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LAMPIRAN

Lampiran 1. Dokumentasi Penelitian

Lampira 2. Perhitungan Densitas Elektroda Sel Superkasitor Daun Kepayang

$$\boldsymbol{\rho = \frac{4m}{\pi d^2 t}}$$

1. **Densitas sebelum pirolisis**
   a. **Pada suhu 500℃**

$$\rho_1 = \frac{4m}{\pi d^2 t}$$

$$\rho_1 = \frac{4(0{,}69)}{(3{,}14)(2{,}13^2)(0{,}23)}$$

$$\rho_1 = 0{,}917\ g/cm^3$$

   b. **pada suhu 600℃**

$$\rho_2 \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_2 = \frac{4(0{,}69)}{(3{,}14)(2{,}06^2)(0{,}23)}$$

$$\rho_2 = 0{,}858\ \mathrm{g/cm^3}$$

   c. **pada suhu 700℃**

$$\rho_2 \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_2 = \frac{4(0{,}69)}{(3{,}14)(2{,}05^2)(0{,}23)}$$

$$\rho_2 = 0{,}850\ \mathrm{g/cm^3}$$

   d. **pada suhu 800℃**

$$\rho_2 \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_2 = \frac{4(0{,}69)}{(3{,}14)(2{,}05^2)(0{,}23)}$$

$$\rho_2 = 0{,}850\ \mathrm{g/cm^3}$$

2. **Densitas sesudah pirolisis**
   a. **Pada suhu 500℃**

$$\rho_1' = \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_1' = \frac{4(0{,}21)}{(3{,}14)(1{,}61^2)(0{,}17)}$$

$$\rho_1' = 0{,}644\ \mathrm{g/cm^3}$$

   b. **Pada suhu 600℃**

$$\rho_2' \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_2' = \frac{4(0{,}21)}{(3{,}14)(1{,}56^2)(0{,}17)}$$

$$\rho_2' = 0{,}631\ \mathrm{g/cm^3}$$

   c. **Pada suhu 700℃**

$$\rho_3' \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_3' = \frac{4(0{,}19)}{(3{,}14)(1{,}57^2)(0{,}17)}$$

$$\rho_3' = 0{,}575\ \mathrm{g/cm^3}$$

   d. **Pada suhu 800℃**

$$\rho_4' \frac{4\mathrm{m}}{\pi \mathrm{d}^2 \mathrm{t}}$$

$$\rho_4' = \frac{4(0{,}21)}{(3{,}14)(1{,}56^2)(0{,}18)}$$

$$\rho_4' = 0{,}634\ \mathrm{g/cm^3}$$

Lampiran 3. Perhitungan kapasitansi spesifik (Csp) Daun Kepayang

$$\boldsymbol{C_{sp} = \frac{I_c - I_d}{S.m}}$$

1. **Pada suhu 500℃**

$$C_{sp} = \frac{I_c - I_d}{S.m}$$

$$C_{sp} = \frac{0{,}000413 - (-0{,}00029)}{(0{,}002)(0{,}0100)}$$

$$C_{sp} = 35\ F/g$$

2. **Pada suhu 600℃**

$$C_{sp} = \frac{I_c - I_d}{S.m}$$

$$C_{sp} = \frac{0{,}000221 - (-0{,}00014)}{(0{,}002)(0{,}0075)}$$

$$C_{sp} = 24\ F/g$$

3. **Pada suhu 700℃**

$$C_{sp} = \frac{I_c - I_d}{S.m}$$

$$C_{sp} = \frac{0{,}000740 - (-0{,}00063)}{(0{,}002)(0{,}0075)}$$

$$C_{sp} = 91\ F/g$$

4. **Pada suhu 800℃**

$$C_{sp} = \frac{I_c - I_d}{S.m}$$

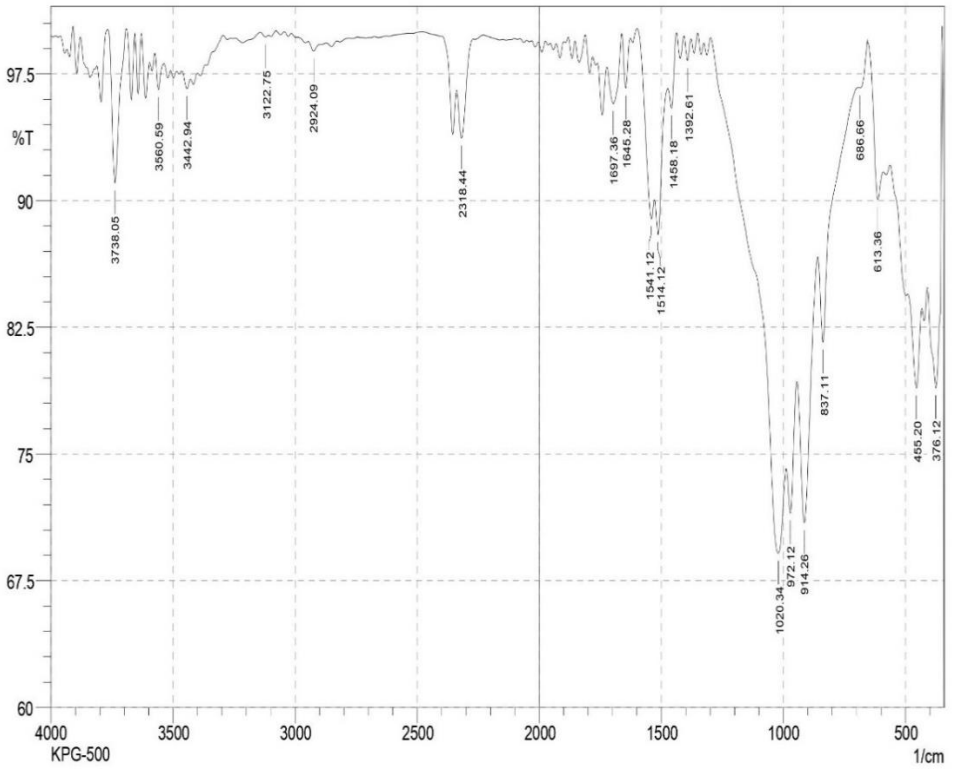
$$C_{sp} = \frac{0{,}000716 - (-0{,}00031)}{(0{,}002)(0{,}0075)}$$

$$C_{sp} = 69\ F/g$$

Lampiran 4. Data TG dan DTG Daun Kepayang

Time min	Temp. Cel	TG ug	DTG ug/min
0	41,77106	-6,65569	117,1722
0,008333	41,81945	-7,62616	116,6236
0,016667	41,86311	-8,58548	116,2287
0,025	41,89732	-9,54464	115,5149
0,033333	41,92698	-10,5162	114,9354
0,041667	41,98034	-11,4633	114,5008
0,05	42,04475	-12,4231	113,9242
0,058333	42,09646	-13,3839	113,6258
0,066667	42,15018	-14,3188	113,1776
0,075	42,19761	-15,2523	112,7081
0,083333	42,23812	-16,1974	112,2488
0,091667	42,28312	-17,1198	111,938
0,1	42,34028	-18,0543	111,4677
0,108333	42,39721	-18,9761	111,1798
0,116667	42,45878	-19,9086	111,0621
0,125	42,50677	-20,8174	110,6711
0,133333	42,55077	-21,7512	110,5422
0,141667	42,59723	-22,6729	110,2511
0,15	42,63141	-23,5838	109,974
0,158333	42,6601	-24,5074	109,7187
0,166667	42,69517	-25,42	109,3257
0,175	42,71965	-26,3317	108,9312
0,183333	42,7369	-27,2419	108,5146
0,191667	42,76458	-28,1406	108,2065
0,2	42,79286	-29,0518	107,7527
0,208333	42,8213	-29,9279	107,4415
0,216667	42,86224	-30,8288	106,9849
0,225	42,91391	-31,7158	106,5575
0,233333	42,95829	-32,601	106,2844
0,241667	43,00144	-33,4868	105,7107
0,25	43,04274	-34,3735	105,6884
0,258333	43,08733	-35,2471	105,2083
0,266667	43,13566	-36,1217	104,8994
0,275	43,16967	-36,9976	104,5088
0,283333	43,21368	-37,861	104,1228
0,291667	43,26132	-38,7352	103,8354
0,3	43,30079	-39,5962	103,5547
0,308333	43,33187	-40,4574	103,1242
0,316667	43,35501	-41,3101	102,9582
0,325	43,38156	-42,1637	102,5249
0,333333	43,41688	-43,0264	102,1137
0,341667	43,457	-43,8767	101,8535

Lampiran 5. Data FTIR Daun Kepayang



No.	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area
1	376.12	78.928	4.468	408.91	360.69	4.397	0.678
2	424.34	78.911	5.002	489.92	433.98	4.956	0.721
3	613.36	90.053	4.234	655.8	592.15	1.78	0.502
4	686.66	96.673	0.585	694.37	655.8	0.438	0.115
5	837.11	81.623	6.332	858.32	694.37	6.818	0.775
6	914.26	70.937	10.904	943.19	860.25	9.165	2.438
7	972.12	71.521	4.478	987.55	945.12	5.432	0.563
8	1020.34	69.122	7.557	1298.09	989.48	21.119	2.067
9	1392.61	98.294	1.359	1408.04	1379.1	0.128	0.085
10	1458.18	95.481	2.618	1473.62	1438.9	0.47	0.206
11	1514.12	87.987	3.762	1527.62	1475.54	1.87	0.354
12	1541.12	88.935	2.764	1598.99	1529.55	1.877	0.357
13	1645.28	96.655	3.104	1662.64	1627.92	0.266	0.229
14	1697.36	95.734	2.999	1722.43	1662.64	0.801	0.511
15	2318.44	93.698	3.687	2337.72	2270.22	1.024	0.465
16	2924.09	98.857	0.538	2947.23	2872.01	0.271	0.067
17	3122.75	99.68	0.174	3143.97	3109.25	0.031	0.012
18	3442.94	96.628	0.75	3466.08	3429.43	0.47	0.057
19	3560.59	96.566	1.911	3576.02	3537.45	0.407	0.14
20	3738.05	91.058	9.074	3766.98	3693.68	1.303	1.345

Lampiran 8. Data CV Daun Kepayang

S : 2 mV/s	Umax : 1000 mV		
No.	t (ms)	U (V)	I (A)
1	0	0	0,000939
2	500	0,001	0,000022
3	1000	0,002	0,000011
4	1500	0,003	0,000008
5	2000	0,004	0,000006
6	2500	0,005	0,000007
7	3000	0,006	0,000009
8	3500	0,007	0,000012
9	4000	0,008	0,000015
10	4500	0,009	0,000019
11	5000	0,01	0,000023
12	5500	0,011	0,000027
13	6000	0,012	0,00003
14	6500	0,013	0,000032
15	7000	0,014	0,000035
16	7500	0,015	0,000038
17	8000	0,016	0,000033
18	8500	0,017	0,000037
19	9000	0,018	0,000049
20	9500	0,019	0,000052
21	10000	0,02	0,000057
22	10500	0,021	0,00006
23	11000	0,022	0,000065
24	11500	0,023	0,00007
25	12000	0,024	0,000073
26	12500	0,025	0,000075
27	13000	0,026	0,000078
28	13500	0,027	0,000081
29	14000	0,028	0,000083
30	14500	0,029	0,000084
31	15000	0,03	0,000089
32	15500	0,031	0,000092
33	16000	0,032	0,000096
34	16500	0,033	0,0001
35	17000	0,034	0,000104
36	17500	0,035	0,000108
37	18000	0,036	0,000111

Lampiran 7. Data XRD Daun Kepayang

15.00000 56.000
15.02000 64.000
15.04000 74.000
15.06000 56.000
15.08000 64.000
15.10000 64.000
15.12000 70.000
15.14000 74.000
15.16000 52.000
15.18000 68.000
17.90000 70.000
17.92000 64.000
17.94000 68.000
17.96000 84.000
17.98000 96.000
18.00000 70.000
18.02000 92.000
18.04000 64.000
18.06000 82.000
18.08000 82.000
18.10000 76.000
18.12000 78.000
18.14000 72.000
18.16000 72.000
18.18000 82.000
18.20000 74.000
18.22000 78.000
18.24000 60.000
18.26000 80.000
18.28000 78.000
18.30000 94.000
18.32000 74.000
15.50000 72.000
15.52000 50.000
15.54000 72.000
15.56000 78.000
15.58000 72.000
15.60000 52.000
15.62000 66.000
18.34000 88.000
18.36000 62.000
18.38000 76.000
18.40000 70.000
18.42000 70.000
18.44000 64.000
18.46000 58.000
18.48000 80.000
18.50000 88.000
18.52000 94.000
18.54000 80.000
18.56000 80.000
18.58000 78.000
18.60000 80.000
18.62000 86.000
18.64000 80.000
18.66000 102.000
18.68000 70.000
18.70000 102.000
18.72000 86.000
18.74000 74.000
18.76000 82.000
18.78000 76.000
15.20000 62.000
15.48000 48.000
15.84000 64.000
15.86000 62.000
15.88000 60.000
15.90000 84.000
15.92000 68.000
15.94000 70.000
15.96000 62.000