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LAMPIRAN

Lampiran 1. Skema Kerja Penelitian

SKEMA KERJA

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┌─────────────────────────────────────────────────────┐
│   Penentuan Optimasi konsentrasi polikaprolakton     │
└─────────────────────────────────────────────────────┘
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                          ▼
┌─────────────────────────────────────────────────────┐
│            Formulasi nanopartikel Jatrophon          │
└─────────────────────────────────────────────────────┘
                          │
                          ▼
┌─────────────────────────────────────────────────────┐
│              Karakterisasi Nanopartikel              │
└─────────────────────────────────────────────────────┘
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┌──────────────────────┐          ┌──────────────────────┐
│  Ukuran partikel, IP,│          │      Penentuan       │
│   dan potensial zeta │          │      efisiensi       │
└──────────────────────┘          │     enkapsulasi      │
                                  │     menggunakan      │
                                  │   spektrofotometer   │
                                  │        UV-Vis        │
                                  └──────────────────────┘
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              ┌──────────────────────┐
              │     Analisis Data    │
              └──────────────────────┘
                          │
                          ▼
              ┌──────────────────────┐
              │  Hasil dan Pembahasan│
              └──────────────────────┘
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              ┌──────────────────────┐
              │      Kesimpulan      │
              └──────────────────────┘
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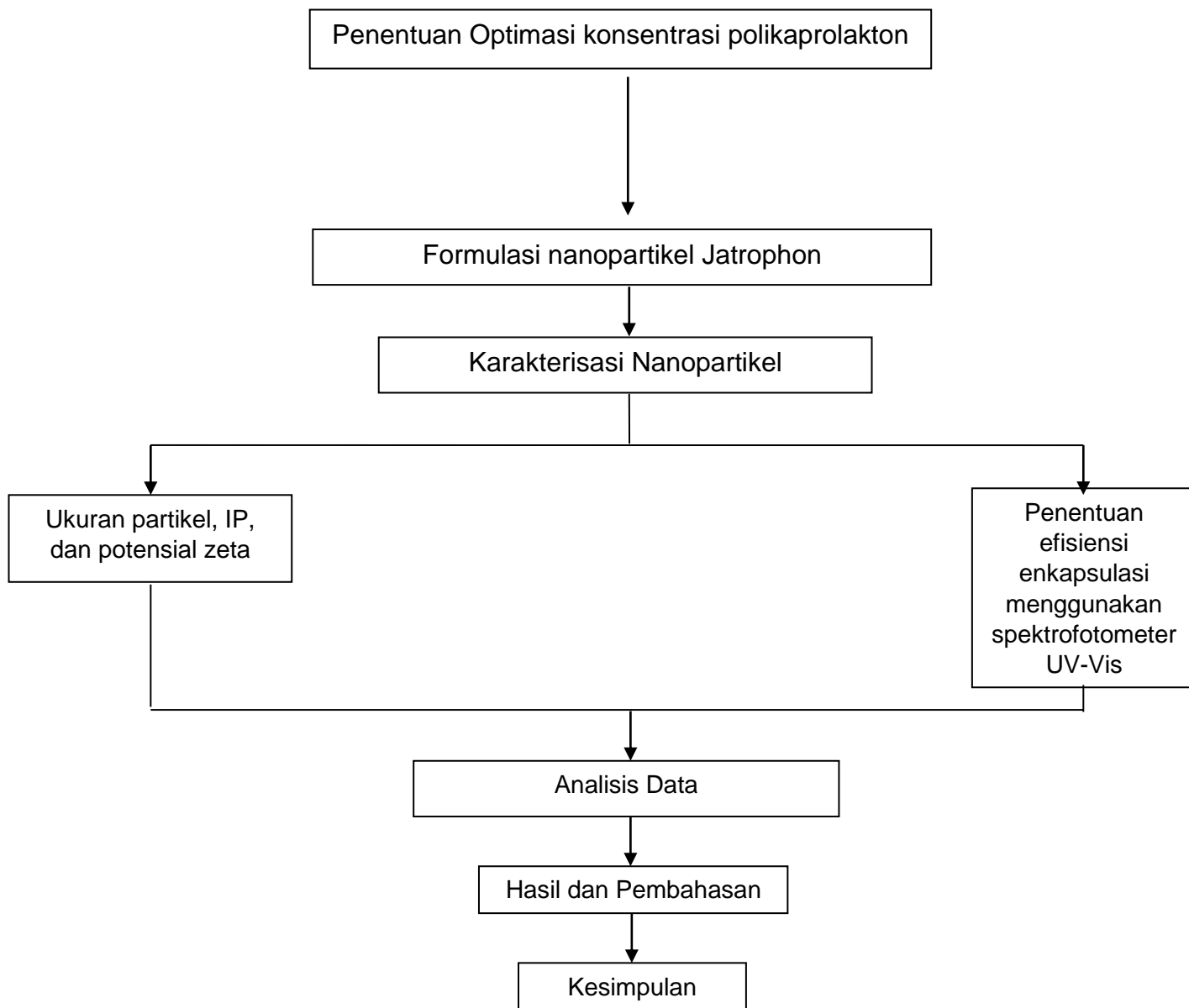
Lampiran 2. Hasil uji Ukuran partikel, indeks Polidispersitas dan Zeta Potensial dalam Optimasi Konsentrasi Polikaprolakton

2.1 Konsentrasi 0,25%

Brookhaven Instruments

Summary Statistics Report

Type	Start Date/Time	Sample ID	Eff. Diam. (nm)	Polydispersity	Baseline Index	Count Rate (kcps)	Data Retained (%)	Diffusion Coeff. (cm²/s)
DLS	02/11/2020 19:56:49	NP1 - 1	314.86	0.209	8.9	526.3	100.00	1.559E-08
DLS	02/11/2020 19:59:50	NP1 - 2	363.25	0.230	7.2	529.8	100.00	1.351E-08
DLS	02/11/2020 20:02:51	NP1 - 3	344.00	0.306	10.0	527.3	100.00	1.427E-08
		Mean:	340.71	0.248	8.7	527.8	100.00	1.445E-08
		Std Err:	14.07	0.030	0.8	1.1	0.00	6.067E-10
		Std Dev:	24.36	0.051	1.4	1.8	0.00	1.051E-09

Printed: 02/11/2020   Particle Solutions v. 3.5 (Queens University Belfast)

Brookhaven Instruments

Summary Statistics Report

Type	Start Date/Time	Sample ID	Zeta Potential (mV)	Mobility (μ/s)/(V/cm)	Conductance (μS)	Sample Count Rate (kcps)	Ref. Count Rate (kcps)	RMS Residual
PALS	02/11/2020 20:09:34	NP 1 - 1	-45.75	-3.58	671	537	2,139	2.8273E-02
PALS	02/11/2020 20:11:11	NP 1 - 2	-48.69	-3.80	671	537	2,139	3.3487E-02
PALS	02/11/2020 20:12:47	NP 1 - 3	-46.03	-3.60	671	537	2,139	2.0344E-02
		Mean:	-46.83	-3.66	671	537	2,139	2.7368E-02
		Std Err:	0.94	0.07	0	0	0	3.8210E-03
		Std Dev:	1.62	0.13	0	0	0	6.6181E-03

Printed: 02/11/2020

Particle Solutions v. 3.5 (Queens University Belfast)

2.2 Konsentrasi 0,5%

Brookhaven Instruments

Summary Statistics Report

Type	Start Date/Time	Sample ID	Eff. Diam. (nm)	Polydispersity	Baseline Index	Count Rate (kcps)	Data Retained (%)	Diffusion Coeff. (cm²/s)
DLS	02/11/2020 17:37:44	NS 3 NO DILUTION - 1	7,368.49	0.192	0.0	414.4	94.68	6.660E-10
DLS	02/11/2020 17:40:45	NS 3 NO DILUTION - 2	1,386.95	0.327	0.0	420.6	95.93	3.538E-09
DLS	02/11/2020 17:43:46	NS 3 NO DILUTION - 3	1,807.87	0.391	0.0	457.6	96.70	2.715E-09
		Mean:	3,521.10	0.303	0.0	430.9	95.77	2.306E-09
		Std Err:	1,927.53	0.059	0.0	13.5	0.59	8.539E-10
		Std Dev:	3,338.58	0.102	0.0	23.3	1.02	1.479E-09

Printed: 02/11/2020   Particle Solutions v. 3.5 (Queens University Belfast)

2.3 Konsentrasi 1%

Brookhaven Instruments

Summary Statistics Report

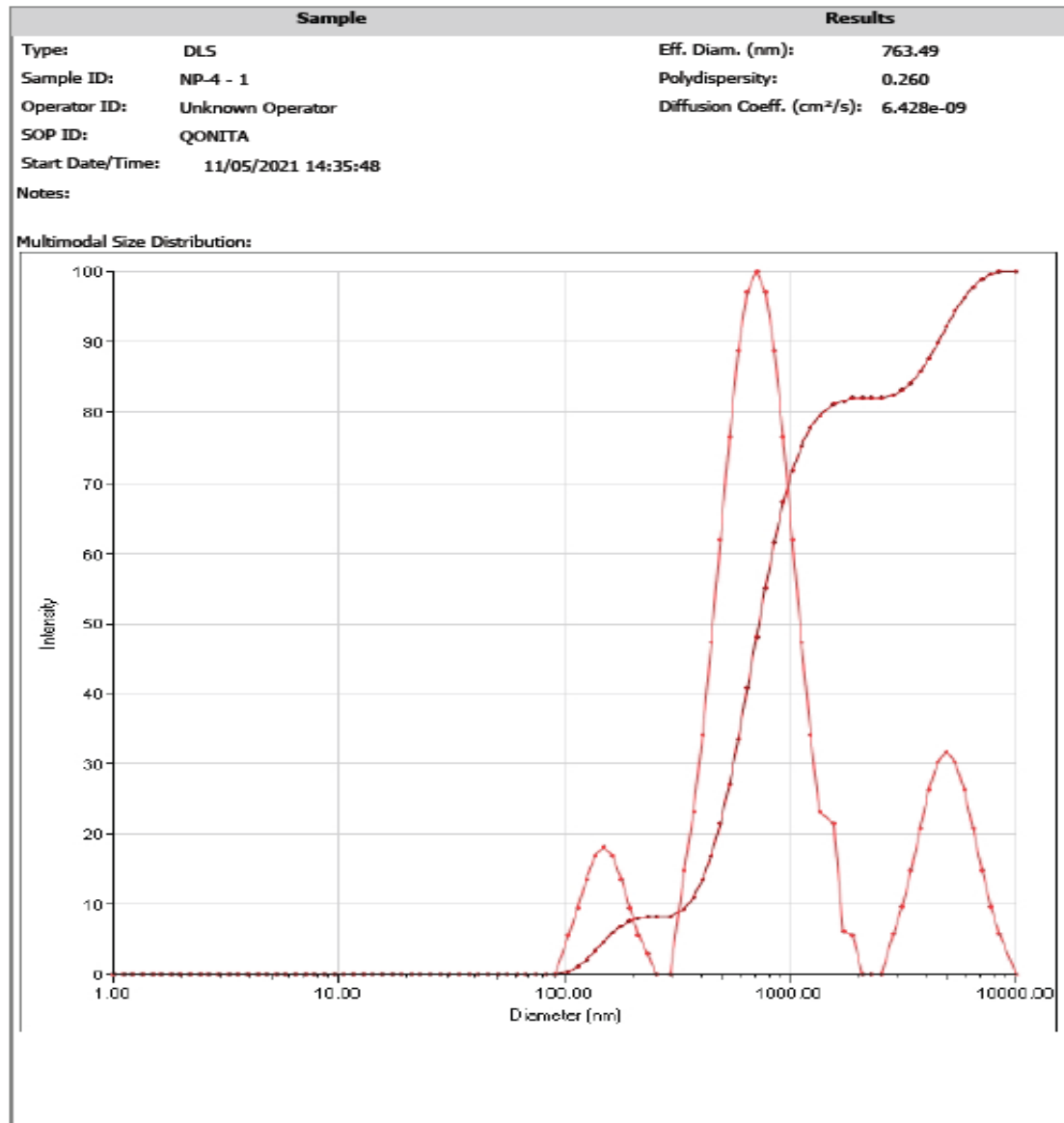| Type	Start Date/Time	Sample ID	Eff. Diam. (nm)	Polydispersity	Baseline Index	Count Rate (kcps)	Data Retained (%)	Diffusion Coeff. (cm²/s)
DLS	02/11/2020 16:25:29	NS 2 NO DILUTION - 1	4,807.21	0.437	0.0	697.7	98.94	1.021E-09
DLS	02/11/2020 16:28:30	NS 2 NO DILUTION - 2	2,015.09	0.382	0.0	519.8	98.82	2.435E-09
DLS	02/11/2020 16:31:31	NS 2 NO DILUTION - 3	2,222.37	0.397	0.0	605.6	99.87	2.208E-09
		Mean:	3,014.89	0.405	0.0	607.7	99.21	1.888E-09
		Std Err:	898.16	0.017	0.0	51.4	0.33	4.386E-10
		Std Dev:	1,555.65	0.029	0.0	89.0	0.58	7.596E-10

Printed: 02/11/2020   Particle Solutions v. 3.5 (Queens University Belfast)

Lampiran 3. Hasil uji Ukuran partikel, indeks Polidispersitas dan Zeta Potensial Nanopartikel Jatrophon
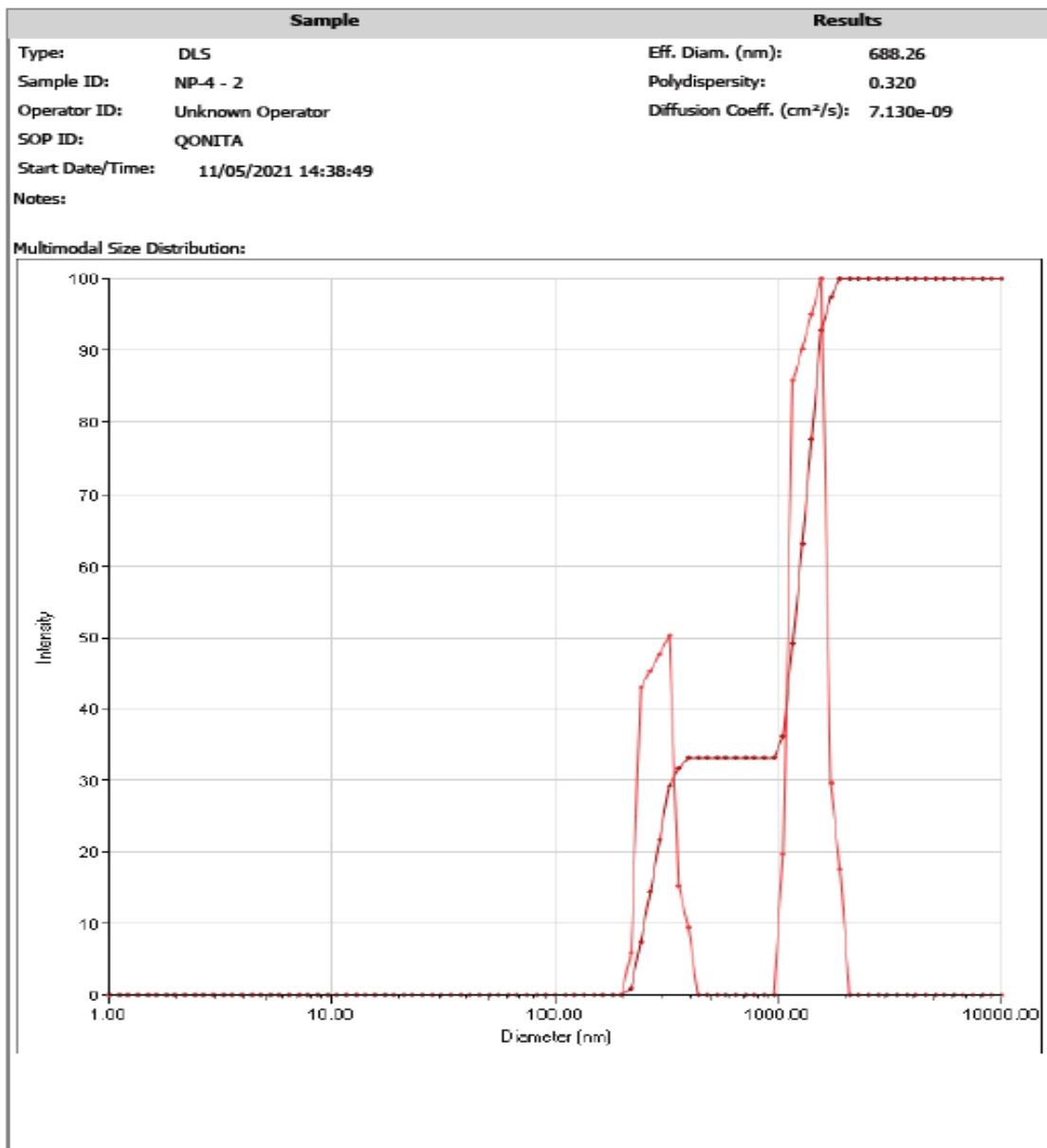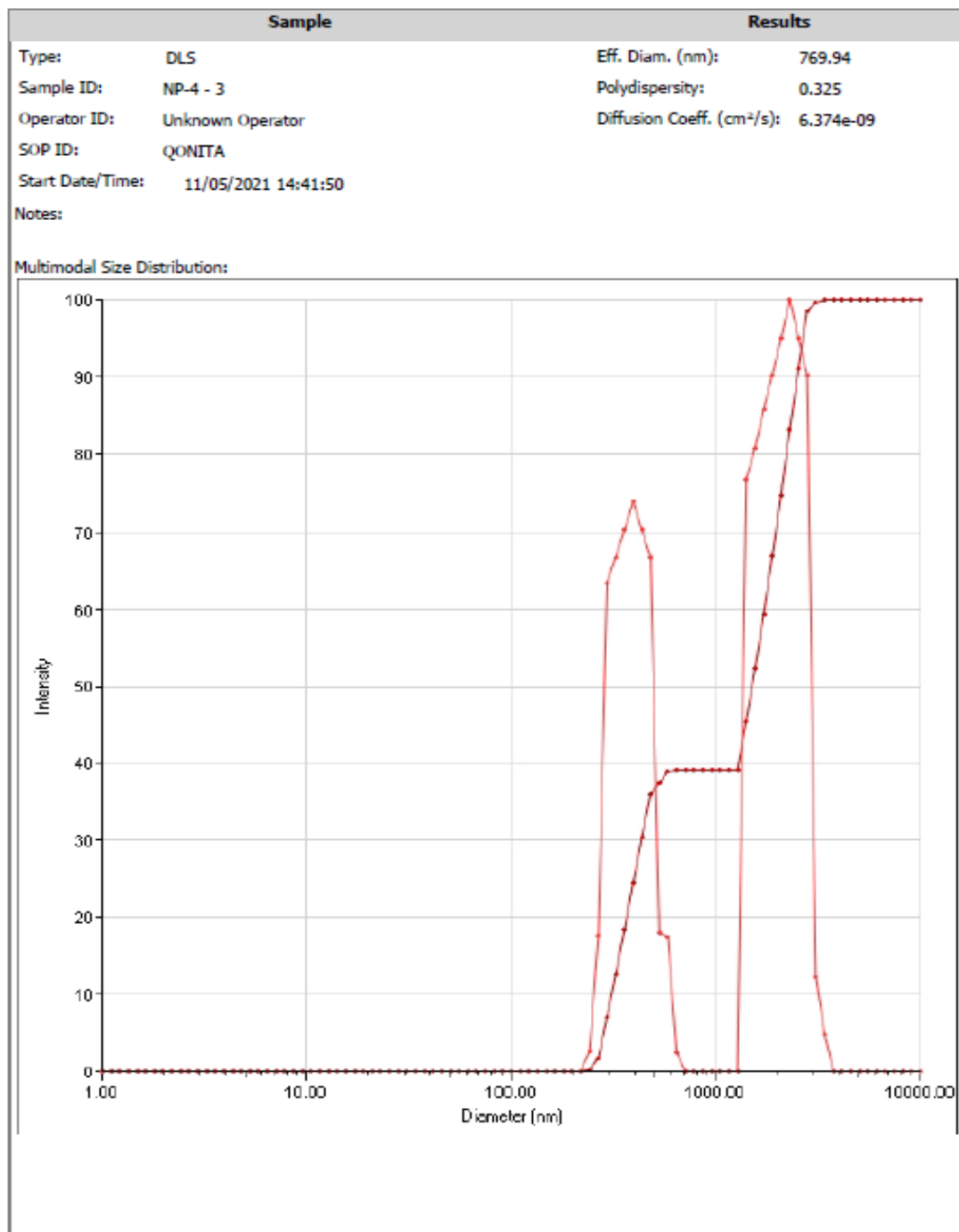
Brookhaven Instruments

Basic DLS Report

Sample		Results	
Type:	DLS	Eff. Diam. (nm):	688.26
Sample ID:	NP-4 - 2	Polydispersity:	0.320
Operator ID:	Unknown Operator	Diffusion Coeff. (cm²/s):	7.130e-09
SOP ID:	QONITA		
Start Date/Time:	11/05/2021 14:38:49		
Notes:			

Multimodal Size Distribution:

Brookhaven Instruments

Basic DLS Report

Sample		Results	
Type:	DLS	Eff. Diam. (nm):	769.94
Sample ID:	NP-4 - 3	Polydispersity:	0.325
Operator ID:	Unknown Operator	Diffusion Coeff. (cm²/s):	6.374e-09
SOP ID:	QONITA		
Start Date/Time:	11/05/2021 14:41:50		
Notes:			

Multimodal Size Distribution:

Brookhaven Instruments

Summary Statistics Report

Type	Start Date/Time	Sample ID	Zeta Potential (mV)	Mobility (μ/s)/(V/cm)	Conductance (μS)	Sample Count Rate (kcps)	Ref. Count Rate (kcps)	RMS Residual
PALS	11/05/2021 15:05:36	NP-4 - 1	-84.73	-6.62	645	1,707	1,973	4.3770E-02
PALS	11/05/2021 15:07:13	NP-4 - 2	-79.43	-6.21	645	1,707	1,973	3.9479E-02
PALS	11/05/2021 15:08:50	NP-4 - 3	-79.54	-6.21	645	1,707	1,973	4.1266E-02
		Mean:	-81.23	-6.35	645	1,707	1,973	4.1505E-02
		Std Err:	1.75	0.14	0	0	0	1.2444E-03
		Std Dev:	3.03	0.24	0	0	0	2.1553E-03

Lampiran 4. Panjang Gelombang Maksimum Jatrophon
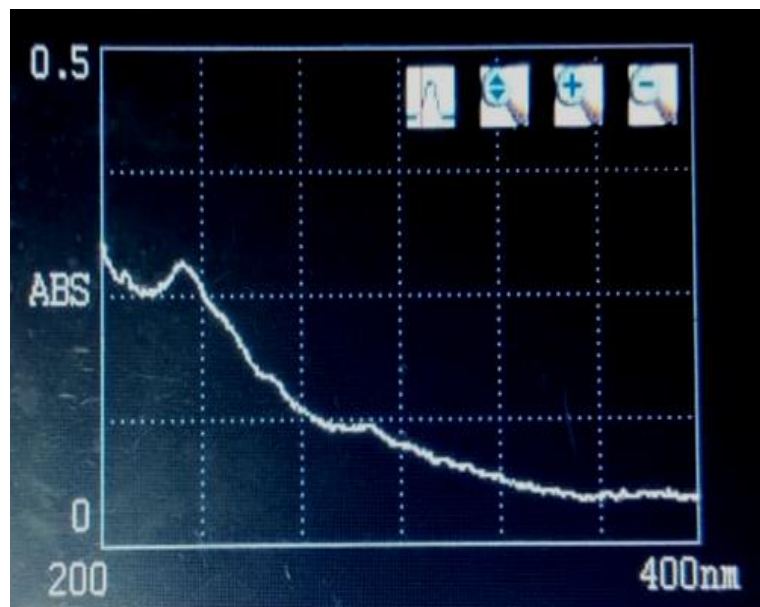
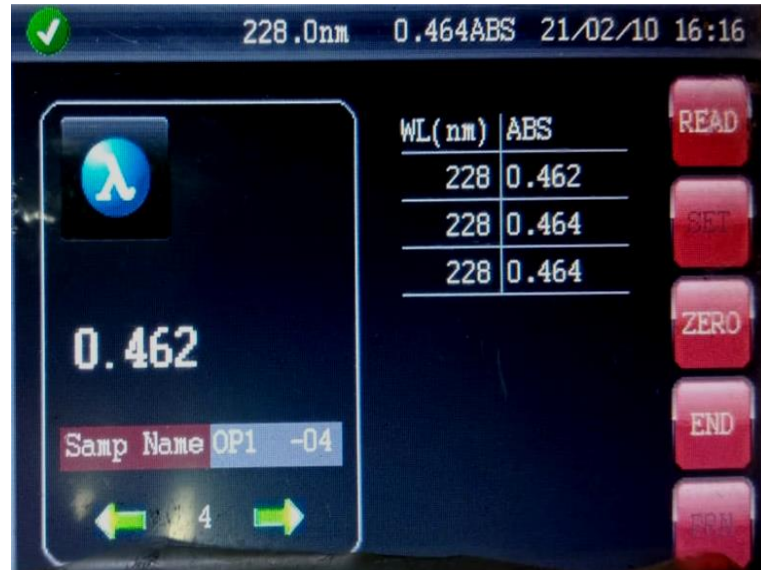| Peak			Valley		
ID	WL(nm)	ABS	ID	WL(nm)	ABS
1	228.2	0.256	1	271.0	0.090

Lampiran 5. Kurva Baku Jatrophon
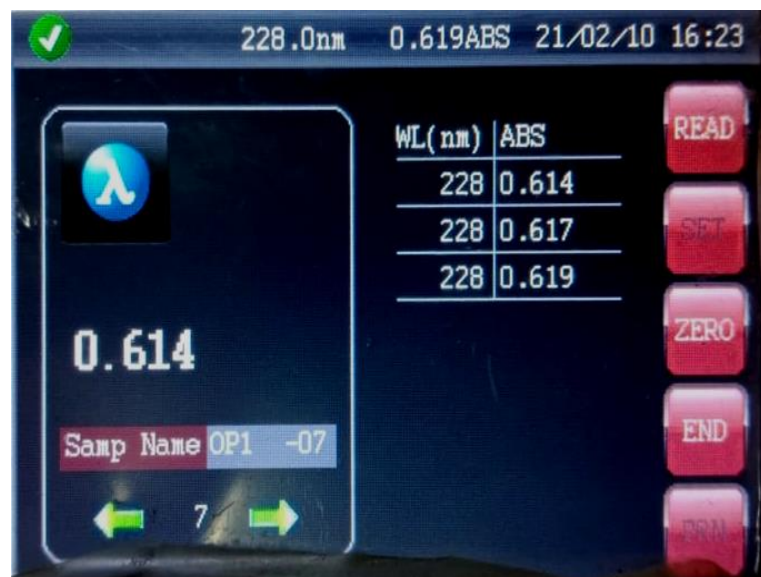
-8 ppm
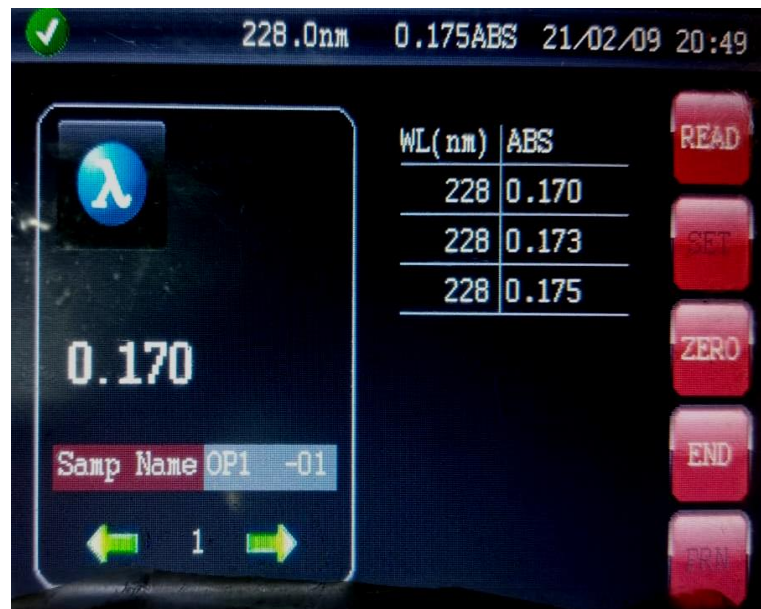
-16 ppm

-24 ppm

-32 ppm

Lampiran 6. Hasil Pengukuran Kadar Jatrophon Tidak terjerap Nanopartiel Jatrophon-PCL 0,25%

Lampiran 7. Perhitungan

Konsentrasi jatrophon 10 mg/100 mL atau 0,5 mg/5mL (dicukupkan hingga 25 mL)

0,5 mg dalam 25 mL ≈ 20 ppm

$\overline{x}$ = 0,187

Persamaan kurva baku

y = 0,019x+0,002

0,187= 0,019x+0,002

x = 9,73ppm

%jatrophon tidak terjerap = $\dfrac{9,73}{20\ ppm} \times 100\%$ = 48%

%Efisiensi penjerapan = 100% - 48% = 52%