	0.00
225179.5	1.4	0.0	0.0	0.0	0.0	0.00	0.00
207616.8	1.5	0.0	0.0	0.0	0.0	0.00	0.00
191423.9	1.6	0.0	0.0	0.0	0.0	0.00	0.00
176494.0	1.8	0.0	0.0	0.0	0.0	0.00	0.00
162728.5	1.9	0.0	0.0	0.0	0.0	0.00	0.00
150036.7	2.1	0.0	0.0	0.0	0.0	0.00	0.00
138334.7	2.3	0.0	0.0	0.0	0.0	0.00	0.00
127545.4	2.4	0.0	0.0	0.0	0.0	0.00	0.00
117597.6	2.6	0.0	0.0	0.0	0.0	0.00	0.00
108425.7	2.9	0.0	0.0	0.0	0.0	0.00	0.00
99969.2	3.1	0.0	0.0	0.0	0.0	0.00	0.00
92172.2	3.4	0.0	0.0	0.0	0.0	0.00	0.00
84983.3	3.7	0.0	0.0	0.0	0.0	0.00	0.00
78355.1	4.0	0.0	0.0	0.0	0.0	0.00	0.00
72243.9	4.3	0.0	0.0	0.0	0.0	0.00	0.00
66609.3	4.7	0.0	0.0	0.0	0.0	0.00	0.00
61414.1	5.1	0.0	0.0	0.0	0.0	0.00	0.00
56624.2	5.5	0.0	0.0	0.0	0.0	0.00	0.00
52207.8	6.0	0.0	0.0	0.0	0.0	0.00	0.00
48135.9	6.5	0.0	0.0	0.0	0.0	0.00	0.00
44381.6	7.0	0.0	0.0	0.0	0.0	0.00	0.00
40920.1	7.6	0.0	0.0	0.0	0.0	0.00	0.00
37728.6	8.3	0.0	0.0	0.0	0.0	0.00	0.00
34786.0	9.0	0.0	0.0	0.0	0.0	0.00	0.00
32072.9	9.7	0.0	0.0	0.0	0.0	0.00	0.00
29571.4	10.5	0.0	0.0	0.0	0.0	0.00	0.00
27265.0	11.4	0.0	0.0	0.0	0.0	0.00	0.00
25138.5	12.4	0.0	0.0	0.0	0.0	0.00	0.00
23177.8	13.4	0.0	0.0	0.0	0.0	0.00	0.00
21370.1	14.6	0.0	0.0	0.0	0.0	0.00	0.00
19703.4	15.8	0.0	0.0	0.0	0.0	0.00	0.00
18166.6	17.2	0.0	0.0	0.0	0.0	0.00	0.00
16749.7	18.6	0.0	0.0	0.0	0.0	0.00	0.00
15443.4	20.2	0.0	0.0	0.0	0.0	0.00	0.00
14238.9	21.9	0.0	0.0	0.0	0.0	0.00	0.00
13128.3	23.7	0.0	0.0	0.0	0.0	0.00	0.00
12104.4	25.7	0.0	0.0	0.0	0.0	0.00	0.00
11160.3	27.9	0.0	0.0	0.0	0.0	0.00	0.00
10289.9	30.3	0.0	0.0	0.0	0.0	0.00	0.00
9487.3	32.8	0.4	0.4	7.3	7.3	21.22	21.22
8747.4	35.6	0.5	0.9	8.2	15.4	18.61	39.83
8065.1	38.6	0.7	1.7	8.6	24.1	15.43	55.26
7436.1	41.9	0.9	2.6	8.7	32.8	12.34	67.49
6856.1	45.4	1.2	3.8	8.5	41.3	9.37	76.86
6321.4	49.3	1.4	5.2	8.1	49.4	6.96	83.82
5828.4	53.5	1.7	6.9	7.5	56.9	5.05	88.87
5373.8	58.0	1.9	8.9	6.8	63.7	3.58	92.45
4954.7	62.9	2.2	11.1	6.0	69.7	2.50	94.95

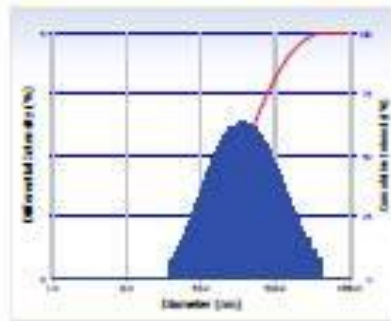
1 / 4 Scale Distribution

S/N :

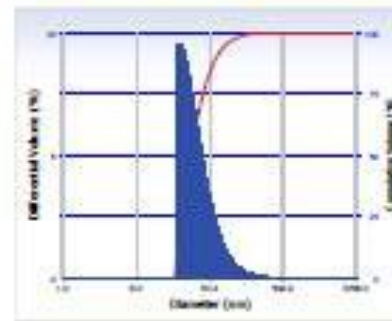
User : DelsaNano	Group : JAMALUDDIN	Repetition : 1/1
Date : 11/14/2013	File Name : C_20131114_091710	
Time : 09:17:10	Sample Information : C	
SCP Name : Nanotech		Security : Security

Version 2.31 / 2.00

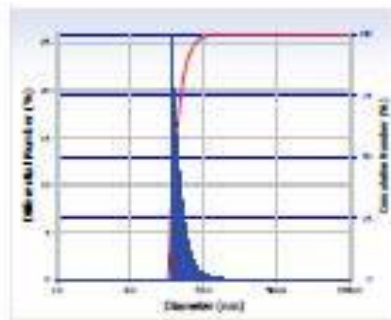
Intensity Distribution



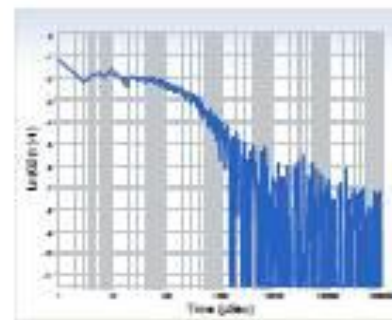
Volume Distribution



Number Distribution



LN(G2(τ)-1) vs τ



Cumulants Results

Diameter (d) : 150.4 (nm)
 Polydispersity Index (P.I.) : 0.452
 Diffusion Const. (D) : 3.272e-008 (cm²/sec)
 Residual : 1.225e-002 (O.K)

Measurement Condition

Temperature : 25.0 (°C)
 Diluent Name : WATER
 Refractive Index : 1.3332
 Viscosity : 0.8878 (cP)
 Scattering Intensity : 9288 (cps)

Distribution Results (Contn)

Intensity Distribution

Peak	Diameter (nm)	Std. Dev.
1	322.8	317.2
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
5	0.0	0.0

Volume Distribution

Peak	Diameter (nm)	Std. Dev.
1	49.0	33.6
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
5	0.0	0.0

Number Distribution

Peak	Diameter (nm)	Std. Dev.
1	32.3	9.2
2	0.0	0.0
3	0.0	0.0
4	0.0	0.0
5	0.0	0.0

Average	Diameter (nm)	Std. Dev.	Average	Diameter (nm)	Std. Dev.	Average	Diameter (nm)	Std. Dev.
	322.8	317.2		49.0	33.6		32.3	9.2

Size Distribution Table

S/N :

User : DelsaNano	Group : JAMALUDDIN	Repetition : 1/1
Date : 11/14/2013	File Name : C_20131114_091710	
Time : 09:17:10	Sample Information : C	
SOP Name : Nanotech		Security : Security

Version 2.31 / 2.00

Γ (1/sec)	d(nm)	f(%)Int.	f(cum.%)Int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
311597.4	1.0	0.0	0.0	0.0	0.0	0.00	0.00
286781.7	1.1	0.0	0.0	0.0	0.0	0.00	0.00
263942.3	1.2	0.0	0.0	0.0	0.0	0.00	0.00
242921.8	1.3	0.0	0.0	0.0	0.0	0.00	0.00
.....
Γ (1/sec)	d(nm)	f(%)Int.	f(cum.%)Int.	f(%)Vol.	f(cum.%)Vol.	f(%)No.	f(cum.%)No.
4162.8	74.9	2.1	16.0	2.5	89.1	0.27	99.52
3831.3	81.3	2.3	18.3	2.1	91.1	0.17	99.69
3526.2	88.4	2.4	20.7	1.7	92.9	0.11	99.81
3245.3	96.0	2.6	23.3	1.4	94.3	0.07	99.88
2986.9	104.3	2.7	25.9	1.2	95.5	0.05	99.92
2749.0	113.3	2.8	28.7	0.9	96.4	0.03	99.95
2530.1	123.2	2.9	31.6	0.8	97.2	0.02	99.97
2328.6	133.8	3.0	34.6	0.6	97.8	0.01	99.98
2143.1	145.4	3.1	37.7	0.5	98.3	0.01	99.99
1972.4	158.0	3.1	40.8	0.4	98.6	0.00	99.99
1815.4	171.6	3.1	43.9	0.3	99.0	0.00	100.00
1670.8	186.5	3.2	47.1	0.2	99.2	0.00	100.00
1537.7	202.6	3.2	50.3	0.2	99.4	0.00	100.00
1415.3	220.2	3.2	53.4	0.1	99.5	0.00	100.00
1302.5	239.2	3.1	56.6	0.1	99.6	0.00	100.00
1198.8	259.9	3.1	59.7	0.1	99.7	0.00	100.00
1103.3	282.4	3.1	62.8	0.1	99.8	0.00	100.00
1015.5	306.9	3.0	65.7	0.1	99.9	0.00	100.00
934.6	333.4	2.9	68.6	0.0	99.9	0.00	100.00
860.2	362.3	2.8	71.5	0.0	99.9	0.00	100.00
791.7	393.6	2.7	74.2	0.0	99.9	0.00	100.00
728.6	427.7	2.6	76.7	0.0	100.0	0.00	100.00
670.6	464.7	2.5	79.2	0.0	100.0	0.00	100.00
617.2	504.9	2.3	81.5	0.0	100.0	0.00	100.00
568.0	548.6	2.2	83.7	0.0	100.0	0.00	100.00
522.8	596.0	2.1	85.8	0.0	100.0	0.00	100.00
481.2	647.6	1.9	87.7	0.0	100.0	0.00	100.00
442.8	703.6	1.8	89.5	0.0	100.0	0.00	100.00
407.6	764.5	1.6	91.1	0.0	100.0	0.00	100.00
375.1	830.7	1.5	92.6	0.0	100.0	0.00	100.00
345.2	902.6	1.3	93.9	0.0	100.0	0.00	100.00
317.7	980.7	1.2	95.1	0.0	100.0	0.00	100.00
292.4	1065.5	1.1	96.1	0.0	100.0	0.00	100.00
269.1	1157.7	0.9	97.1	0.0	100.0	0.00	100.00
247.7	1257.9	0.8	97.9	0.0	100.0	0.00	100.00
228.0	1366.8	0.7	98.6	0.0	100.0	0.00	100.00
209.8	1485.0	0.6	99.1	0.0	100.0	0.00	100.00
193.1	1613.5	0.5	99.6	0.0	100.0	0.00	100.00
177.7	1753.2	0.4	100.0	0.0	100.0	0.00	100.00
163.6	1904.9	0.0	100.0	0.0	100.0	0.00	100.00
150.6	2069.7	0.0	100.0	0.0	100.0	0.00	100.00
138.6	2248.8	0.0	100.0	0.0	100.0	0.00	100.00
127.5	2443.4	0.0	100.0	0.0	100.0	0.00	100.00
117.4	2654.8	0.0	100.0	0.0	100.0	0.00	100.00
108.0	2884.5	0.0	100.0	0.0	100.0	0.00	100.00
99.4	3134.1	0.0	100.0	0.0	100.0	0.00	100.00
91.5	3405.3	0.0	100.0	0.0	100.0	0.00	100.00
84.2	3700.0	0.0	100.0	0.0	100.0	0.00	100.00



Nanopartikel Perak

Tescan Vega3SB / Fisika_UNM



Spectrum: test

Element	unn. C [wt.%]	norm. C [wt.%]	Atom. C [at.%]	Compound	norm. Comp. C [wt.%]	Error (3 Sigma) [wt.%]
Oxygen	3.02	4.80	21.24		0.00	1.31
Silicon	0.84	1.33	3.36	SiO2	2.85	0.21
Aluminium	1.04	1.65	4.33	Al2O3	3.11	0.26
Sodium	1.23	1.95	6.02	Na2O	2.63	0.37
Potassium	0.53	0.85	1.53	K2O	1.02	0.15
Calcium	0.20	0.31	0.55	CaO	0.43	0.12
Magnesium	0.80	1.27	3.71	MgO	2.11	0.25
Silver	54.59	86.69	56.96		86.69	5.20
Chlorine	0.72	1.15	2.30		1.15	0.17
Total:	62.97	100.00	100.00			