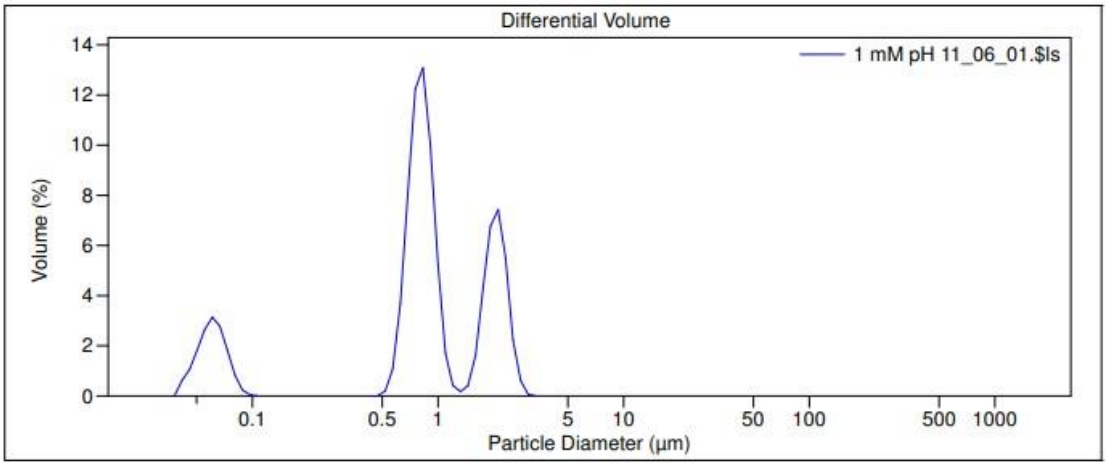
LAMPIRAN

LAMPIRAN 1 Data tubular UV-Vis perbandingan pH bioreduktor

Panjang Gelombang (nm)	pH 6	pH 9	pH 11
300	0.06	0.083	0.107
305	0.057	0.08	0.098
310	0.055	0.074	0.087
315	0.053	0.07	0.079
320	0.049	0.064	0.073
325	0.045	0.061	0.071
330	0.04	0.059	0.071
335	0.038	0.057	0.075
340	0.034	0.057	0.082
345	0.03	0.057	0.093
350	0.028	0.059	0.109
355	0.025	0.061	0.128
360	0.023	0.064	0.15
365	0.022	0.068	0.176
370	0.021	0.072	0.206
375	0.021	0.076	0.238
380	0.021	0.081	0.273
385	0.02	0.085	0.308
390	0.02	0.089	0.344
395	0.021	0.092	0.376
400	0.021	0.095	0.405
405	0.02	0.098	0.425
410	0.022	0.1	0.435
415	0.023	0.101	0.433
420	0.022	0.102	0.418
425	0.023	0.101	0.394
430	0.022	0.099	0.363
435	0.022	0.097	0.325
440	0.021	0.093	0.283
445	0.021	0.089	0.241
450	0.019	0.083	0.2
455	0.018	0.077	0.167
460	0.017	0.069	0.136
465	0.016	0.063	0.113
470	0.014	0.055	0.093

475	0.013	0.05	0.078
480	0.011	0.044	0.066
485	0.009	0.038	0.056
490	0.008	0.034	0.048
495	0.007	0.03	0.041
500	0.005	0.025	0.036
505	0.005	0.022	0.032
510	0.003	0.02	0.028
515	0.002	0.018	0.025
520	0.002	0.016	0.023
525	0.001	0.015	0.021
530	0.001	0.013	0.019
535	0	0.011	0.017
540	-0.001	0.01	0.015
545	-0.001	0.009	0.014
550	-0.001	0.009	0.015
555	-0.001	0.009	0.013
560	0	0.009	0.014
565	-0.003	0.007	0.011
570	-0.002	0.006	0.01
575	-0.003	0.005	0.009
580	0	0.007	0.011
585	-0.001	0.006	0.01
590	-0.002	0.006	0.009
595	-0.002	0.004	0.009
600	-0.001	0.005	0.01

LAMPIRAN 2 Hasil pengujian PSA variasi konsentrasi $AgNO_3$ 1 mM bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)



Volume Statistics (Arithmetic) 1 mM pH 11_06_01.$ls

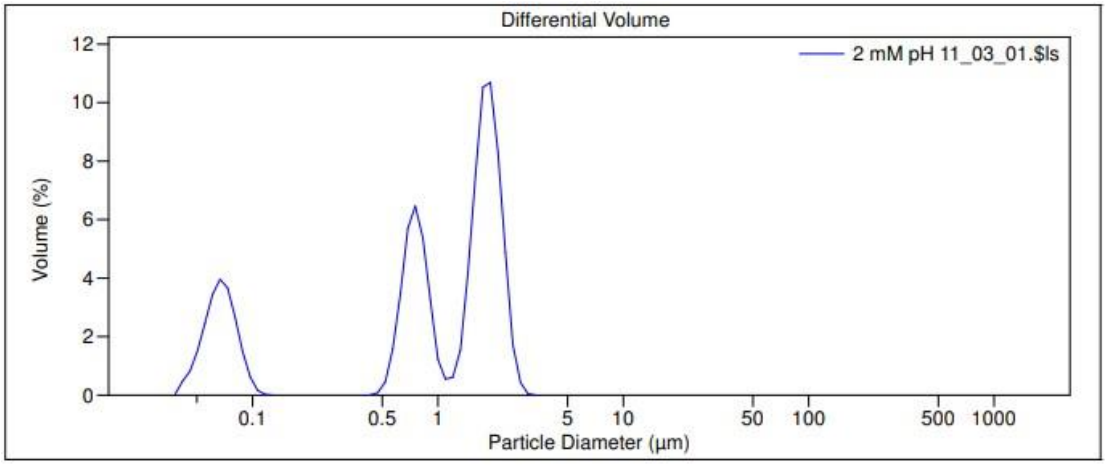
Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.063 µm	S.D.:	0.712 µm
Median:	0.848 µm	Variance:	0.507 µm^2
Mean/Median ratio:	1.253	C.V.:	67.0%
Mode:	0.829 µm	Skewness:	0.539 Right skewed
		Kurtosis:	-0.664 Platykurtic

d_{10}: 0.065 µm d_{50}: 0.848 µm d_{90}: 2.166 µm

<10%	<25%	<50%	<75%	<90%
0.065 µm	0.696 µm	0.848 µm	1.742 µm	2.166 µm

LAMPIRAN 3 Hasil pengujian PSA variasi konsentrasi $AgNO_3$ 2 mM bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)



Volume Statistics (Arithmetic) 2 mM pH 11_03_01.$ls

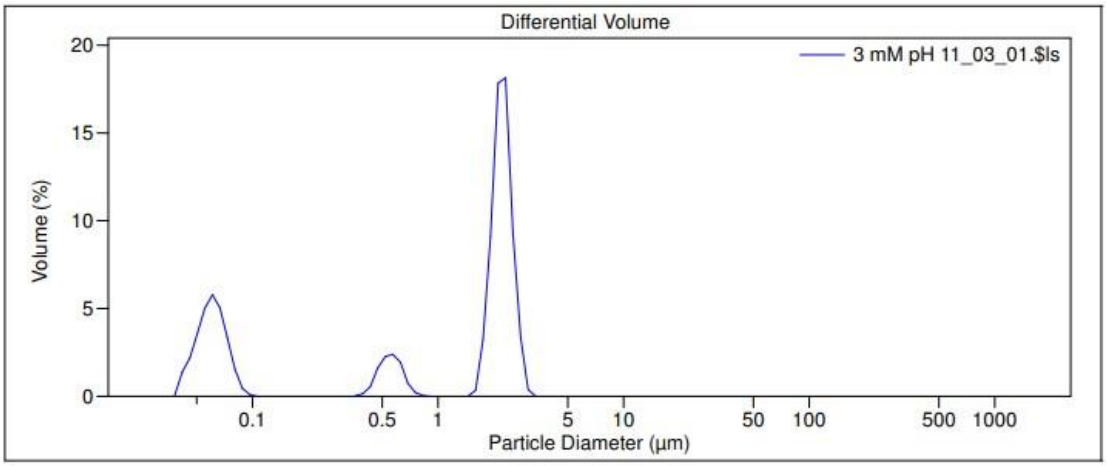
Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.171 µm	S.D.:	0.778 µm
Median:	1.237 µm	Variance:	0.606 µm^2
Mean/Median ratio:	0.947	C.V.:	66.4%
Mode:	1.919 µm	Skewness:	-0.072 Left skewed
		Kurtosis:	-1.310 Platykurtic

d_{10}: 0.066 µm d_{50}: 1.237 µm d_{90}: 2.139 µm

<10%	<25%	<50%	<75%	<90%
0.066 µm	0.623 µm	1.237 µm	1.850 µm	2.139 µm

LAMPIRAN 4 Hasil Pengujian PSA Variasi Konsentrasi $AgNO_3$ 3 mM bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)



Volume Statistics (Arithmetic) 3 mM pH 11_03_01.$ls

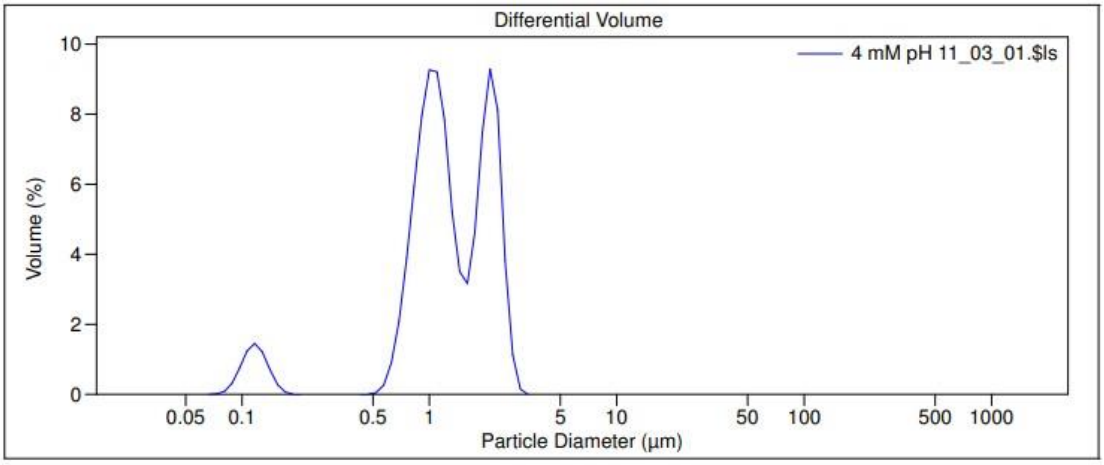
Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.446 µm	S.D.:	1.021 µm
Median:	1.992 µm	Variance:	1.043 µm^2
Mean/Median ratio:	0.726	C.V.:	70.6%
Mode:	2.313 µm	Skewness:	-0.401 Left skewed
		Kurtosis:	-1.603 Platykurtic

d_{10}: 0.056 µm d_{50}: 1.992 µm d_{90}: 2.501 µm

<10%	<25%	<50%	<75%	<90%
0.056 µm	0.074 µm	1.992 µm	2.281 µm	2.501 µm

LAMPIRAN 5 Hasil Pengujian PSA Variasi Konsentrasi $AgNO_3$ 4 mM; bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)



Volume Statistics (Arithmetic) 4 mM pH 11_03_01.$ls

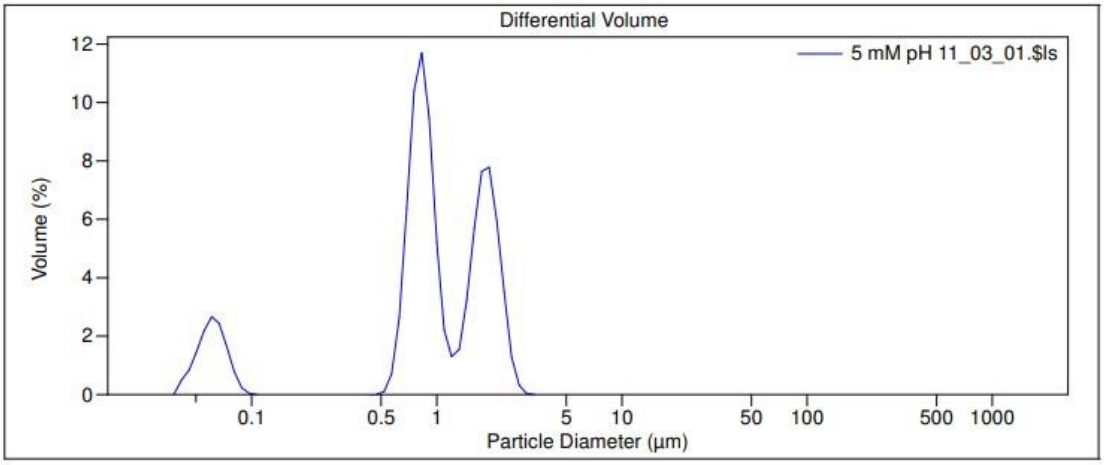
Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.379 µm	S.D.:	0.645 µm
Median:	1.211 µm	Variance:	0.416 µm^2
Mean/Median ratio:	1.138	C.V.:	46.8%
Mode:	2.107 µm	Skewness:	0.165 Right skewed
		Kurtosis:	-0.677 Platykurtic

d_{10}: 0.731 µm d_{50}: 1.211 µm d_{90}: 2.293 µm

<10%	<25%	<50%	<75%	<90%
0.731 µm	0.930 µm	1.211 µm	1.951 µm	2.293 µm

LAMPIRAN 6 Hasil pengujian PSA variasi konsentrasi $AgNO_3$ 5 mM; bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)



Volume Statistics (Arithmetic) 5 mM pH 11_03_01.$ls

Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.117 µm	S.D.:	0.659 µm
Median:	0.915 µm	Variance:	0.435 µm^2
Mean/Median ratio:	1.221	C.V.:	59.0%
Mode:	0.829 µm	Skewness:	0.244 Right skewed
		Kurtosis:	-0.744 Platykurtic

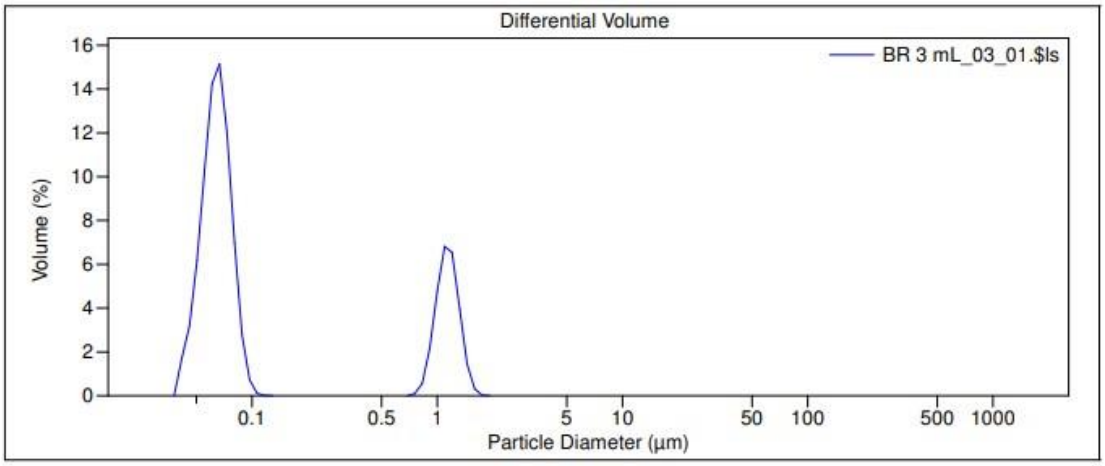
d_{10}: 0.070 µm d_{50}: 0.915 µm d_{90}: 2.048 µm

<10%	<25%	<50%	<75%	<90%
0.070 µm	0.737 µm	0.915 µm	1.702 µm	2.048 µm

LAMPIRAN 7 Hasil Pengujian PSA Variasi Konsentrasi $AgNO_3$ 1 ; 2 ; 3 ; 4 dan 5 mM (bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 1 jam)

Diameter (µm)	Volume (%)				
	Variasi mol $AgNO_3$ (mM)				
	1	2	3	4	5
0.040	0.63	0.48	1.39	0	0.5
0.044	1.06	0.82	2.17	0	0.83
0.048	1.84	1.53	3.58	0	1.48
0.053	2.65	2.47	5.02	0	2.19
0.058	3.14	3.45	5.78	0	2.66
0.064	2.79	3.96	5.05	0.00076	2.44
0.070	1.84	3.68	3.35	0.013	1.67
0.077	0.84	2.66	1.53	0.083	0.79
0.084	0.24	1.5	0.45	0.31	0.24
0.093	0.044	0.62	0.086	0.75	0.045
0.102	0.003	0.17	0.0063	1.24	0.0031
0.112	0	0.028	0	1.45	0
0.123	0	0.0018	0	1.21	0
0.134	0	0	0	0.7	0
0.148	0	0	0	0.27	0
0.162	0	0	0	0.067	0
0.178	0	0	0	0.0087	0
0.195	0	0	0	0.00035	0
0.214	0	0	0	0	0
0.235	0	0	0	0	0
0.258	0	0	0	0	0
0.284	0	0	0	0	0
0.311	0	0	0	0	0
0.342	0	0	0.021	0	0
0.375	0	0	0.15	0	0
0.412	0	0.0067	0.54	0	0
0.452	0.013	0.083	1.6	0.0043	0.051
0.496	0.2	0.46	2.27	0.049	0.11
0.545	1.08	1.59	2.39	0.26	0.71
0.598	3.7	3.47	1.93	0.91	2.63
0.657	8.09	5.7	0.74	2.09	6.37
0.721	12.2	6.46	0.22	3.89	10.4
0.791	13.1	5.37	0.035	5.93	11.7
0.869	10	3.26	0	7.94	9.49
0.954	5.25	1.22	0	9.26	5.22
1.047	1.71	0.55	0	9.21	2.21
1.149	0.42	0.61	0	7.84	1.3
1.261	0.17	1.55	0	5.22	1.54
1.385	0.41	4.17	0	3.5	3.22
1.520	1.64	7.54	0.35	3.16	5.69
1.669	4.3	10.5	3.24	4.62	7.64
1.832	6.76	10.7	9.08	7.49	7.79
2.011	7.43	8.29	17.9	9.29	5.96
2.208	5.52	4.89	18.1	8.11	3.52
2.423	2.25	1.73	9.28	3.82	1.29
2.660	0.61	0.43	3.37	1.13	0.32
2.920	0.07	0.048	0.39	0.14	0.036

LAMPIRAN 8 Hasil pengujian PSA variasi bioreduktor 3 mL/50mL; perbandingan mol $AgNO_3$: PEG (1 mM : 0,1 mM); suhu 100^o C; waktu sintesis 3 jam

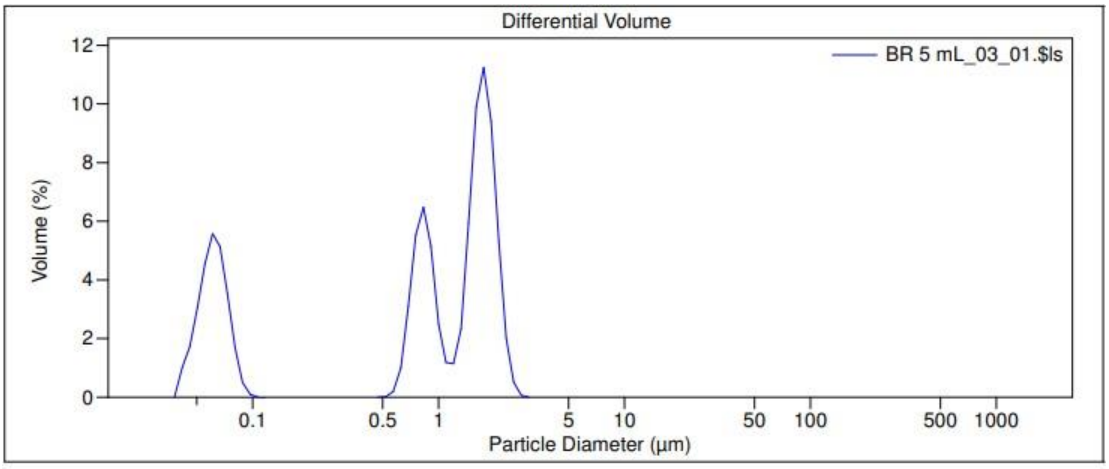


Volume Statistics (Arithmetic)		BR 3 mL_03_01.$ls	
Calculations from 0.017 µm to 2000 µm			
Volume:	100%		
Mean:	0.352 µm	S.D.:	0.483 µm
Median:	0.070 µm	Variance:	0.234 µm^2
Mean/Median ratio:	5.045	C.V.:	137%
Mode:	0.067 µm	Skewness:	1.153 Right skewed
		Kurtosis:	-0.519 Platykurtic

d_{10}: 0.052 µm d_{50}: 0.070 µm d_{90}: 1.188 µm

<10%	<25%	<50%	<75%	<90%
0.052 µm	0.060 µm	0.070 µm	0.907 µm	1.188 µm

LAMPIRAN 9 Hasil pengujian PSA variasi bioreduktor 5 mL/50mL; perbandingan mol $AgNO_3$: PEG (1 mM : 0,1 mM); suhu 100^o C; waktu sintesis 3 jam

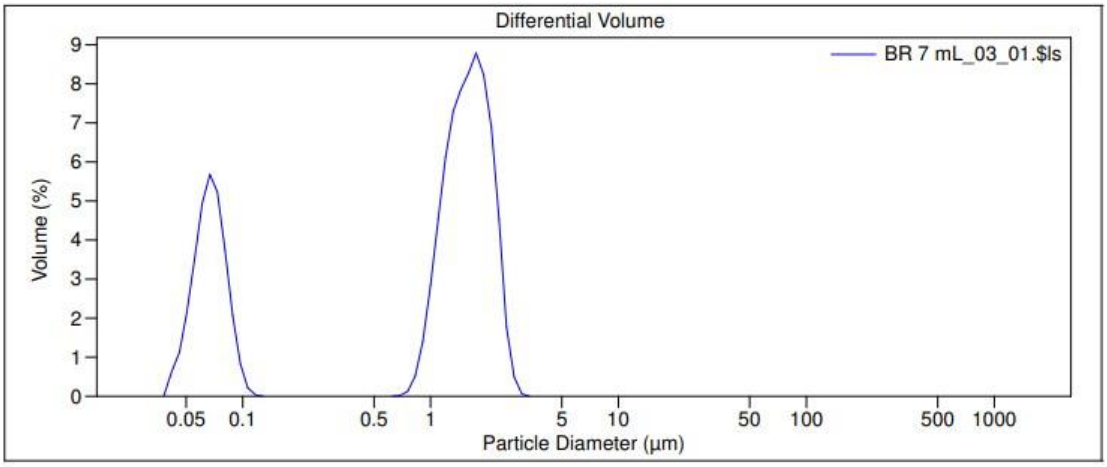


Volume Statistics (Arithmetic)		BR 5 mL_03_01.$ls	
Calculations from 0.017 µm to 2000 µm			
Volume:	100%		
Mean:	1.066 µm	S.D.:	0.741 µm
Median:	1.013 µm	Variance:	0.550 µm^2
Mean/Median ratio:	1.052	C.V.:	69.6%
Mode:	1.748 µm	Skewness:	-0.113 Left skewed
		Kurtosis:	-1.343 Platykurtic

d_{10}: 0.058 µm d_{50}: 1.013 µm d_{90}: 1.971 µm

<10%	<25%	<50%	<75%	<90%
0.058 µm	0.079 µm	1.013 µm	1.721 µm	1.971 µm

LAMPIRAN 10 Hasil pengujian PSA variasi bioreduktor 7 mL/50mL; perbandingan mol $AgNO_3$: PEG (1 mM : 0,1 mM); suhu 100^o C; waktu sintesis 3 jam



Volume Statistics (Arithmetic) BR 7 mL_03_01.$ls

Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.155 µm	S.D.:	0.797 µm
Median:	1.332 µm	Variance:	0.636 µm^2
Mean/Median ratio:	0.867	C.V.:	69.0%
Mode:	1.748 µm	Skewness:	-0.242 Left skewed
		Kurtosis:	-1.241 Platykurtic

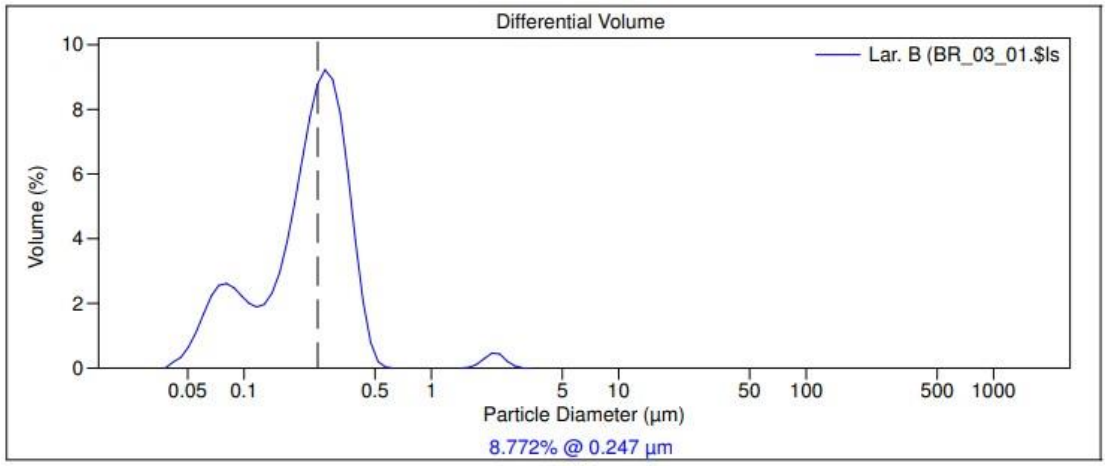
d_{10}: 0.061 µm d_{50}: 1.332 µm d_{90}: 2.117 µm

<10%	<25%	<50%	<75%	<90%
0.061 µm	0.080 µm	1.332 µm	1.775 µm	2.117 µm

LAMPIRAN 11 Hasil pengujian PSA variasi bioreduktor 3 ; 5 dan 7 mL/50mL;; perbandingan mol $AgNO_3$: PEG (1 mM : 0,1 mM);; suhu 100^o C; waktu sintesis 3 jam

Diameter (µm)	Volume (%)		
	Variasi Bioreduktor (mL)		
	3	5	7
0,04	1.75	1.03	0.64
0,044	3.17	1.73	1.13
0,048	6.19	3.07	2.16
0,053	10.2	4.55	3.52
0,058	14.2	5.58	4.94
0,064	15.1	5.13	5.68
0,07	12	3.53	5.24
0,077	6.98	1.68	3.75
0,084	2.8	0.5	2.07
0,093	0.72	0.096	0.83
0,102	0.11	0.0069	0.22
0,112	0.0059	0	0.035
0,123	0	0	0.002
0,134	0	0	0
0,148	0	0	0
0,162	0	0	0
0,178	0	0	0
0,195	0	0	0
0,214	0	0	0
0,235	0	0	0
0,258	0	0	0
0,284	0	0	0
0,311	0	0	0
0,342	0	0	0
0,375	0	0	0
0,412	0	0	0
0,452	0	0	0
0,496	0	0.015	0
0,545	0	0.2	0
0,598	0	1	0.00079
0,657	0.0049	3.11	0.018
0,721	0.083	5.54	0.13
0,791	0.56	6.48	0.52
0,869	2.13	5.16	1.41
0,954	4.77	2.5	2.85
1,047	6.82	1.19	4.53
1,149	6.53	1.15	6.13
1,261	3.96	2.35	7.31
1,385	1.43	5.95	7.86
1,520	0.31	9.9	8.28
1,669	0.022	11.2	8.79
1,832	0	9.41	8.23
2,011	0	5.32	6.88
2,208	0	2.01	4.53
2,423	0	0.51	1.77
2,660	0	0.068	0.49
2,920	0	0.0019	0.059

LAMPIRAN 12 Hasil pengujian PSA perbandingan konsentrasi $AgNO_3$: PEG (1 mM : 0,2 mM); bioreduktor 3 mL/50mL; suhu 100^o C; waktu sintesis 3 jam

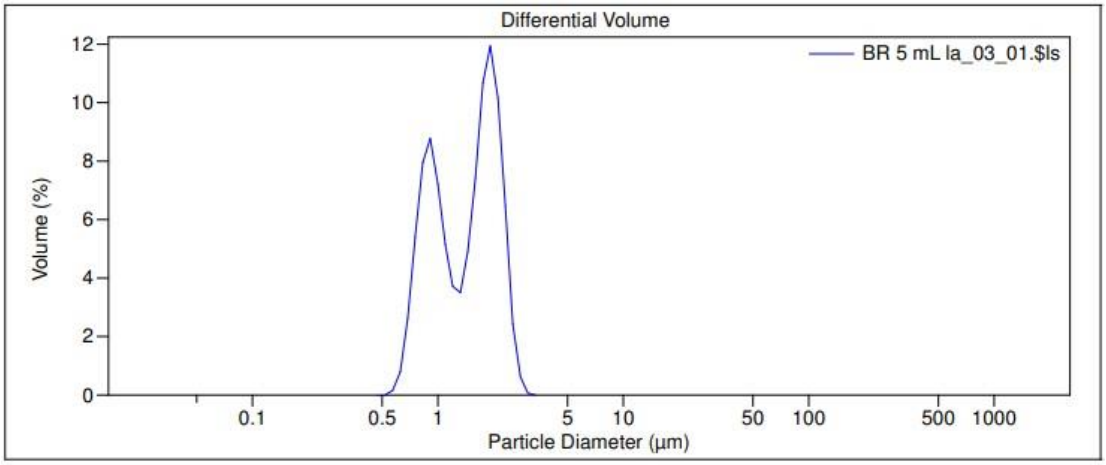


Volume Statistics (Arithmetic)		Lar. B (BR_03_01.$ls	
Calculations from 0.017 µm to 2000 µm			
Volume:	100%		
Mean:	0.259 µm	S.D.:	0.270 µm
Median:	0.234 µm	Variance:	0.073 µm^2
Mean/Median ratio:	1.107	C.V.:	104%
Mode:	0.271 µm	Skewness:	6.239 Right skewed
		Kurtosis:	44.63 Leptokurtic

d_{10}: 0.080 µm d_{50}: 0.234 µm d_{90}: 0.368 µm

<10%	<25%	<50%	<75%	<90%
0.080 µm	0.151 µm	0.234 µm	0.304 µm	0.368 µm

LAMPIRAN 13 Hasil pengujian PSA perbandingan konsentrasi $AgNO_3$: PEG (1 mM : 0,2 mM); bioreduktor 5 mL/50mL; suhu 100^o C; waktu sintesis 3 jam



Volume Statistics (Arithmetic) BR 5 mL la_03_01.$ls

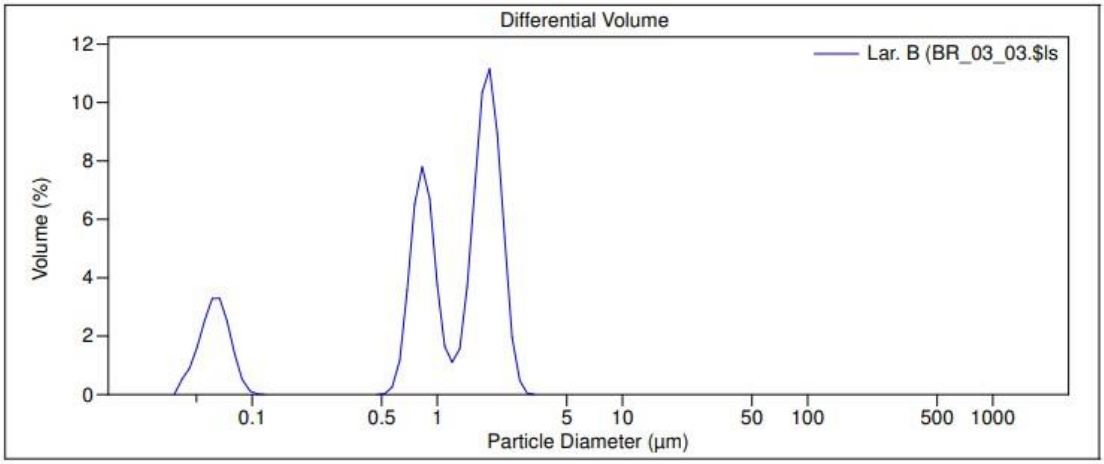
Calculations from 0.017 µm to 2000 µm

Volume:	100%		
Mean:	1.480 µm	S.D.:	0.546 µm
Median:	1.514 µm	Variance:	0.298 µm^2
Mean/Median ratio:	0.978	C.V.:	36.9%
Mode:	1.919 µm	Skewness:	0.185 Right skewed
		Kurtosis:	-1.154 Platykurtic

d_{10}: 0.801 µm d_{50}: 1.514 µm d_{90}: 2.200 µm

<10%	<25%	<50%	<75%	<90%
0.801 µm	0.947 µm	1.514 µm	1.932 µm	2.200 µm

LAMPIRAN 14 Hasil Pengujian PSA Perbandingan Konsentrasi $AgNO_3$: PEG (1 mM : 0,2 mM); bioreduktor 7 mL/50mL; suhu 100^o C; waktu sintesis 3 jam



Volume Statistics (Arithmetic)		Lar. B (BR_03_03.$ls	
Calculations from 0.017 µm to 2000 µm			
Volume:	100%		
Mean:	1.248 µm	S.D.:	0.742 µm
Median:	1.315 µm	Variance:	0.551 µm^2
Mean/Median ratio:	0.949	C.V.:	59.5%
Mode:	1.919 µm	Skewness:	-0.173 Left skewed
		Kurtosis:	-1.096 Platykurtic

d_{10}: 0.066 µm d_{50}: 1.315 µm d_{90}: 2.161 µm

<10%	<25%	<50%	<75%	<90%
0.066 µm	0.756 µm	1.315 µm	1.880 µm	2.161 µm

LAMPIRAN 15 Hasil Pengujian PSA Variasi Perbandingan Konsentrasi AgNO3 : PEG (1 mM : 0,2 mM); bioreduktor 3 ; 5 dan 7 mL; larutan $AgNO_3$ 100 mL; PEG 200 ml; aquedes 750 mL; suhu 100^o C; waktu sintesis 3 jam

Diameter (µm)	Volume (%)		
	Variasi Bioreduktor (mL)		
	3	5	7
0,04	0.19	0	0.53
0,044	0.33	0	0.9
0,048	0.65	0	1.63
0,053	1.11	0	2.52
0,058	1.69	0	3.29
0,064	2.23	0	3.3
0,07	2.56	0	2.52
0,077	2.62	0	1.39
0,084	2.48	0	0.52
0,093	2.23	0	0.13
0,102	2	0	0.018
0,112	1.89	0	0.00065
0,123	1.97	0	0
0,134	2.32	0	0
0,148	2.95	0	0
0,162	3.9	0	0
0,178	5.11	0	0
0,195	6.47	0	0
0,214	7.77	0	0
0,235	8.77	0	0
0,258	9.23	0	0
0,284	8.92	0	0
0,311	7.87	0	0
0,342	6.08	0	0
0,375	3.95	0	0
0,412	2.08	0	0
0,452	0.79	0	0
0,496	0.2	0.012	0.022
0,545	0.031	0.16	0.26
0,598	0.0013	0.8	1.18
0,657	0	2.62	3.58
0,721	0	5.4	6.51
0,791	0	7.95	7.8
0,869	0	8.78	6.71
0,954	0	7.22	3.75
1,047	0	5.15	1.65
1,149	0	3.72	1.1
1,261	0	3.5	1.57
1,385	0.0011	4.92	3.69
1,520	0.021	7.43	7.09
1,669	0.12	10.7	10.4
1,832	0.3	11.9	11.2
2,011	0.46	10.1	8.95
2,208	0.44	6.46	5.38
2,423	0.21	2.44	1.96
2,660	0.067	0.62	0.48
2,920	0.0084	0.069	0.052

LAMPIRAN 16 Formulasi sintesis AgNP variasi pH larutan

Perbandingan pH	Konsentrasi $AgNO_3$	Larutan $AgNO_3$ (mL)	Aquades (mL)
6	1 mM	10	90
9	1 mM	10	90
11	1 mM	10	90

LAMPIRAN 17 Formulasi proses sintesis AgNP variasi perbandingan larutan $AgNO_3$: PEG

Perbandingan Larutan	Konsentrasi $AgNO_3$: PEG	Larutan $AgNO_3$ (mL)	Larutan PEG (mL)	Aquades (mL)	Total (mL)
Larutan A (10:1)	1 mM :0,1 mM	10	10	80	100
Larutan B (10:2)	1 mM:0,2 mM	10	20	70	100

LAMPIRAN 18 Formulasi proses sintesis AgNP variasi larutan bioreduktor

No. Sampel	Larutan Bioreduktor (mL)	Larutan $AgNO_3$:PEG (mL)	Larutan NaOH (mL)
		Larutan A	
A	3	100	2,8
B	5	100	4,5
C	7	100	6,7
		Larutan B	
D	3	100	2,8
E	5	100	4,5
F	7	100	6,7