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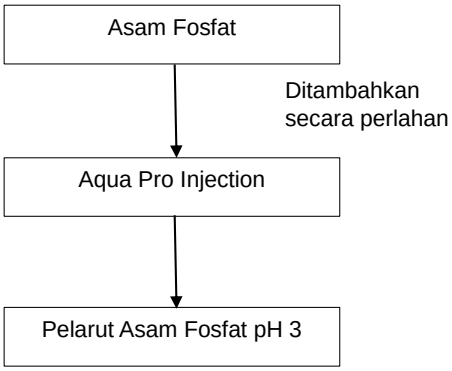
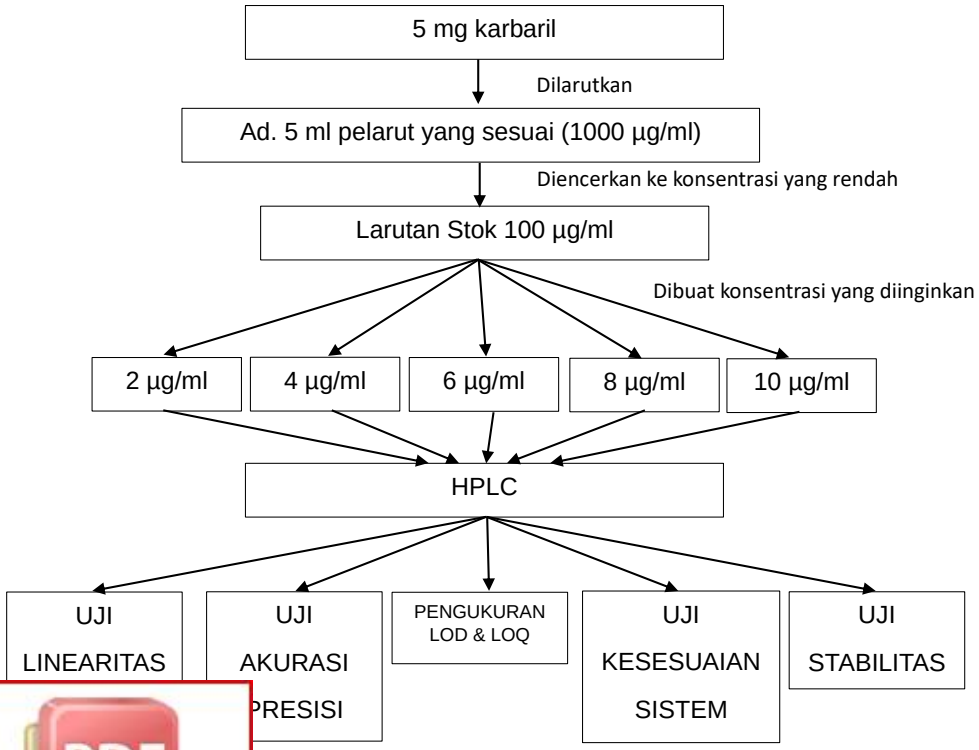
LAMPIRAN

Lampiran 1. Skema Kerja

Penyiapan Pelarut



Larutan Induk



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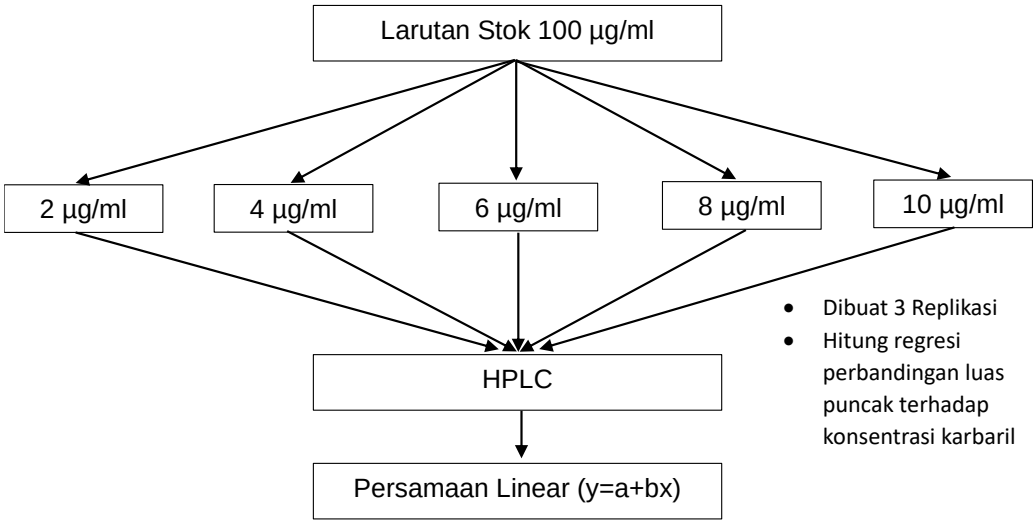
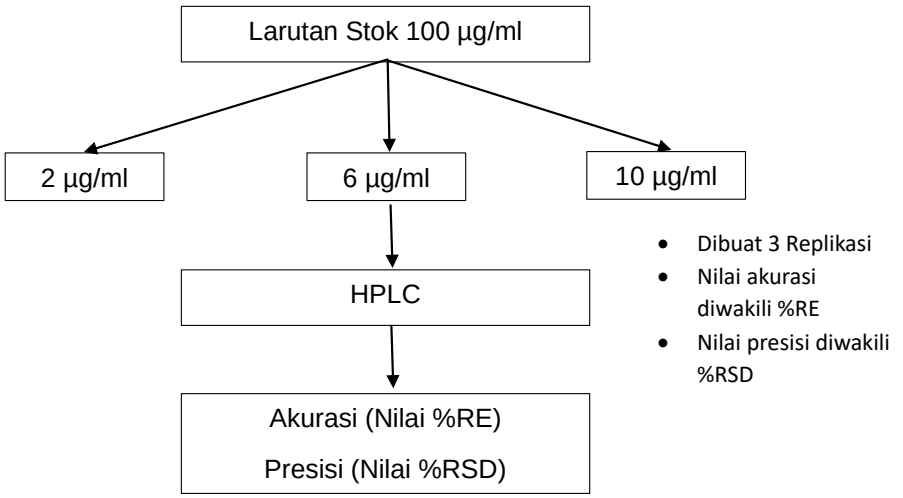
Uji linearitas



Uji akurasi dan presisi



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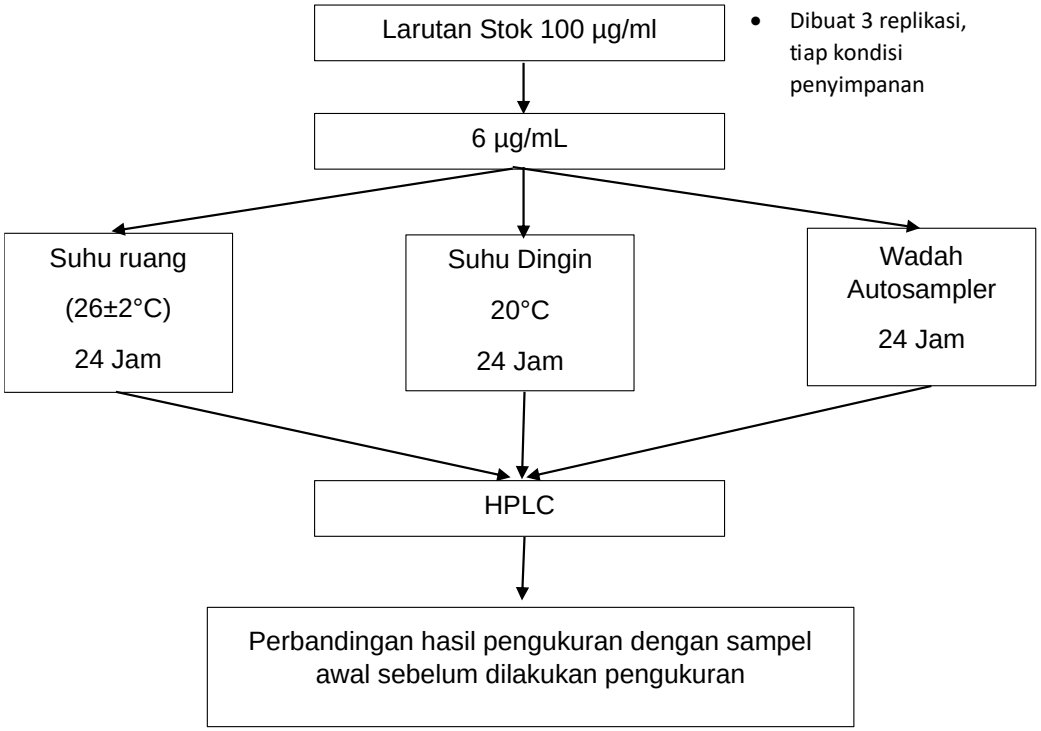
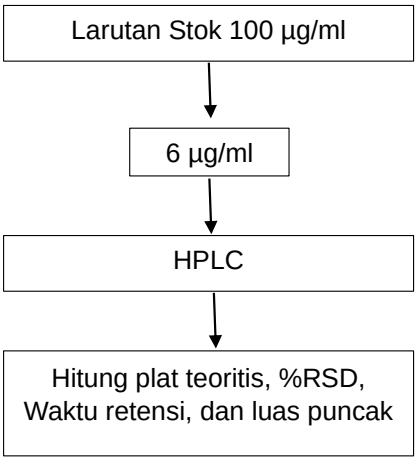
Uji stabilitas



- Dibuat 3 replikasi, tiap kondisi penyimpanan

Uji kesesuaian sistem



PDF
Optimization Software:
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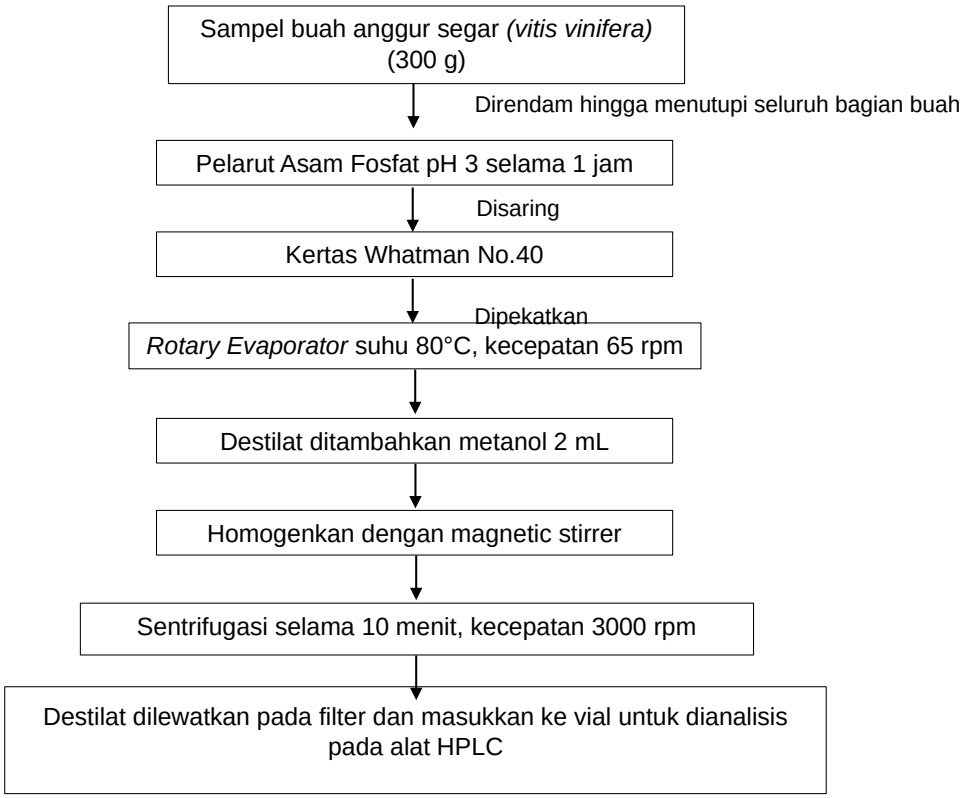
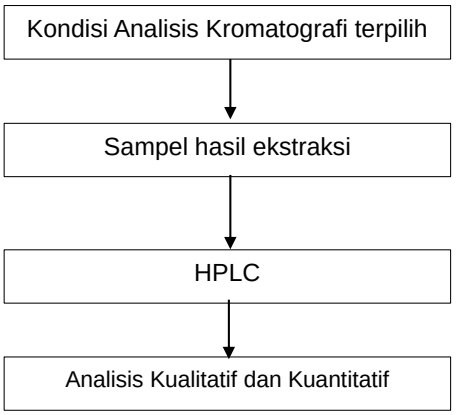
Proses Ekstraksi Pestisida



Analisis kualitatif dan kuantitatif



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Lampiran 2. Dokumentasi Penelitian

Gambar 4. Penimbangan baku pestisida karbaril

Gambar 5. Pembuatan larutan baku dan seri konsentrasi

Gambar 6. Alat HPLC

Gambar 7. Pembuatan larutan asam fosfat pH 3

i sampel dari residu tisida

Gambar 9. Alat Rotary Evaporator

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Lampiran 3. Data Kromatogram HPLC

Lampiran 3a. Uji Linearitas, LOD, LOQ Replikasi 1

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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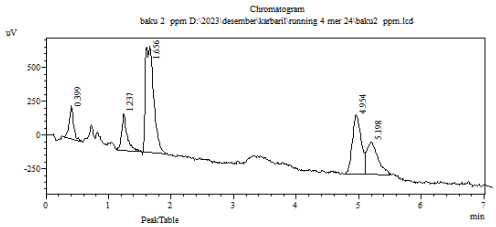

Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm
Sample ID	: baku 2 ppm
Tray#	: 1
Vail#	: 3
Injection Volume	: 10 uL
Data Filename	: baku2 ppm.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: running 27 feb 24.1.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.399	1225	250	7.032	12.609
2	1.237	1593	268	9.141	13.501
3	1.656	7262	784	41.669	39.560
4	4.954	4389	441	25.182	22.256
5	5.198	2959	239	16.977	12.074
Total		17427	1982	100.000	100.000

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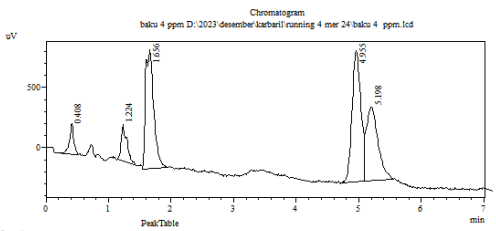
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Sat01Jan012005



Sample Information

Acquired by	: Admin
Sample Name	: baku 4 ppm
Sample ID	: baku 4 ppm
Tray#	: 1
Vail#	: 4
Injection Volume	: 10 uL
Data Filename	: baku 4 ppm.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: running 27 feb 24.1.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.408	1231	255	4.008	7.847
2	1.224	1933	306	6.294	9.427
3	1.656	8929	988	29.069	30.393
4	4.955	10739	1088	34.963	33.493
5	5.198	7883	612	25.665	18.842
Total		30715	3249	100.000	100.000

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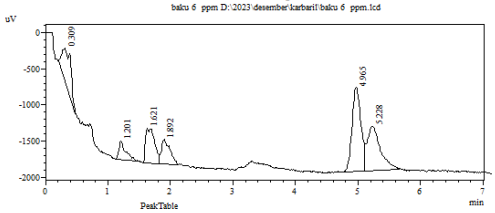
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm D:\2023\desember\karbaril\baku 6 ppm.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm
Sample ID	: baku 6 ppm
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 4-3-24.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.309	4588	443	13.133	13.428
2	1.201	1898	260	5.427	7.875
3	1.621	4963	485	14.208	14.691
4	1.892	3151	334	9.020	10.138
5	4.965	11568	1164	33.117	35.287
6	5.228	8766	613	25.096	18.581
Total		34932	3299	100.000	100.000

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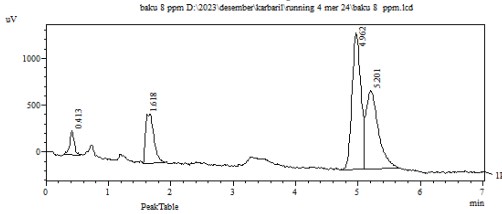
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 8 ppm D:\2023\desember\karbaril\running 4 mei 24\baku 8 ppm.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 8 ppm
Sample ID	: baku 8 ppm
Tray#	: 1
Vial#	: 6
Injection Volume	: 10 uL
Data Filename	: baku 8 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 27 feb 24.1.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.413	1249	257	3.887	8.343
2	1.618	4798	530	14.934	17.200
3	4.962	14575	1458	45.363	47.340
4	5.201	11507	835	35.816	27.117
Total		32129	3081	100.000	100.000

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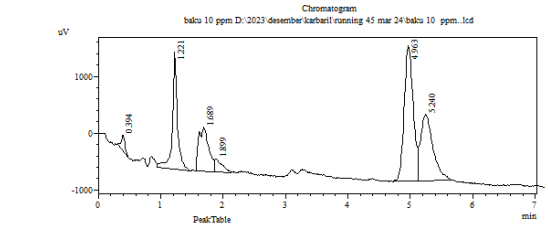
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm
Sample ID	: baku 10 ppm
Tray#	: 1
Vail#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm..lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 5-3-24.2.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.394	1175	280	1.864	4.070
2	1.221	11292	2063	17.908	29.963
3	1.689	8824	778	13.994	11.306
4	1.899	1768	225	2.804	3.266
5	4.963	23891	2376	37.888	34.521
6	5.240	16106	1162	25.542	16.875
Total		63057	6884	100.000	100.000

Lampiran 3b. Uji Linearitas, LOD, LOQ Replikasi 2

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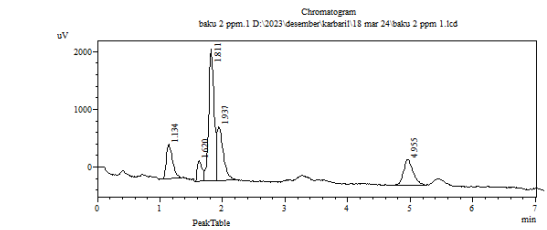
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm.1
Sample ID	: baku 2 ppm.1
Tray#	: 1
Vail#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 2 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.134	4062	596	13.098	12.945
2	1.620	2017	363	6.503	7.890
3	1.811	13759	2278	44.366	49.471
4	1.937	6550	930	21.119	20.193
5	4.955	4625	437	14.914	9.500
Total		31013	4604	100.000	100.000

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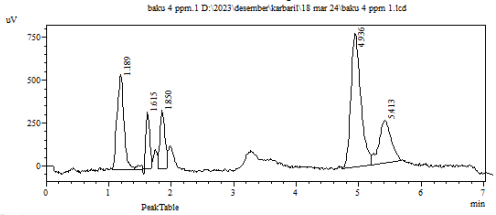
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 4 ppm.1 D:\2023\desember\karbar\18 mar 24\baku 4 ppm 1.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 4 ppm.1
Sample ID	: baku 4 ppm.1
Tray#	: 1
Vail#	: 3
Injection Volume	: 10 uL
Data Filename	: baku 4 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.189	4195	555	21.371	24.556
2	1.615	1512	333	7.702	14.758
3	1.850	1921	343	9.786	15.163
4	4.936	8586	779	43.740	34.470
5	5.413	3416	250	17.401	11.053
Total		19629	2259	100.000	100.000

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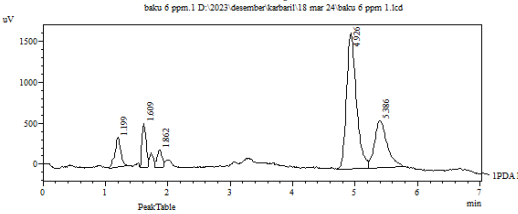
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm.1 D:\2023\desember\karbar\18 mar 24\baku 6 ppm 1.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm.1
Sample ID	: baku 6 ppm.1
Tray#	: 1
Vail#	: 5
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.199	2354	360	7.289	10.786
2	1.609	2455	537	7.602	16.076
3	1.862	1210	212	3.748	6.362
4	4.926	18186	1655	56.312	49.553
5	5.386	8089	575	25.049	17.223
Total		32295	3339	100.000	100.000

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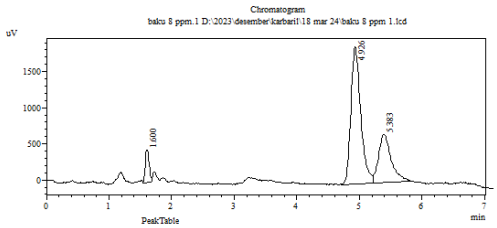
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 8 ppm.1
Sample ID	: baku 8 ppm.1
Tray#	: 1
Vail#	: 7
Injection Volume	: 10 uL
Data Filename	: baku 8 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.600	2047	456	6.340	15.070
2	4.926	20863	1899	64.632	62.818
3	5.383	9370	668	29.028	22.112
Total		32280	3023	100.000	100.000

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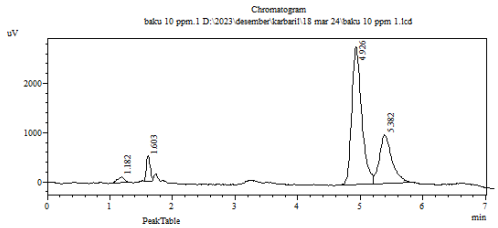
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm.1
Sample ID	: baku 10 ppm.1
Tray#	: 1
Vail#	: 9
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.182	1021	123	2.134	2.773
2	1.603	2305	527	4.819	11.922
3	4.926	30834	2789	64.464	63.112
4	5.382	13672	981	28.584	22.193
Total		47832	4420	100.000	100.000

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Lampiran 3c. Uji Linearitas, LOD, LOQ Replikasi 3

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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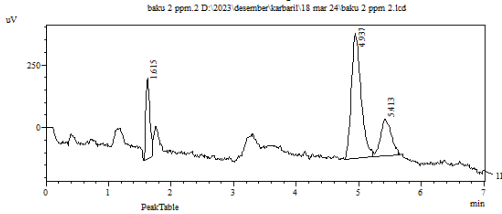
Chromatogram
baku 2 ppm.2 D:\2023\desember\karbarli\18 mar 24\baku 2 ppm 2.lcd



PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.615	1487	323	17.381	33.369
2	4.937	5326	498	62.262	51.457
3	5.413	1742	147	20.357	15.173
Total		8555	967	100.000	100.000

Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm.2
Sample ID	: baku 2 ppm.2
Tray#	: 1
Vial#	: 2
Injection Volume	: 10 uL
Data Filename	: baku 2 ppm 2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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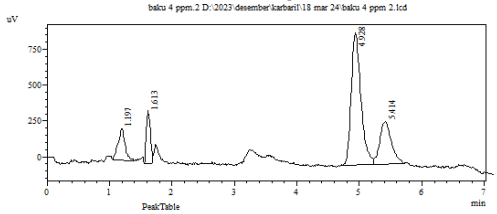
Chromatogram
baku 4 ppm.2 D:\2023\desember\karbarli\18 mar 24\baku 4 ppm 2.lcd



PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.197	1688	220	9.808	12.152
2	1.613	1650	372	9.588	20.535
3	4.928	10007	924	58.146	50.955
4	5.414	3865	297	22.459	16.359
Total		17210	1813	100.000	100.000

Sample Information

Acquired by	: Admin
Sample Name	: baku 4 ppm.2
Sample ID	: baku 4 ppm.2
Tray#	: 1
Vial#	: 4
Injection Volume	: 10 uL
Data Filename	: baku 4 ppm 2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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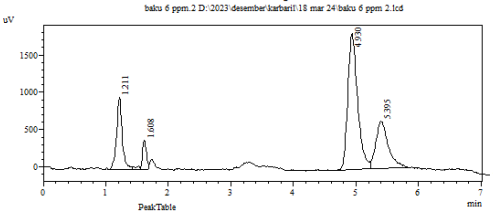
Chromatogram
baku 6 ppm.2 D:\2023\desember\karbarll\18 mar 24\baku 6 ppm 2.lcd



Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm.2
Sample ID	: baku 6 ppm.2
Tray#	: 1
Vial#	: 6
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm 2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.211	6162	966	16.731	25.389
2	1.608	1959	385	5.319	10.107
3	4.930	20051	1824	54.438	47.948
4	5.395	8660	630	23.511	16.556
Total		36832	3805	100.000	100.000

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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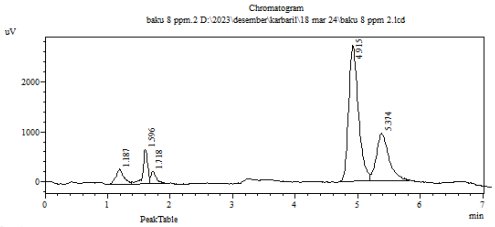
Chromatogram
baku 8 ppm.2 D:\2023\desember\karbarll\18 mar 24\baku 8 ppm 2.lcd



Sample Information

Acquired by	: Admin
Sample Name	: baku 8 ppm.2
Sample ID	: baku 8 ppm.2
Tray#	: 1
Vial#	: 8
Injection Volume	: 10 uL
Data Filename	: baku 8 ppm 2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.187	2721	304	5.346	6.187
2	1.596	3722	692	7.313	14.075
3	1.718	1556	251	3.058	5.099
4	4.915	29723	2720	58.401	55.352
5	5.374	13172	948	25.881	19.287
Total		50894	4914	100.000	100.000

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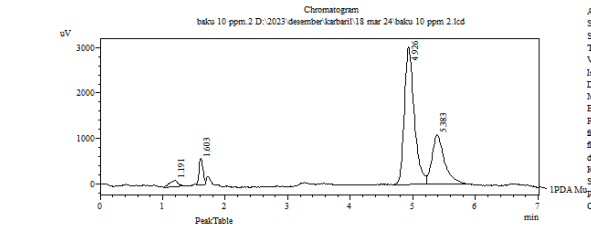
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.191	1305	137	2.484	2.829
2	1.603	2614	576	4.974	11.910
3	4.926	33509	3034	63.764	62.760
4	5.383	15123	1088	28.778	22.501
Total		52551	4834	100.000	100.000

Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm.2
Sample ID	: baku 10 ppm.2
Tray#	: 1
Vial#	: 10
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm 2.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

Lampiran 3d. Uji Kesesuaian Sistem

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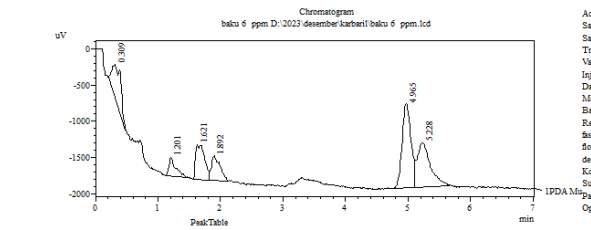
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.309	4588	443	13.133	13.428
2	1.201	1896	260	5.427	7.875
3	1.621	4963	485	14.208	14.691
4	1.892	3151	334	9.020	10.138
5	4.965	11568	1164	33.117	35.287
			613	25.096	18.581
			3299	100.000	100.000

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm
Sample ID	: baku 6 ppm
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: 4-3-24.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

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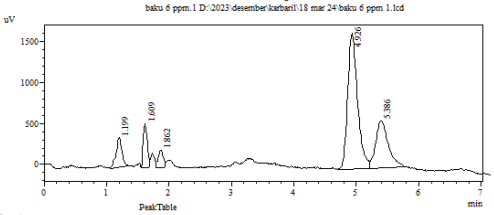
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm.1 D:\2023\desember\karbaril\18 mar 24\baku 6 ppm 1.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm.1
Sample ID	: baku 6 ppm.1
Tray#	: 1
Vail#	: 5
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.199	2354	360	7.289	10.786
2	1.609	2455	537	7.602	16.076
3	1.862	1210	212	3.748	6.362
4	4.926	18186	1655	56.312	49.553
5	5.386	8089	575	25.049	17.223
Total		32295	3339	100.000	100.000

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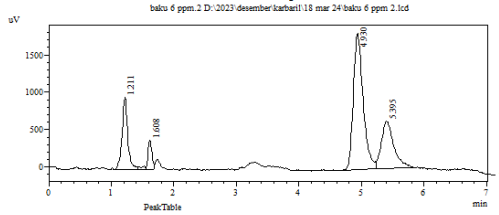
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm.2 D:\2023\desember\karbaril\18 mar 24\baku 6 ppm 2.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm.2
Sample ID	: baku 6 ppm.2
Tray#	: 1
Vail#	: 6
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm 2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.211	6162	966	16.731	25.389
2	1.608	1959	385	5.319	10.107
3	4.930	20051	1824	54.438	47.948
4	5.395	8660	630	23.511	16.556
Total		36832	3805	100.000	100.000

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Lampiran 3e. Uji Stabilitas

Suhu Ruang

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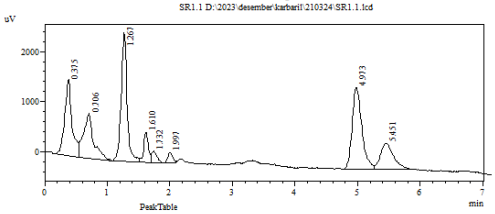
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
SR1.1 D:\2023\desember\karbaril\210324\SR1.1.lcd



Sample Information

Acquired by	: Admin
Sample Name	: SR1.1
Sample ID	:
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: SR1.1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.375	12297	1512	17.554	18.552
2	0.706	9998	888	14.273	10.899
3	1.267	17096	2571	24.405	31.547
4	1.610	3249	601	4.637	7.379
5	1.732	1342	233	1.916	2.855
6	1.997	1128	204	1.611	2.508
7	4.973	17589	1629	25.109	19.995
8	5.451	7352	511	10.495	6.266
Total		70051	8148	100.000	100.000

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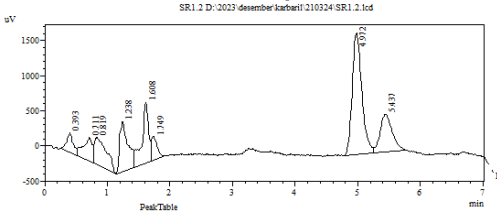
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
SR1.2 D:\2023\desember\karbaril\210324\SR1.2.lcd



Sample Information

Acquired by	: Admin
Sample Name	: SR1.2
Sample ID	:
Tray#	: 1
Vial#	: 4
Injection Volume	: 10 uL
Data Filename	: SR1.2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PeakTable

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.393	2032	276	3.903	5.336
2	0.711	3432	344	6.592	6.659
3	0.819	5314	384	10.206	7.434
4	1.238	6815	712	13.089	13.793
5	1.608	6491	856	12.466	16.577
6	1.749	2051	318	3.939	6.153
7	4.972	18511	1733	35.551	33.572
8	5.437	7422	541	14.254	10.477
Total		52068	5163	100.000	100.000

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Pusat Penelitian Fakultas Farmasi
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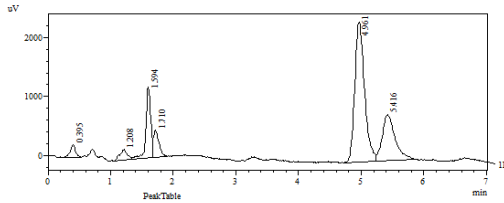
Chromatogram
SR.1.3 D:\2023\desember\karbaril\210324\SR1.3.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: SR.1.3
Sample ID	:
Tray#	: 1
Vail#	: 7
Injection Volume	: 10 uL
Data Filename	: SR1.3.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom : RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.395	1407	224	2.852	4.274
2	1.208	1446	176	2.931	3.366
3	1.594	6580	1207	13.338	23.045
4	1.710	2733	467	5.540	8.922
5	4.961	25875	2378	52.450	45.388
6	5.416	11292	786	22.889	15.005
Total		49333	5239	100.000	100.000

Suhu Wadah Autosampler

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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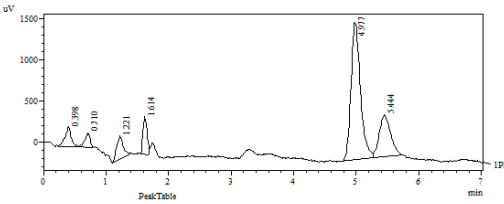
Chromatogram
WA1.1 D:\2023\desember\karbaril\210324\WA1.1.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: WA1.1
Sample ID	:
Tray#	: 1
Vail#	: 3
Injection Volume	: 10 uL
Data Filename	: WA1.1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom : RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.398	1620	247	5.269	7.420
2	0.710	1031	174	3.354	5.223
3	1.221	1996	277	6.492	8.326
4	1.614	2086	454	6.785	13.627
5	4.977	17624	1669	57.313	50.077
6	5.444	6392	511	20.788	15.327
Total		30750	3332	100.000	100.000

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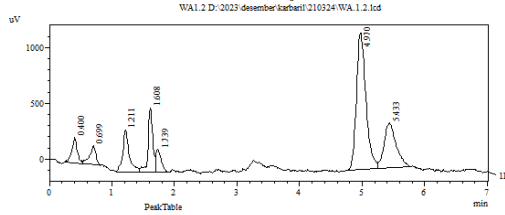
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
WA1.2 D:\2023\desember\karbar1\210324\WA.1.2.lcd



Sample Information

Acquired by	: Admin
Sample Name	: WA1.2
Sample ID	:
Tray#	: 1
Vaile	: 6
Injection Volume	: 10 uL
Data Filename	: WA.1.2.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: running 210324.1cb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.400	1342	229	4.838	7.237
2	0.699	1128	165	4.067	5.224
3	1.211	2692	375	9.701	11.833
4	1.608	3030	569	10.918	17.959
5	1.739	1096	199	3.951	6.273
6	4.970	12987	1226	46.801	38.713
7	5.433	5473	404	19.724	12.761
Total		27750	3166	100.000	100.000

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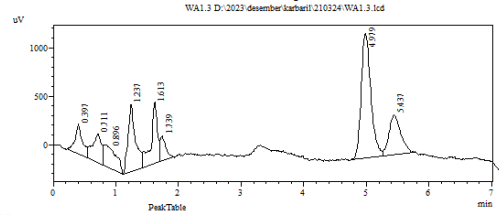
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
WA1.3 D:\2023\desember\karbar1\210324\WA1.3.lcd



Sample Information

Acquired by	: Admin
Sample Name	: WA1.3
Sample ID	:
Tray#	: 1
Vaile	: 9
Injection Volume	: 10 uL
Data Filename	: WA1.3.lcd
Method Filename	: met air 55 45.1cm
Batch Filename	: running 210324.1cb
Report Filename	: Default.lcr

fase gerak = met air 55 45.1cm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.397	2521	309	6.344	7.553
2	0.711	3050	296	7.676	7.235
3	0.896	3016	212	7.591	5.181
4	1.237	5783	689	14.554	16.850
5	1.613	4558	632	11.469	15.443
6	1.739	1559	253	3.923	6.197
7	4.979	13810	1287	34.754	31.459
8	5.437	5440	412	13.690	10.082
Total		39738	4090	100.000	100.000

PDF
Optimization Software:
www.balesio.com

Suhu Dingin

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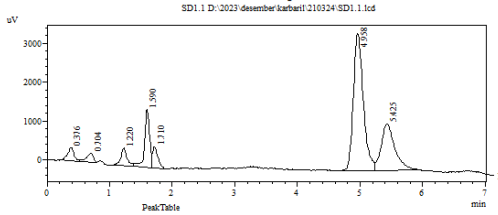
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Sat01Jan012005

Chromatogram
SD1.1 D:\2023\desember\karbaril\210324\SD1.1.lcd



Sample Information

Acquired by	: Admin
Sample Name	: SD1.1
Sample ID	:
Tray#	: 1
Vial#	: 2
Injection Volume	: 10 uL
Data Filename	: SD1.1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.376	2434	340	3.207	4.378
2	0.704	1615	220	2.127	2.830
3	1.220	3127	463	4.120	5.947
4	1.590	8425	1486	11.099	19.100
5	1.710	3150	551	4.150	7.090
6	4.958	38973	3525	51.344	45.325
7	5.425	18181	1192	23.953	15.331
Total		75905	7778	100.000	100.000

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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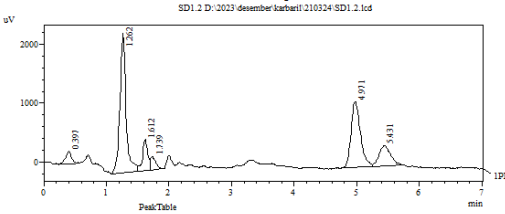
Chromatogram
SD1.2 D:\2023\desember\karbaril\210324\SD1.2.lcd



Sample Information

Acquired by	: Admin
Sample Name	: SD1.2
Sample ID	:
Tray#	: 1
Vial#	: 5
Injection Volume	: 10 uL
Data Filename	: SD1.2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.397	1494	225	3.923	4.705
2	1.262	16020	2353	42.071	49.236
3	1.612	3095	521	8.127	10.899
4	1.739	1269	224	3.332	4.689
5	4.971	11628	1108	30.538	23.184
6	5.431	4573	348	12.009	7.287
Total		38079	4779	100.000	100.000

Optimization Software:
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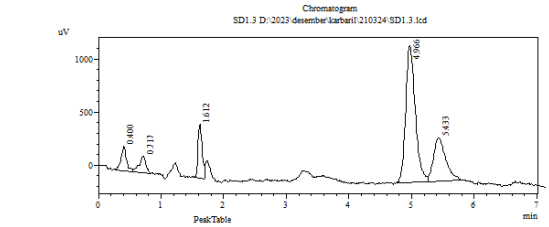
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: SD1.3
Sample ID	:
Tray#	: 1
Vail#	: 8
Injection Volume	: 10 uL
Data Filename	: SD1.3.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 210324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.400	1364	232	5.663	8.990
2	0.717	1137	156	4.722	6.027
3	1.612	2425	507	10.070	19.620
4	4.966	13685	1286	56.828	49.752
5	5.433	5470	403	22.716	15.611
Total		24081	2584	100.000	100.000

Lampiran 3f. Akurasi dan Presisi

Replikasi 1

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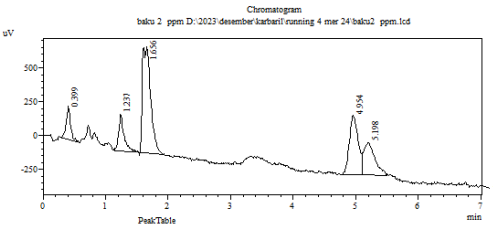
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm
Sample ID	: baku 2 ppm
Tray#	: 1
Vail#	: 3
Injection Volume	: 10 uL
Data Filename	: baku2 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 27 feb 24.1.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.399	1225	250	7.032	12.609
2	1.237	1593	268	9.141	13.501
3	1.656	7262	784	41.669	39.560
4	4.954	4389	441	25.182	22.256
5	5.198	2959	239	16.977	12.074
Total		17427	1982	100.000	100.000

Optimization Software:
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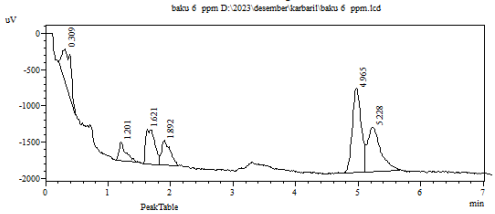
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm D:\2023\desember\karbaril\baku 6 ppm.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm
Sample ID	: baku 6 ppm
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 4-3-24.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.309	4588	443	13.133	13.428
2	1.201	1896	260	5.427	7.875
3	1.621	4963	485	14.208	14.691
4	1.892	3151	334	9.020	10.138
5	4.965	11568	1164	33.117	35.287
6	5.228	8766	613	25.096	18.581
Total		34932	3299	100.000	100.000

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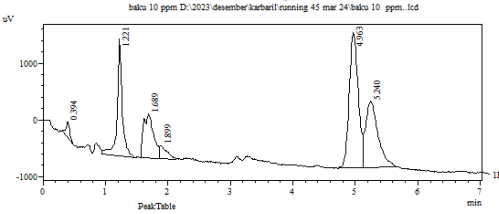
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 10 ppm D:\2023\desember\karbaril\running 45 mar 24\baku 10 ppm..lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm
Sample ID	: baku 10 ppm
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm..lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 5-3-24.2.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.394	1175	280	1.864	4.070
2	1.221	11292	2063	17.908	29.963
3	1.689	8824	778	13.994	11.306
4	1.899	1768	225	2.804	3.266
5	4.963	23891	2376	37.888	34.521
6	5.240	16106	1162	25.542	16.875
Total		63057	6884	100.000	100.000

Optimization Software:
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Replikasi 2

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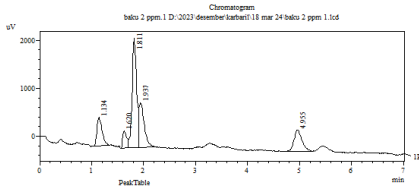
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm.1
Sample ID	: baku 2 ppm.1
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 2 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.134	4062	596	13.098	12.945
2	1.620	2017	363	6.503	7.890
3	1.811	13759	2278	44.366	49.471
4	1.937	6550	930	21.119	20.193
5	4.955	4625	437	14.914	9.500
Total		31013	4604	100.000	100.000

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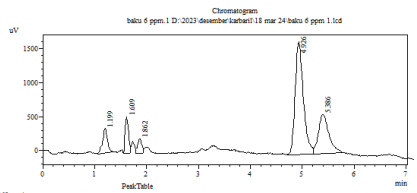
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm.1
Sample ID	: baku 6 ppm.1
Tray#	: 1
Vial#	: 5
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.199	2354	360	7.289	10.786
2	1.609	2455	537	7.602	16.078
3	1.862	1210	212	3.748	6.362
4	4.926	18186	1655	56.312	49.553
5	5.386	8089	575	25.049	17.223
Total		32295	3339	100.000	100.000

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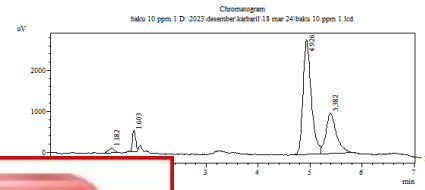
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian



Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm.1
Sample ID	: baku 10 ppm.1
Tray#	: 1
Vial#	: 9
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm 1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 180324.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

	Area %	Height %
123	2.134	2.773
527	4.819	11.922
2789	64.464	63.112
991	28.584	22.193
4420	100.000	100.000

PDF
Optimization Software:
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Replikasi 3

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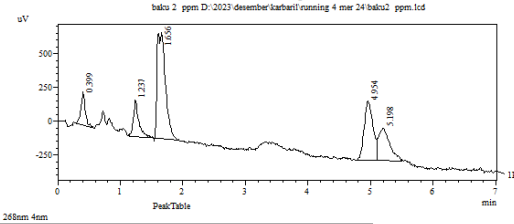
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 2 ppm D:\2023\desember\karbaril\running 4 mer 24\baku2 ppm.lcd



Sample Information

Acquired by	: Admin
Sample Name	: baku 2 ppm
Sample ID	: baku 2 ppm
Tray#	: 1
Vial#	: 3
Injection Volume	: 10 uL
Data Filename	: baku2 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 27 feb 24.1.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.399	1225	250	7.032	12.609
2	1.237	1593	268	9.141	13.501
3	1.656	7262	784	41.669	39.560
4	4.954	4389	441	25.182	22.256
5	5.198	2959	239	16.977	12.074
Total		17427	1982	100.000	100.000

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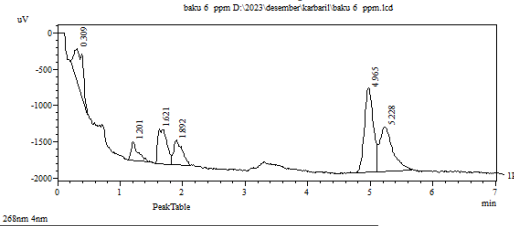
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
baku 6 ppm D:\2023\desember\karbaril\baku 6 ppm.lcd



Sample Information

Acquired by	: Admin
Sample Name	: baku 6 ppm
Sample ID	: baku 6 ppm
Tray#	: 1
Vial#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 6 ppm.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 4-3-24.lcb
Report Filename	: Default.lcr

fase gerak = met air 55 45.lcm
flow rate = 1.0 ml/min
detektor : PDA
Kolom : Shim-Pack Vp-Ods
Suhu Kolom ; RT oC
Panjang gelombang 320 nm
Operator : Dewi

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.309	4588	443	13.133	13.428
2	1.201	1896	260	5.427	7.875
3	1.621	4963	485	14.208	14.691
4	1.892	3151	334	9.020	10.138
5	4.965	11568	1164	33.117	35.287
6	5.228	8766	613	25.096	18.581
Total		34932	3299	100.000	100.000

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Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

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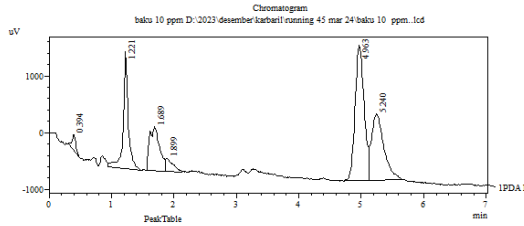

Sample Information

Acquired by	: Admin
Sample Name	: baku 10 ppm
Sample ID	: baku 10 ppm
Tray#	: 1
Vail#	: 1
Injection Volume	: 10 uL
Data Filename	: baku 10 ppm..lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: 5-3-24_2.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	0.394	1175	280	1.864	4.070
2	1.221	11292	2063	17.908	29.963
3	1.689	8824	778	13.994	11.306
4	1.899	1768	225	2.804	3.266
5	4.963	23891	2376	37.888	34.521
6	5.240	16106	1162	25.542	16.875
Total		63057	6884	100.000	100.000

Lampiran 3g. Hasil Analisis Kualitatif dan Kuantitatif

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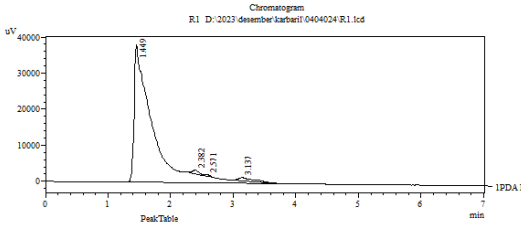
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Sat01Jan012005



Sample Information

Acquired by	: Admin
Sample Name	: R1
Sample ID	: R1
Tray#	: 1
Vail#	: 1
Injection Volume	: 10 uL
Data Filename	: R1.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 3.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.449	790348	38086	96.799	94.240
2	2.382	7300	983	0.894	2.432
3	2.571	3113	477	0.381	1.181
4	3.137	15721	867	1.926	2.147
Total		816483	40414	100.000	100.000

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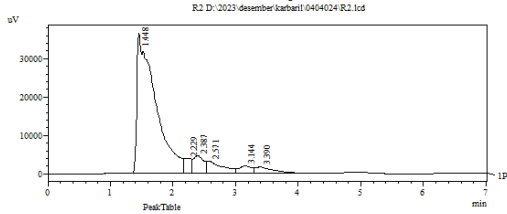
Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
R2 D:\2023\desember\karbar1\0404024\R2.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: R2
Sample ID	: R2
Tray#	: 1
Vial#	: 2
Injection Volume	: 10 uL
Data Filename	: R2.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 3.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

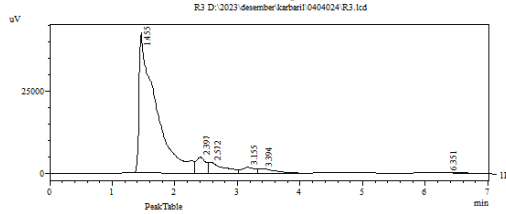
Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.448	751067	36483	78.774	70.447
2	2.229	31964	3902	3.352	7.535
3	2.387	52333	4588	5.489	8.859
4	2.571	55770	3211	5.849	6.200
5	3.144	27381	1977	2.872	3.817
6	3.390	34930	1627	3.664	3.141
Total		953444	51787	100.000	100.000

BIOFARMAKA

Sat01Jan012005

Pusat Penelitian Fakultas Farmasi
lantai 4 wing B Gedung Pusat Kegiatan Penelitian

Chromatogram
R3 D:\2023\desember\karbar1\0404024\R3.lcd



PeakTable

Sample Information

Acquired by	: Admin
Sample Name	: R3
Sample ID	: R3
Tray#	: 1
Vial#	: 3
Injection Volume	: 10 uL
Data Filename	: R3.lcd
Method Filename	: met air 55 45.lcm
Batch Filename	: running 3.lcb
Report Filename	: Default.lcr
fase gerak = met air 55 45.lcm	
flow rate = 1.0 ml/min	
detektor : PDA	
Kolom : Shim-Pack Vp-Ods	
Suhu Kolom ; RT oC	
Panjang gelombang 320 nm	
Operator : Dewi	

PDA Ch1 268nm 4nm

Peak#	Ret. Time	Area	Height	Area %	Height %
1	1.455	796882	42707	83.415	79.109
2	2.397	50735	4788	5.311	8.869
3	2.572	54609	3221	5.716	5.966
4	3.155	25746	1765	2.695	3.269
5	3.394	24663	1354	2.582	2.508
6	6.351	2686	151	0.281	0.280
Total		955321	53986	100.000	100.000

Optimization Software:
www.balesio.com

Lampiran 4. Perhitungan

1. Perhitungan linearitas

Tabel 1. Hasil pengukuran parameter uji linearitas

KONSENTRASI (µg/ml)	Luas Area	Rata-rata	Koefisien Determinasi (R^2)	Koefisien Korelasi (r)
2	2959			
4	7883			
6	8766	8415	0,9984	0,9992
8	11507			
10	16106			

Persamaan regresi linear

y=bx+a

y= 1591,4x-1133

a= -1133

b= 1591,4x

R^2= 0,99984

Koefisien korelasi (r) $= \sqrt{R^2}$

$= \sqrt{0{,}9984}$

$= 0{,}9992$

2. Perhitungan LOD dan LOQ

Tabel 3. Hasil pengukuran LOD dan LOQ

Konsentrasi (X)	(Y)	(Y')	(Y-Y')	$(Y-Y')^2$
2	2959	2050	909	826645
4	7883	5233	2650	7024620
6	8766	8415	351	122920
8	11507	11598	-91	8317
10	16106	14781	1325	1755625
			Jumlah	9738128
			Sy	1801,68
			LOD	3,74
			LOQ	11,32

Persamaan regresi linear $\boldsymbol{y = 1591,4x - 1133}$

$\boldsymbol{Y' = (1591,4 \times 2) + (-1133) = 2050}$

$\frac{8128}{-2}$ =1801,68

$\frac{1,68}{4}$ = 3,74

$\frac{68}{}$ = 11,32

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3. Perhitungan Uji Kesesuaian Sistem

- **Perhitungan Resolusi (R)**

  Diketahui

  $tR_1 = 4{,}940$

  $tR_2 = 5{,}336$

  $W_2 = 0{,}6$

  $W_1 = 0{,}4$

  Resolusi:

  $$R = 2\left(\frac{tR2 - tR1}{W1 + W2}\right)$$

  $$R = 2\left(\frac{tR2 - tR1}{W1 + W2}\right)$$

  $$R = 2\left(\frac{5{,}336 - 4{,}940}{0{,}4 + 0{,}6}\right)$$

  $$R = 2\left(\frac{0{,}396}{1{,}2}\right)$$

  $$R = 0{,}7665$$

- **Perhitungan Jumlah Plat Lempeng Teoritis (N)**

  Diketahui

  tR = 5,336

  w = 0,6

  Lempeng Teoritis:

  $$N = 16\left(\frac{tR}{W}\right)^2$$

  $$N = 16\left(\frac{5{,}336}{0{,}6}\right)^2$$

  $$N = 1265{,}62$$

- **Perhitungan *Tailing Factor* (tf)**

  Diketahui

  a = 0,2

  b = 0,4

  $$Tf = \frac{a}{b}$$

  $$Tf = \frac{0{,}2}{0{,}4}$$

  $$Tf = 0{,}6$$

- **Perhitungan *Height Equivalent to A Theorithical Plate* (HETP)**

  Diketahui

  L = 150 mm = 15 cm

PDF
Optimization Software:
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4. Perhitungan uji Stabilitas

Tabel 5. Hasil pengukuran uji stabilitas

Jenis Pengujian Stabilitas	Konsentrasi yang digunakan (µg/ml)	Luas Area (mAU)	Rata-rata	SD	%RSD
Stabilitas Suhu Ruang	6	7351,9 7421,6 11292	2254,966	8688,500	0,260
Stabilitas dalam Autosampler		6392,2 5473,5 5440	540,342	5768,567	0,094
Stabilitas Suhu Dingin		18181,1 4573 5470,1	7610,899	9408,067	0,809

Perhitungan stabilitas pada suhu ruang:

Rata-rata=$\frac{7351,9+7421,6+11292}{3}$ = 2254,966

SD = $\frac{\sqrt{(2254,966-7351,9)^2+(2254,966-7421,6)^2+(2254,966-11292)^2}}{3-1}$ = 8688,5

%RSD = $\frac{SD}{Rata-rata} \times 100 = \frac{8688,5}{2254,966} = 0,260$

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5. Perhitungan Akurasi Presisi

Tabel 2. Hasil pengukuran parameter uji akurasi dan presisi

Konsentrasi (µg/ml)	Luas Area	Konsentrasi Terukur	Rata-rata	SD	%Recovery	%RE	%RSD
2	2959	2,16					
2	1902	1,93	2,01	0,12	100,70	0,70	6,10
2	1742	1,96					
6	8766	5,69					
6	8090	6,14	5,97	2,16	99,54	-0,46	36,12
6	8660	6,09					
10	16106	10,16					
10	13672	9,93	10,01	2,30	100,14	0,14	22,93
10	15123	9,95					

Perhitungan akurasi dan presisi konsentrasi 2 ppm:

Persamaan regresi linear $y = 1643{,}4x - 583{,}47$

$= \frac{2{,}16+1{,}93+1{,}96}{} = 2{,}01$

$\frac{y-a}{b} = \frac{2959+583{,}47}{1643{,}4} = 2{,}155$

$\frac{\sqrt{(2{,}16-1{,}93)^2+(2{,}01-1{,}96)^2}}{-1} = 0{,}12$

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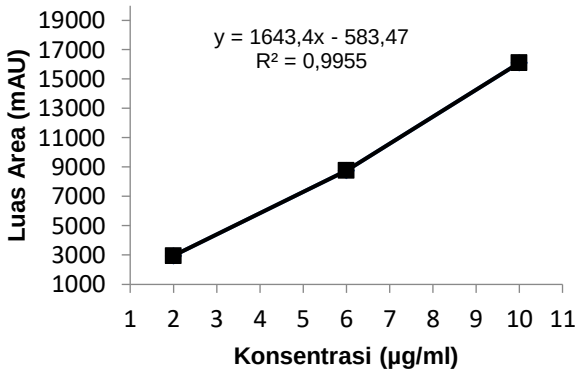
% RSD = $\frac{SD}{Rata-rata} \times 100 = \frac{0{,}12}{2{,}01} \times 100 = 6{,}10$

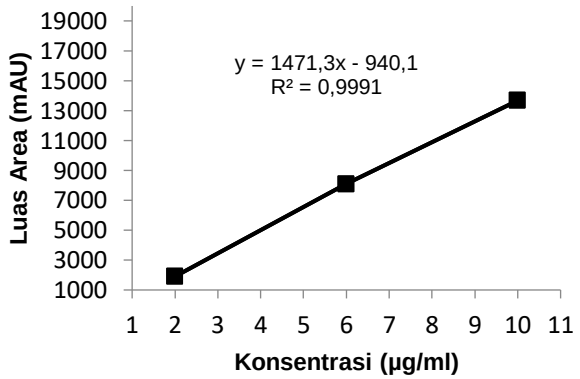
% Recovery = $\frac{Rata-rata\ konsentrasi\ terukur}{Konsentrasi\ sebenarnya} \times 100 = \frac{2{,}01}{2} \times 100 = 100{,}70$

% RE = $\frac{Konsentrasi\ terukur - Konsentrasi\ digunakan}{Konsentrasi\ digunakan} = \frac{2{,}01-2}{2} \times 100 = 0{,}70$

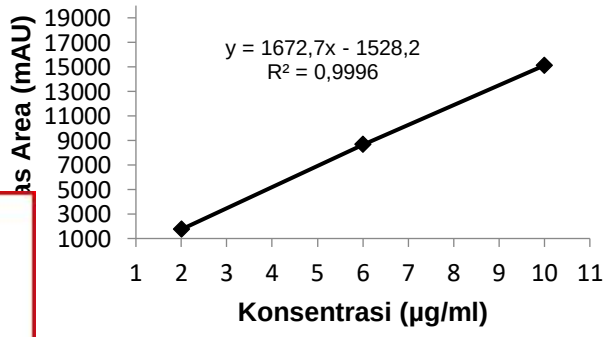
Lampiran 4. Grafik kurva baku akurasi presisi



Gambar 10. Kurva baku akurasi presisi replikasi 1 antara konsentrasi karbaril (µg/ml) dan luas area (mAU)



Gambar 11. Kurva baku akurasi presisi replikasi 2 antara konsentrasi karbaril (µg/ml) dan luas area (mAU)



a baku akurasi presisi replikasi 3 antara konsentrasi karbaril (µg/ml) dan luas area (mAU)

Optimization Software:
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CURRICULUM VITAE

A. Data Pribadi

1. Nama : Aulia Ramadhani Achmar
2. Tempat, tgl. Lahir : Bulukumba, 20 Desember 1998
3. Alamat : Griya Harapan Andi Tonro 4 Blok G9
4. Kewarganegaraan : Warga Negara Indonesia

B. Riwayat Pendidikan

1. Tamat SD Tahun 2011 di SD Negeri 2 Terang-Terang Bulukumba
2. Tamat SMP Tahun 2014 di SMP Negeri 1 Bulukumba
3. Tamat SMA Tahun 2017 di SMA Negeri 1 Bulukumba

C. Pekerjaan dan Riwayat Pekerjaan

- Jenis pekerjaan : -
- NIP atau identitas lain (NIK) : -
- Pangkat/Jabatan : -

D. Karya Ilmiah yang telah dipublikasikan :

-

E. Makalah pada Seminar/Konferensi Ilmiah Nasional dan Internasional :

-

Optimization Software:
www.balesio.com