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LAMPIRAN 1

Tabel 1.1 Data hasil pengujian Spektrofotometer UV-Vis untuk masing-masing CDs

Panjang Gelombang (nm)	Absorbansi (a.u)			
	CDs DS 50	CDs DS 60	CDs DK 50	CDs DK 60
300	4	4	4	4
301	4	4	4	4
302	4	4	4	4
303	3,99999	4	4	4
304	4,00004	4	4	4
305	3,99994	4	4	4
306	3,99975	4	4	4
307	4,0003	4	4	4
308	4,00195	4	4	4
309	4,00128	4	4	4
310	3,99426	3,99999	4	4
311	3,9834	4,00008	4	4
312	3,97595	3,99961	3,99999	4
313	3,97603	4,00028	4,00003	4
314	3,9845	4,00108	4,00001	3,99999
315	3,99229	4,00309	3,99966	4,00008
316	3,95968	3,99798	3,99976	3,99994
317	3,83614	3,98863	4,00216	3,99939
318	3,64045	3,95955	4,00536	3,99977
319	3,47019	3,90059	3,99976	4,004
320	3,39307	3,77745	3,97539	4,00891
321	3,3607	3,61159	3,9373	4,00245
322	3,29101	3,43556	3,9033	3,96607
323	3,15419	3,30734	3,8794	3,88264
324	2,97191	3,19403	3,84668	3,73786
325	2,77512	3,04746	3,78619	3,53932
326	2,61345	2,83027	3,68963	3,32021
327	2,51529	2,6053	3,55002	3,12171
328	2,45663	2,4327	3,36343	2,95127
329	2,39778	2,33411	3,17791	2,79807
330	2,34001	2,27878	3,05272	2,65464
331	2,29408	2,24123	2,97644	2,53529
332	2,24555	2,20351	2,86246	2,44594

333	2,1848	2,15311	2,6963	2,38502
334	2,13068	2,09608	2,55687	2,33234
335	2,09615	2,04391	2,49968	2,27463
336	2,07195	2,00149	2,46903	2,21254
337	2,05048	1,95716	2,40415	2,16529
338	2,03361	1,90862	2,3116	2,12902
339	2,00742	1,855	2,22768	2,0774
340	1,95177	1,79894	2,14908	1,99159
341	1,87208	1,74109	2,06365	1,8914
342	1,80033	1,69049	1,98165	1,80901
343	1,7549	1,65055	1,92321	1,75818
344	1,72673	1,6208	1,88522	1,72803
345	1,70133	1,595	1,85311	1,70316
346	1,677	1,57002	1,82033	1,67656
347	1,65589	1,54373	1,79155	1,6495
348	1,63471	1,51894	1,76795	1,62414
349	1,60978	1,49695	1,7444	1,59957
350	1,58328	1,47578	1,71599	1,57378
351	1,55894	1,45245	1,68415	1,54683
352	1,53686	1,42954	1,65376	1,52119
353	1,51511	1,41059	1,62772	1,49893
354	1,49408	1,39488	1,60606	1,47976
355	1,47536	1,37895	1,58695	1,4608
356	1,45893	1,36185	1,56765	1,43946
357	1,44275	1,34385	1,54618	1,41634
358	1,42539	1,32451	1,52395	1,39476
359	1,40664	1,30381	1,50362	1,3769
360	1,38727	1,28358	1,48472	1,36131
361	1,36868	1,26589	1,46442	1,3455
362	1,35227	1,25158	1,44254	1,32897
363	1,3376	1,23926	1,42173	1,31298
364	1,32224	1,22601	1,40299	1,29703
365	1,30412	1,20969	1,38447	1,27898
366	1,28385	1,19108	1,36473	1,25815
367	1,26389	1,17262	1,34499	1,23701
368	1,24606	1,15617	1,32697	1,21833
369	1,23025	1,1421	1,31021	1,20241
370	1,21559	1,12924	1,29249	1,18761
371	1,20157	1,11586	1,27307	1,17265
372	1,1878	1,10124	1,25365	1,15754

373	1,17355	1,08619	1,23598	1,14279
374	1,15842	1,07168	1,21974	1,12854
375	1,1429	1,05814	1,20376	1,11446
376	1,12768	1,04542	1,18781	1,10035
377	1,11304	1,03308	1,17214	1,08636
378	1,09892	1,02052	1,15669	1,07266
379	1,0853	1,0075	1,14141	1,0591
380	1,07209	0,99435	1,12662	1,04562
381	1,05911	0,98165	1,11237	1,03234
382	1,04621	0,96957	1,09825	1,01922
383	1,03328	0,95767	1,08391	1,006
384	1,02037	0,94545	1,06964	0,99284
385	1,00758	0,93311	1,05592	0,98024
386	0,99495	0,92121	1,04285	0,96834
387	0,98252	0,90996	1,02989	0,9566
388	0,97039	0,89892	1,0166	0,94468
389	0,95857	0,88769	1,00307	0,93269
390	0,94689	0,87626	0,98976	0,92087
391	0,93523	0,86494	0,97678	0,90929
392	0,92372	0,85403	0,96391	0,89799
393	0,91253	0,84349	0,95112	0,8869
394	0,90167	0,83305	0,93879	0,87589
395	0,89095	0,8225	0,92714	0,86497
396	0,88017	0,81203	0,91591	0,85427
397	0,86941	0,80193	0,90467	0,84394
398	0,85887	0,79219	0,89322	0,8339
399	0,84867	0,78263	0,8817	0,82401
400	0,83876	0,77319	0,87045	0,81415

LAMPIRAN 2

Tabel 2.1 Data hasil FTIR

Bilangan Gelombang (cm-1)	Sampel CDs DS 50	Sampel CDs DS 60	Sampel CDs DK 50	Sampel CDs DK 60
339,4716	12,27217	39,37306	38,81634	21,62149
341,4004	100,4403	100,8258	100,3904	100,1515
343,3293	99,87876	99,24718	98,77981	99,25857
345,2581	99,01868	96,94108	96,34871	97,56763
347,1869	98,04497	94,25884	93,59477	95,43971
349,1157	97,02382	91,60787	90,97107	93,2336
351,0445	95,9034	89,56094	89,08057	91,421
352,9733	94,7043	87,99806	87,69691	89,87559
354,9021	93,68777	86,83585	86,66954	88,52289
356,831	92,85588	85,95979	85,80501	87,30173
358,7598	92,38261	85,371	85,17844	86,43897
360,6886	92,3522	85,01679	84,76463	85,9451
362,6174	92,6404	84,88105	84,59674	85,89987
364,5462	92,97817	84,99918	84,76438	86,36217
366,475	93,36536	85,38691	85,40581	87,386
368,4039	93,87234	85,93968	86,33298	88,73202
370,3327	94,5679	86,72165	87,55559	90,30145
372,2615	95,36088	87,543	88,75973	91,71919
374,1903	96,26488	88,1231	89,5783	92,62125
376,1191	97,03784	88,33659	89,87502	92,96102
378,0479	97,52155	88,43734	90,05756	93,21016
379,9768	97,796	88,55485	90,29154	93,50091
381,9056	98,07933	88,78043	90,6944	93,98232
383,8344	98,43521	89,20738	91,35848	94,71589
385,7632	98,86756	89,76394	92,209	95,61789
387,692	99,34778	90,37506	93,13315	96,5743
389,6208	99,81139	91,07296	94,38686	97,62921
391,5497	99,62616	91,8242	95,70303	98,72602
393,4785	99,39074	92,55832	96,99801	99,77583
395,4073	99,0901	93,19242	98,16602	99,85924
397,3361	98,67695	93,66845	99,14363	99,7597
399,2649	98,1166	93,94933	99,86912	99,42161
401,1937	97,52086	94,13332	99,33916	98,94316
403,1225	96,94336	94,29935	98,75314	98,41005
405,0514	96,4771	94,52558	98,21527	97,92275

406,9802	96,15539	94,86814	97,78951	97,53606
408,909	95,9564	95,34055	97,5009	97,26705
410,8378	95,83496	95,97043	97,38256	97,1348
412,7666	95,76223	96,76833	97,44615	97,14933
414,6954	95,72816	97,66185	97,60633	97,2435
416,6243	95,69793	98,52675	97,73229	97,31447
418,5531	95,58996	99,30717	97,75623	97,30098
420,4819	95,31551	99,97905	97,62414	97,15819
422,4107	94,92217	99,69426	97,30976	96,87891
424,3395	94,4621	99,29406	96,88045	96,52803
426,2683	93,98384	98,87761	96,44947	96,19396
428,1972	93,58272	98,51196	96,09019	95,93344
430,126	93,2895	98,22929	95,8326	95,76677
432,0548	93,09481	98,05883	95,7096	95,7163
433,9836	93,00689	98,00719	95,72256	95,78082
435,9124	93,05091	98,04242	95,83292	95,92366
437,8412	93,22874	98,13582	95,99789	96,10422
439,7701	93,52517	98,26383	96,18188	96,29622
441,6989	93,89154	98,38866	96,34159	96,46792
443,6277	94,2745	98,48312	96,46002	96,60694
445,5565	94,63693	98,59639	96,58943	96,7565
447,4853	94,96542	98,73929	96,73945	96,92475
449,4141	95,3086	98,90574	96,9031	97,10976
451,3429	95,66924	99,07836	97,07135	97,30398
453,2718	96,03123	99,24219	97,23547	97,50407
455,2006	96,39314	99,38297	97,38356	97,70643
457,1294	96,73658	99,51728	97,52904	97,93021
459,0582	97,02775	99,6659	97,69798	98,20273
460,987	97,28553	99,80809	97,87532	98,50883
462,9158	97,54133	99,91018	98,03213	98,81357
464,8447	97,79436	99,98133	98,17573	99,11214
466,7735	98,0303	100,0454	98,33141	99,4164
468,7023	98,22485	100,1024	98,50553	99,72307
470,6311	98,3679	100,1388	98,68883	100,0127
472,5599	98,44743	100,1548	99,08877	99,5971
474,4887	98,45602	100,1565	99,49114	99,14696
476,4176	98,40741	100,1257	99,85963	99,38354
478,3464	98,68998	100,0375	99,97936	99,53489
480,2752	98,93017	99,87753	100,0191	99,59361
482,204	99,12837	99,84405	99,9757	99,56239
484,1328	99,27269	99,779	99,88439	99,47524

486,0616	99,39672	99,69966	99,76701	99,35455
487,9905	99,50942	99,60311	99,62853	99,2092
489,9193	99,6294	99,4945	99,48127	99,05162
491,8481	99,73622	99,39006	99,34202	98,89638
493,7769	99,44607	99,69224	99,75848	98,73756
495,7057	99,06979	99,95983	100,1445	98,5328
497,6345	98,55862	100,1551	100,474	98,24515
499,5633	97,86314	99,78707	100,1716	97,84692
501,4922	96,95852	99,3138	99,76984	97,29257
503,421	95,84581	98,70941	99,22577	96,53567
505,3498	94,55351	97,96188	98,52099	95,56589
507,2786	93,12838	97,09671	97,67437	94,42302
509,2074	91,64805	96,1828	96,74993	93,20188
511,1362	90,22236	95,31293	95,83564	92,02899
513,0651	88,9774	94,57135	95,01803	91,03122
514,9939	88,03994	94,03165	94,38139	90,32831
516,9227	87,49739	93,75138	94,00112	90,01811
518,8515	87,39491	93,76614	93,92088	90,15077
520,7803	87,74294	94,07299	94,14025	90,71622
522,7091	88,50309	94,62212	94,61112	91,64593
524,638	89,59427	95,33948	95,26737	92,83706

LAMPIRAN 3

Tabel 3.1 Data hasil Spektrofotometer UV-Vis pada *congo red* dengan adanya karbon dots (CDs)

Panjang Gelombang (nm)	CDs Daun Segar (DS) dimicrowave 50 menit				CDs Daun Segar (DS) dimicrowave 60 menit			
	Absorbansi				Absorbansi			
	0 menit	30 menit	60 menit	90 menit	0 menit	30 menit	60 menit	90 menit
300	1,0178	1,08003	1,0474	0,15423	1,0178	0,19611	1,07891	0,1732
301	0,949	1,00349	0,9742	0,15229	0,949	0,19454	1,00554	0,1716
302	0,8842	0,93337	0,906	0,15077	0,8842	0,19269	0,93689	0,17
303	0,82257	0,8698	0,8434	0,14957	0,82257	0,1904	0,87329	0,16826
304	0,76726	0,81294	0,78426	0,14891	0,76726	0,18809	0,81211	0,16649
305	0,71557	0,75949	0,73094	0,1486	0,71557	0,1866	0,75874	0,16586
306	0,66877	0,70814	0,68103	0,14823	0,66877	0,18657	0,7096	0,16514
307	0,62489	0,66097	0,63489	0,14734	0,62489	0,18566	0,66537	0,16434
308	0,58529	0,61846	0,59223	0,14617	0,58529	0,18343	0,62106	0,16326
309	0,5478	0,57934	0,55391	0,14574	0,5478	0,18226	0,58077	0,16257
310	0,5136	0,54117	0,51557	0,14509	0,5136	0,18123	0,54223	0,16117
311	0,48209	0,50674	0,48111	0,144	0,48209	0,17969	0,50751	0,15891
312	0,45491	0,4766	0,45131	0,14309	0,45491	0,17757	0,4776	0,15709
313	0,42983	0,44949	0,42517	0,14166	0,42983	0,17634	0,45071	0,15626
314	0,40609	0,42383	0,39974	0,14051	0,40609	0,17466	0,4246	0,1554
315	0,38409	0,39951	0,37651	0,13966	0,38409	0,17334	0,40034	0,15469
316	0,36366	0,37774	0,35406	0,13909	0,36366	0,17157	0,37974	0,1534
317	0,34577	0,358	0,33429	0,138	0,34577	0,1706	0,35949	0,15243
318	0,32889	0,33891	0,31597	0,13691	0,32889	0,16931	0,33951	0,15066
319	0,31411	0,32109	0,29951	0,13643	0,31411	0,16869	0,32243	0,14917
320	0,3004	0,30526	0,28266	0,13506	0,3004	0,16749	0,30706	0,14817
321	0,28774	0,29031	0,26717	0,13411	0,28774	0,16626	0,29134	0,14774
322	0,27586	0,27703	0,25326	0,1334	0,27586	0,16357	0,27634	0,14709
323	0,26514	0,26397	0,2404	0,13283	0,26514	0,16169	0,26374	0,146
324	0,25526	0,25134	0,2286	0,1316	0,25526	0,16057	0,25183	0,145
325	0,24651	0,23943	0,21766	0,13031	0,24651	0,16017	0,24026	0,144
326	0,23931	0,2294	0,20809	0,1296	0,23931	0,15866	0,23009	0,143
327	0,23217	0,22043	0,19917	0,12866	0,23217	0,1576	0,22031	0,142
328	0,22543	0,21183	0,19057	0,12817	0,22543	0,15657	0,21237	0,141
329	0,21931	0,20391	0,18243	0,12666	0,21931	0,15474	0,20454	0,14009
330	0,21351	0,19609	0,17474	0,12551	0,21351	0,1526	0,19651	0,13866
331	0,20766	0,189	0,16809	0,12466	0,20766	0,15191	0,18843	0,1376

332	0,20343	0,18309	0,16226	0,12409	0,20343	0,15166	0,18257	0,13623
333	0,1994	0,178	0,15623	0,12291	0,1994	0,15	0,17691	0,13594
334	0,19686	0,17274	0,15111	0,12234	0,19686	0,1486	0,17143	0,13514
335	0,19423	0,16726	0,14597	0,12149	0,19423	0,14697	0,16674	0,13443
336	0,19117	0,16183	0,1416	0,12034	0,19117	0,14629	0,16174	0,133
337	0,18709	0,15726	0,13691	0,11891	0,18709	0,1448	0,15643	0,13174
338	0,18417	0,15257	0,13257	0,118	0,18417	0,14369	0,15174	0,13026
339	0,18174	0,14869	0,12886	0,11709	0,18174	0,14191	0,14843	0,129
340	0,179	0,14397	0,12506	0,11566	0,179	0,14074	0,14414	0,12766
341	0,17626	0,14003	0,12169	0,11451	0,17626	0,13934	0,13977	0,12651
342	0,17357	0,13649	0,11749	0,11366	0,17357	0,13774	0,13566	0,12574
343	0,17151	0,134	0,11443	0,11309	0,17151	0,136	0,13317	0,12466
344	0,16974	0,13126	0,11191	0,11209	0,16974	0,13417	0,13109	0,12386
345	0,16774	0,12874	0,10983	0,11066	0,16774	0,13291	0,12857	0,12323
346	0,1656	0,126	0,107	0,10951	0,1656	0,132	0,12526	0,12217
347	0,16331	0,12317	0,10417	0,10866	0,16331	0,131	0,12209	0,12017
348	0,1616	0,12091	0,10191	0,10817	0,1616	0,13	0,12	0,11891
349	0,15974	0,11909	0,1	0,10666	0,15974	0,129	0,11774	0,118
350	0,15774	0,11666	0,098	0,10551	0,15774	0,128	0,11526	0,11691
351	0,1556	0,1146	0,09609	0,10466	0,1556	0,12709	0,11291	0,11634
352	0,15331	0,11231	0,09357	0,104	0,15331	0,12574	0,11091	0,11549
353	0,1516	0,11051	0,09177	0,10326	0,1516	0,12417	0,10926	0,11434
354	0,14974	0,10891	0,0904	0,10283	0,14974	0,12326	0,10766	0,11283
355	0,14774	0,10774	0,08909	0,10174	0,14774	0,12249	0,10634	0,11226
356	0,1456	0,10634	0,08726	0,1006	0,1456	0,12126	0,10474	0,11183
357	0,1434	0,10457	0,08566	0,09931	0,1434	0,12026	0,103	0,11074
358	0,14134	0,1036	0,08426	0,09869	0,14134	0,11949	0,10126	0,10951
359	0,13891	0,1024	0,08291	0,09731	0,13891	0,11834	0,09966	0,10866
360	0,13709	0,10134	0,082	0,0966	0,13709	0,11683	0,09826	0,10817
361	0,13474	0,09991	0,08109	0,09566	0,13474	0,11626	0,09691	0,10674
362	0,13226	0,09909	0,07974	0,09517	0,13226	0,11574	0,096	0,10517
363	0,12983	0,09774	0,07826	0,09366	0,12983	0,11517	0,09509	0,10417
364	0,12834	0,09626	0,07691	0,0926	0,12834	0,11374	0,09374	0,10374
365	0,12649	0,09483	0,076	0,09131	0,12649	0,11226	0,09226	0,10309
366	0,12443	0,09443	0,07509	0,09069	0,12443	0,11091	0,091	0,10209
367	0,12157	0,09314	0,07374	0,08931	0,12157	0,11	0,08966	0,10066
368	0,11951	0,09186	0,07217	0,0886	0,11951	0,109	0,08851	0,0996
369	0,11766	0,09057	0,07117	0,08766	0,11766	0,108	0,08766	0,0984
370	0,116	0,09009	0,07074	0,08709	0,116	0,107	0,08709	0,09726
371	0,11426	0,08909	0,07009	0,086	0,11426	0,10609	0,08609	0,09626

372	0,11266	0,08766	0,069	0,085	0,11266	0,10466	0,08466	0,0954
373	0,11143	0,08651	0,068	0,084	0,11143	0,10351	0,0836	0,09469
374	0,10949	0,08566	0,067	0,083	0,10949	0,10266	0,08231	0,09331
375	0,10726	0,08509	0,066	0,08191	0,10726	0,10209	0,0816	0,0926
376	0,10517	0,08391	0,065	0,08134	0,10517	0,10091	0,08066	0,09166
377	0,10374	0,08326	0,06391	0,0804	0,10374	0,10034	0,08009	0,09109
378	0,102	0,08274	0,06326	0,0796	0,102	0,09949	0,07891	0,09
379	0,10026	0,08209	0,06274	0,07857	0,10026	0,09834	0,07834	0,089
380	0,09866	0,08091	0,062	0,07834	0,09866	0,09683	0,0774	0,08791
381	0,09734	0,08026	0,06134	0,07774	0,09734	0,09626	0,0766	0,08726
382	0,09566	0,07974	0,0604	0,07709	0,09566	0,09574	0,07574	0,08674
383	0,09434	0,07909	0,0596	0,07591	0,09434	0,09509	0,07474	0,08609
384	0,09266	0,078	0,05866	0,07526	0,09266	0,094	0,07351	0,085
385	0,09134	0,077	0,05809	0,07474	0,09134	0,093	0,07266	0,084
386	0,08966	0,076	0,05691	0,074	0,08966	0,09191	0,07209	0,08291
387	0,08826	0,075	0,05626	0,07326	0,08826	0,09126	0,071	0,08226
388	0,08691	0,07391	0,05574	0,07274	0,08691	0,09074	0,06991	0,08174
389	0,086	0,07326	0,055	0,072	0,086	0,09	0,06926	0,081
390	0,08491	0,07274	0,05426	0,07117	0,08491	0,08926	0,06874	0,08026
391	0,08426	0,072	0,05366	0,071	0,08426	0,08874	0,068	0,07974
392	0,08366	0,07126	0,05334	0,07074	0,08366	0,08809	0,06726	0,079
393	0,08334	0,07066	0,05266	0,07034	0,08334	0,08691	0,06674	0,07826
394	0,08266	0,07034	0,05234	0,06974	0,08266	0,08626	0,066	0,07766
395	0,08226	0,06966	0,05166	0,069	0,08226	0,08574	0,06526	0,07734
396	0,08191	0,06934	0,05134	0,06817	0,08191	0,085	0,06466	0,07674
397	0,082	0,06874	0,05066	0,068	0,082	0,08417	0,06434	0,076
398	0,08191	0,068	0,05026	0,06774	0,08191	0,084	0,06366	0,07526
399	0,08226	0,06717	0,05	0,06734	0,08226	0,08383	0,06334	0,07466
400	0,08274	0,067	0,04974	0,06666	0,08274	0,083	0,06266	0,07426

LAMPIRAN 4

Absorbansi (A) Sampel

Penentuan absorbansi larutan dilakukan dengan menggunakan spektrofotometer UV-Vis pada panjang gelombang 498 nm. Larutan sampel terlebih dahulu tidak dilakukan penyinaran untuk mengetahui absorbansi awal (A_0). Setelah itu dilakukan penyinaran selama 30, 60 dan 90 menit dan diketahui absorbansinya (A). Data absorbansi kemudian digunakan persentase degradasi dan pemodelan kinetik, data-data yang didapat antara lain:

Tabel 4.1 Data Absorbansi untuk volume CDs 5 ml

Sampel	A_0	A (30 menit)	A (60 menit)	A (90 menit)
CDs DS 50	0,2190	0,0639	0,0678	0,0707
CDs DS 60	0,2190	0,0582	0,0697	0,0543
CDs DK 50	0,2190	0,0849	0,0762	0,0656
CDs DK 60	0,2190	0,0604	0,0643	0,0845

Tabel 4.2 Data Absorbansi volume CDs 10 ml

Sampel	A_0	A (30 menit)	A (60 menit)	A (90 menit)
CDs DS 50	0,2190	0,0550	0,0473	0,0550
CDs DS 60	0,2190	0,0549	0,0511	0,0579
CDs DK 50	0,2190	0,0331	0,0408	0,0399
CDs DK 60	0,2190	0,0277	0,0402	0,0633

LAMPIRAN 5

Persentase Degradasi

Persentase degradasi dihitung dengan persamaan sebagai berikut:

$$\%D = \frac{A_0 - A}{A_0} \times 100\%$$

Untuk Sampel CDs DS 50 dengan volume CDs 5 ml pada waktu penyinaran 30 menit, maka persentase degradasi yang didapatkan

$$\text{Konsentrasi Awal (A}_0\text{)} = 0,2190$$

$$\text{Konsentrasi pengukuran (A)} = 0,0639$$

Persentase degradasi (%D)

$$\%D = \frac{A_0 - A}{A_0} \times 100\%$$

$$\%D = \frac{0,2190 - 0,0639}{0,2190} \times 100\%$$

$$\%D = 70,8081$$

$$\%D = 71$$

Jadi, persentase degradasi pada congo red yang ditambahkan dengan CDs DS 50 sebanyak 5 ml adalah 71%. Untuk mengetahui persentase degradasi pada congo red yang ditambahkan dengan CDs DS 60, CDs DK 50 dan CDs DK 60 sebanyak 5 ml dengan cara yang sama. Begitupun untuk mengetahui persentase degradasi pada congo red yang ditambahkan dengan CDs DS 50, CDs DS 60, CDs DK 50 dan CDs DK 60 sebanyak 10 ml, sehingga hasil perhitungan dapat dilihat pada tabel di bawah ini.

Tabel 5.1 Persentase degradasi untuk congored yang ditambahkan dengan CDs

Jenis larutan	Waktu ke-n (menit)		Persentase Degradasi (%)	
	5 ml	10 ml	5 ml	10 ml
CDs DS 50	30	30	71	75
	60	60	69	78
	90	90	68	75
CDs DS 60	30	30	73	75

	60	60	68	77
	90	90	75	73
CDs DK 50	30	30	61	85
	60	60	65	81
	90	90	70	81
CDs DK 60	30	30	72	87
	60	60	71	82
	90	90	61	87

LAMPIRAN 6

Pemodelan Kinetika

$$\text{Orde 0 : } A_t = A_0 - kt$$

$$\text{Orde 1 : } \ln A_t = \ln A_0 - kt$$

$$\text{Orde 2 : } \frac{1}{A_t} = kt + \frac{1}{A_0}$$

Untuk data kinetika degradasi fotokatalitik *congo red* pada karbon dots (CDs) Daun Segar (DS) dimicroave selama 50 menit dengan volume CDs 5 ml. Nilai A_0 dan A didapatkan dari **Gambar 4.4** Spektrum serapan fotokatalitik *congo red* dengan adanya CDs untuk volume 5 ml. Sehingga hasilnya ditampilkan pada tabel 6.1 pada lampiran ini

Tabel 6.1 Nilai A dan A_0 *congo red* pada CDs DS 50 menit dengan volume 5 ml

Waktu Penyinaran	(A)	(A_0)	$A-A_0$	$\ln A$	$\frac{1}{A}$
0	0,219051	0,219051	0	0	4,565146
30	0,063945	0,219051	-0,13415	-1,23128	11,77872
60	0,067799	0,219051	-0,14282	-1,17276	13,11848
90	0,070689	0,219051	-0,15342	-1,13102	15,2367

Berdasarkan persamaan orde 0, model kinetika diuji dengan memplot grafik antara hubungan $A - A_0$ dengan waktu penyinaran 0, 30, 60 dan 90 menit. Model kinetika konstanta laju (k_0) orde nol dari kemiringan plot. Sehingga memperlihatkan koefisien korelasi (R^2) sebesar 0,5624 dan laju konstanta (k_0) sebesar $0,0015 \text{ min}^{-1}$. Berdasarkan persamaan orde 1, model kinetika diuji dengan memplot grafik antara hubungan $\ln A$ dengan waktu penyinaran 0, 30, 60 dan 90 menit. Model kinetika konstanta laju (k_1) orde 1 dari kemiringan plot. Memperlihatkan koefisien korelasi (R^2) sebesar 0,5313 dan laju konstanta (k_1) sebesar $0,0111 \text{ min}^{-1}$.

Berdasarkan persamaan orde 2, model kinetika diuji dengan memplot grafik antara hubungan $\frac{1}{A}$ dengan waktu penyinaran 0, 30, 60 dan 90 menit. Model kinetika konstanta laju (k_2) orde 2 dari kemiringan plot. Sehingga, koefisien korelasi (R^2) sebesar 0,4827 dan laju konstanta (k_2) sebesar $0,0929 \text{ min}^{-1}$. Untuk mengetahui untuk data kinetika degradasi fotokatalitik *congo red* yang ditambahkan dengan CDs DS 60, CDs DK 50 dan CDs DK 60 sebanyak 5 ml dengan cara yang sama. Begitupun untuk mengetahui data kinetika degradasi fotokatalitik *congo red* yang ditambahkan dengan CDs DS 50, CDs DS 60, CDs DK 50 dan CDs DK 60 sebanyak 10 ml, sehingga hasil dari kemiringan plot dapat dilihat pada tabel di bawah ini.

Tabel 6.2 Laju kinetik (k) dan koefisien korelasi (R^2) pada CDs volume 5 ml

No.	Sampel	Orde 0		Orde 1		Orde 2	
		R ²	$k_0(\text{min}^{-1})$	R ²	$k_1(\text{min}^{-1})$	R ²	$k_2(\text{min}^{-1})$
1	CDs DS 50	0,5642	0,0015	0,5313	0,0111	0,4827	0,0929
2	CDs DS 60	0,6154	0,0016	0,6265	0,0133	0,6330	0,1290
3	CDs DK 50	0,7038	0,0016	0,7777	0,0124	0,8647	0,1112
4	CDs DK 60	0,4685	0,0013	0,3669	0,0093	0,2445	0,0693

Tabel 6.3 Laju kinetik (k) dan koefisien korelasi (R^2) pada CDs volume 10 ml

No.	Sampel	Orde 0		Orde 1		Orde 2	
		R ²	$k_0(\text{min}^{-1})$	R ²	$k_1(\text{min}^{-1})$	R ²	$k_2(\text{min}^{-1})$
1	CDs DS 50	0,5989	0,0017	0,5941	0,0143	0,5788	0,1459
2	CDs DS 60	0,5848	0,0016	0,5666	0,0135	0,5364	0,1314
3	CDs DK 50	0,5698	0,0018	0,5128	0,0163	0,4068	0,1862
4	CDs DK 60	0,4360	0,0015	0,2308	0,0112	0,0467	0,0747

LAMPIRAN 7

Alat dan Bahan Penelitian

Alat penelitian yang digunakan



Neraca Analitik



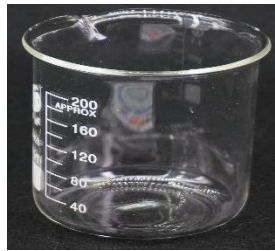
Microwave



Sentrifugasi



Blender



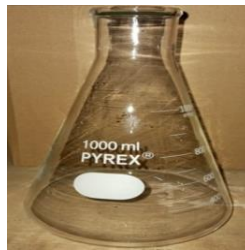
Gelas Kimia



Gelas Ukur



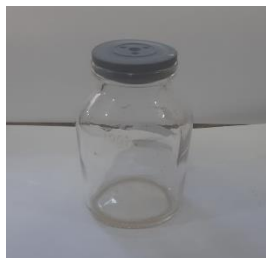
Cawan petris



Gelas erlenmeyer



corong



Botol



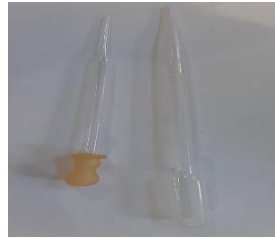
Tabung sentrifugasi



Tempat sampel



Spatula



Pipet tetes



Penjepit



Senter UV



Lampu Halogen 300 watt



Kertas Saring

Bahan penelitian yang digunakan



Daun Waru



Congo red



Aquades