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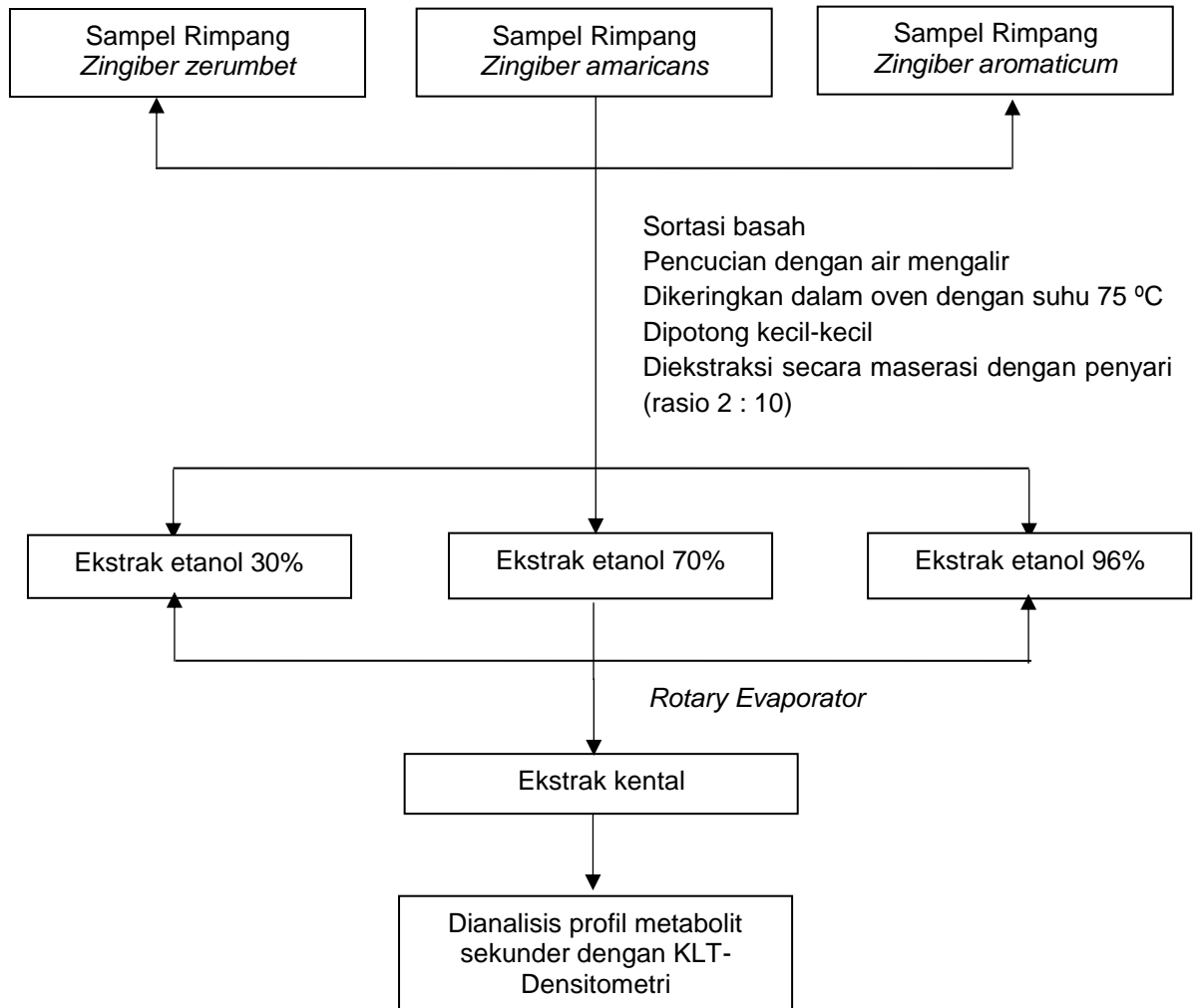
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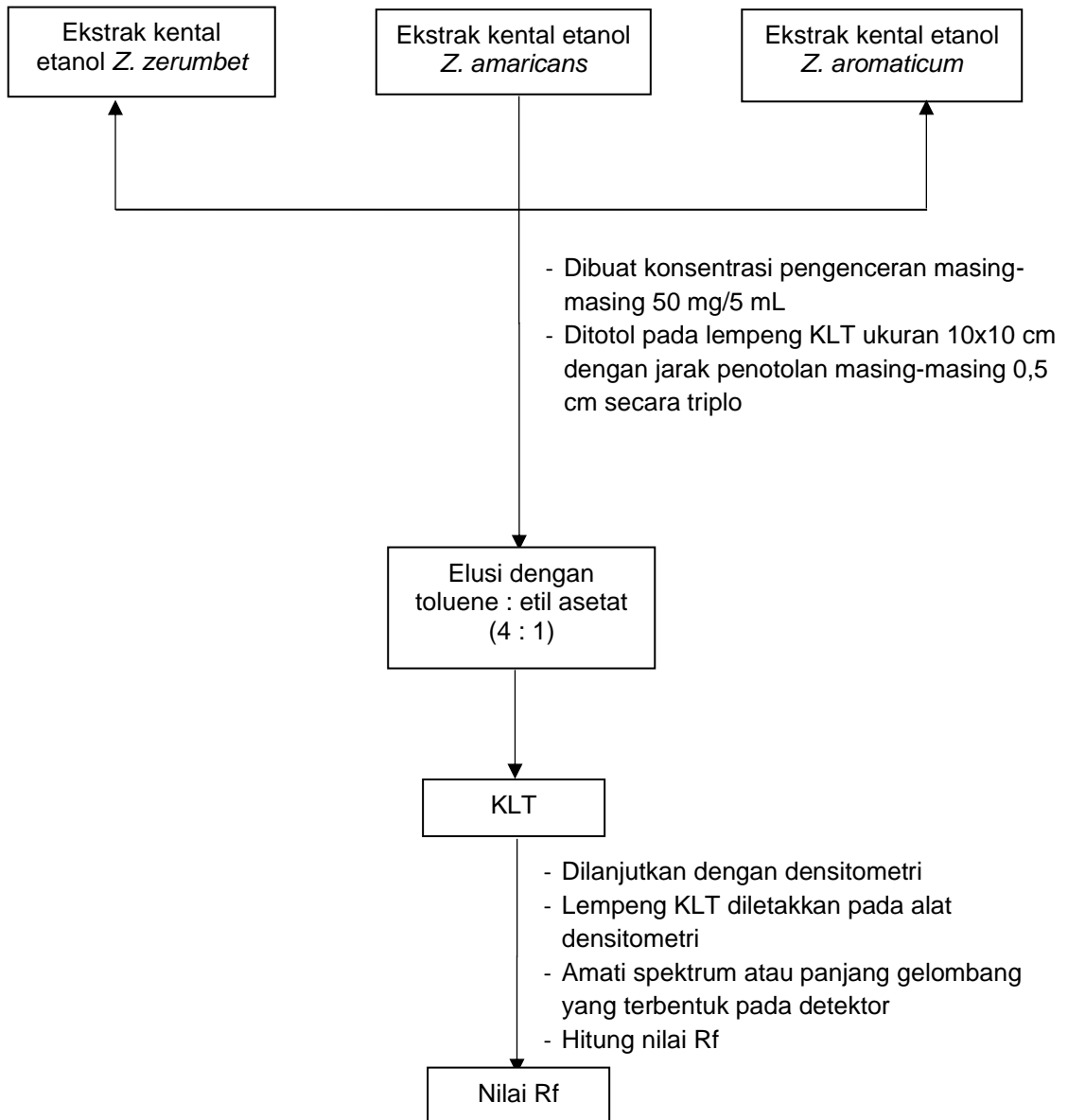
Lampiran

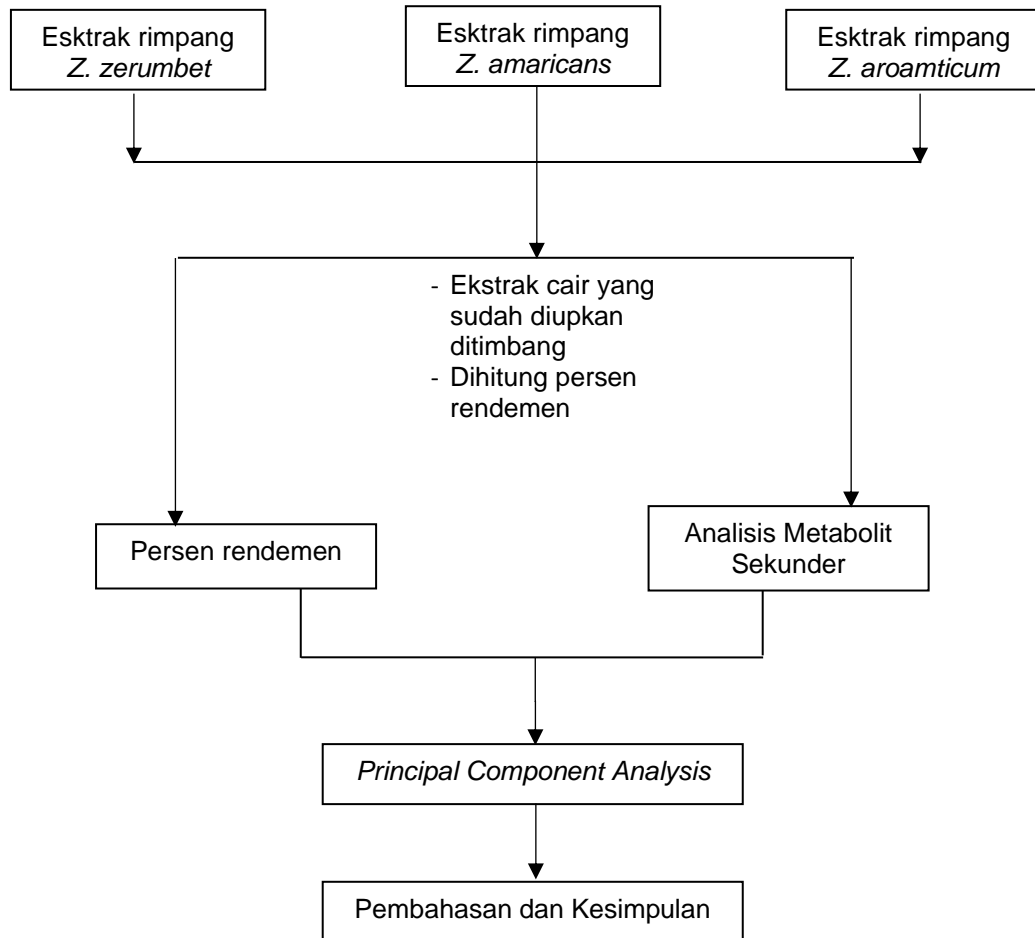
Lampiran 1. Skema Kerja Penelitian

Lampiran 1.1 Ekstraksi



Lampiran 1.2 KLT-Densitometri



Lampiran 1.3 Perhitungan % Rendemen dan Analisis *Principal Component Analysis*

Lampiran 2. Perhitungan Persen Rendemen Hasil Ekstraksi dengan Maserasi

Rendemen Ekstrak Lempuyang Gajah

LG 1 30%

Bobot simplisia = 20.0556 g
 Bobot cawan kosong = 107.5174 g
 Bobot cawan + ekstrak = 108.6181 g
 Berat ekstrak rimpang L. Gajah = 108.6181 - 107.5174 = 1.1007 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.1007}{20.0556} \times 100 \% = 5.48\%$$

LG 1 30%

Bobot simplisia = 20.0650 g
 Bobot cawan kosong = 178.9121 g
 Bobot cawan + ekstrak = 181.0732 g
 Berat ekstrak rimpang L. Gajah = 181.0732 - 178.9121 = 2.1611 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.1611}{20.0650} \times 100 \% = 10.77\%$$

LG 1 30%

Bobot simplisia = 20.1114 g
 Bobot cawan kosong = 168.5766 g
 Bobot cawan + ekstrak = 170.5869 g
 Berat ekstrak rimpang L. Gajah = 170.5869 - 168.5766 = 2.0103 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.0103}{20.1114} \times 100 \% = 9.99\%$$

LG 2 70%

Bobot simplisia = 20.0445 g
 Bobot cawan kosong = 125.6663 g
 Bobot cawan + ekstrak = 126.8871 g
 Berat ekstrak rimpang L. Gajah = 126.8871 - 125.6663 = 1.2208 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.2208}{20.0445} \times 100 \% = 6.09\%$$

LG 2 70%

$$\text{Bobot simplisia} = 20.0230 \text{ g}$$

$$\text{Bobot cawan kosong} = 125.7147 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 127.1952 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Gajah} = 127.1952 - 125.7147 = 1.4805 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.4805}{20.0230} \times 100 \% = 7.39\%$$

LG 2 70%

$$\text{Bobot simplisia} = 20.0125 \text{ g}$$

$$\text{Bobot cawan kosong} = 121.5668 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 122.9678 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Gajah} = 122.9678 - 121.5668 = 1.4010 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.4010}{20.0125} \times 100 \% = 7.00\%$$

LG 3 96%

$$\text{Bobot simplisia} = 20.0560 \text{ g}$$

$$\text{Bobot cawan kosong} = 125.3308 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 126.2813 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Gajah} = 126.2813 - 125.3308 = 0.9505 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{0.9505}{20.0560} \times 100 \% = 4.73\%$$

LG 3 96%

$$\text{Bobot simplisia} = 20.0180 \text{ g}$$

$$\text{Bobot cawan kosong} = 121.4859 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 122.5861 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Gajah} = 122.5861 - 121.4859 = 1.1002 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.1002}{20.0180} \times 100 \% = 5.49\%$$

LG 3 96%

$$\text{Bobot simplisia} = 20.0771 \text{ g}$$

$$\text{Bobot cawan kosong} = 178.9127 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 180.1439 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Gajah} = 180.1439 - 178.9127 = 1.2312 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.2312}{20.0771} \times 100 \% = 6.13\%$$

Rendemen Ekstrak Lempuyang Emprit**LE 1 30%**

$$\text{Bobot simplisia} = 20.0711 \text{ g}$$

$$\text{Bobot cawan kosong} = 168.0504 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 169.2716 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Emprit} = 169.2716 - 168.0504 = 1.2212 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.2212}{20.0711} \times 100 \% = 6.08\%$$

LE 1 30%

$$\text{Bobot simplisia} = 20.1029 \text{ g}$$

$$\text{Bobot cawan kosong} = 166.5239 \text{ g}$$

$$\text{Bobot cawan + ekstrak} = 167.8341 \text{ g}$$

$$\text{Berat ekstrak rimpang L. Emprit} = 167.8341 - 166.5239 = 1.3102 \text{ g}$$

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.3102}{20.1029} \times 100 \% = 6.51\%$$

LE 1 30%

$$\text{Bobot simplisia} = 20.1191 \text{ g}$$

$$\text{Bobot cawan kosong} = 179.6251 \text{ g}$$

$$\begin{aligned} \text{Bobot cawan + ekstrak} &= 180.8363 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 180.8363 - 179.6251 = 1.2112 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.2112}{20.1191} \times 100 \% = 6.02\% \end{aligned}$$

LE 2 70%

$$\begin{aligned} \text{Bobot simplisia} &= 20.0682 \text{ g} \\ \text{Bobot cawan kosong} &= 125.0319 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 126.1327 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 126.1327 - 125.0319 = 1.1008 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.1008}{20.0682} \times 100 \% = 5.48\% \end{aligned}$$

LE 2 70%

$$\begin{aligned} \text{Bobot simplisia} &= 20.0933 \text{ g} \\ \text{Bobot cawan kosong} &= 125.0319 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 122.6678 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 125.0319 - 125.0319 = 1.2601 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.2601}{20.0933} \times 100 \% = 6.27\% \end{aligned}$$

LE 2 70%

$$\begin{aligned} \text{Bobot simplisia} &= 20.0248 \text{ g} \\ \text{Bobot cawan kosong} &= 124.9916 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 126.3820 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 126.3820 - 124.9916 = 1.3904 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.3904}{20.0248} \times 100 \% = 6.94\% \end{aligned}$$

LE 3 96%

$$\begin{aligned} \text{Bobot simplisia} &= 20.1192 \text{ g} \\ \text{Bobot cawan kosong} &= 129.0849 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Bobot cawan + ekstrak} &= 130.1055 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 130.1055 - 129.0849 = 1.0206 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.0206}{20.1192} \times 100 \% = 5.07\% \end{aligned}$$

LE 3 96%

$$\begin{aligned} \text{Bobot simplisia} &= 20.0301 \text{ g} \\ \text{Bobot cawan kosong} &= 121.9257 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 123.1067 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 123.1067 - 121.9257 = 1.1810 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.1810}{20.0301} \times 100 \% = 5.89\% \end{aligned}$$

LE 3 96%

$$\begin{aligned} \text{Bobot simplisia} &= 20.1535 \text{ g} \\ \text{Bobot cawan kosong} &= 122.0175 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 123.3922 \text{ g} \\ \text{Berat ekstrak rimpang L. Emprit} &= 123.3922 - 122.0175 = 1.3747 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.3747}{20.1535} \times 100 \% = 6.82\% \end{aligned}$$

Rendemen Ekstrak Lempuyang Wangi**LW 1 30%**

$$\begin{aligned} \text{Bobot simplisia} &= 20.1041 \text{ g} \\ \text{Bobot cawan kosong} &= 121.6679 \text{ g} \\ \text{Bobot cawan + ekstrak} &= 123.4682 \text{ g} \\ \text{Berat ekstrak rimpang L. Wangi} &= 123.4682 - 121.6679 = 1.8003 \text{ g} \\ \% \text{ Rendemen} &= \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \% \\ \% \text{ Rendemen} &= \frac{1.8003}{20.1041} \times 100 \% = 8.95\% \end{aligned}$$

LW 1 30%

Bobot simplisia = 20.0522 g

Bobot cawan kosong = 121.5888 g

Bobot cawan + ekstrak = 123.5890 g

Berat ekstrak rimpang L. Wangi = 123.5890 - 121.5888 = 2.0002 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.0002}{20.0522} \times 100 \% = 9.97\%$$

LW 1 30%

Bobot simplisia = 20.0664 g

Bobot cawan kosong = 179.6830 g

Bobot cawan + ekstrak = 181.6729 g

Berat ekstrak rimpang L. Wangi = 181.6729 - 179.6830 = 1.9899 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.9899}{20.0664} \times 100 \% = 9.91\%$$

LW 2 70%

Bobot simplisia = 20.0122 g

Bobot cawan kosong = 121.7749 g

Bobot cawan + ekstrak = 123.8454 g

Berat ekstrak rimpang L. Wangi = 123.8454 - 121.7749 = 2.0705 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.0705}{20.0122} \times 100 \% = 10.34\%$$

LW 2 70%

Bobot simplisia = 20.0283 g

Bobot cawan kosong = 121.3461 g

Bobot cawan + ekstrak = 123.5076 g

Berat ekstrak rimpang L. Wangi = 123.5076 - 121.3461 = 2.1615 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.1615}{20.0283} \times 100 \% = 10.79\%$$

LW 2 70%

Bobot simplisia = 20.0174 g

Bobot cawan kosong = 124.7791 g

Bobot cawan + ekstrak = 127.0497 g

Berat ekstrak rimpang L. Wangi = 127.0497 - 124.7791 = 2.2706 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{2.2706}{20.0174} \times 100 \% = 11.34\%$$

LW 3 96%

Bobot simplisia = 20.0411 g

Bobot cawan kosong = 122.2355 g

Bobot cawan + ekstrak = 123.5068 g

Berat ekstrak rimpang L. Wangi = 123.5068 - 122.2355 = 1.2713 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.2713}{20.0411} \times 100 \% = 6.34\%$$

LW 3 96%

Bobot simplisia = 20.0851 g

Bobot cawan kosong = 122.1108 g

Bobot cawan + ekstrak = 124.0111 g

Berat ekstrak rimpang L. Wangi = 124.0111 - 122.1108 = 1.9003 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

$$\% \text{ Rendemen} = \frac{1.9003}{20.0851} \times 100 \% = 9.46\%$$

LW 3 96%

Bobot simplisia = 20.0303 g

Bobot cawan kosong = 122.1472 g

Bobot cawan + ekstrak = 124.3585 g

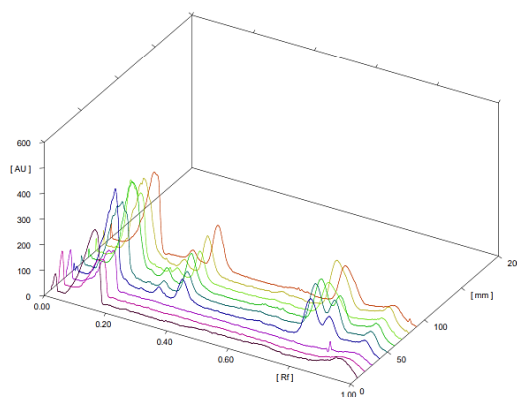
Berat ekstrak rimpang L. Wangi = 124.3585 - 122.1472 = 2.2113 g

$$\% \text{ Rendemen} = \frac{\text{Bobot ekstrak (g)}}{\text{Bobot Simplisia (g)}} \times 100 \%$$

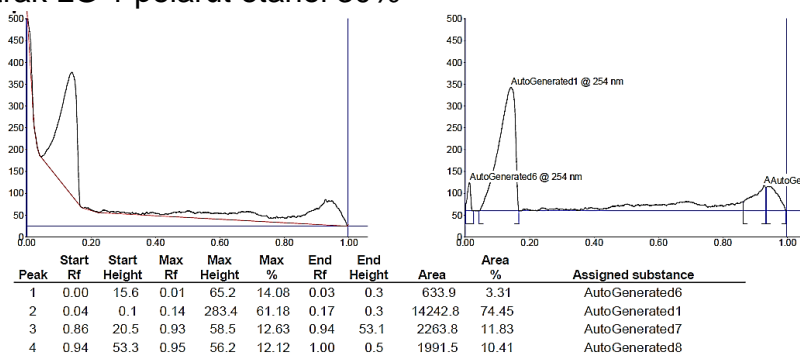
$$\% \text{ Rendemen} = \frac{2.2113}{20.0303} \times 100 \% = 11.03\%$$

Lampiran 3. Data Hasil TLC Scanner

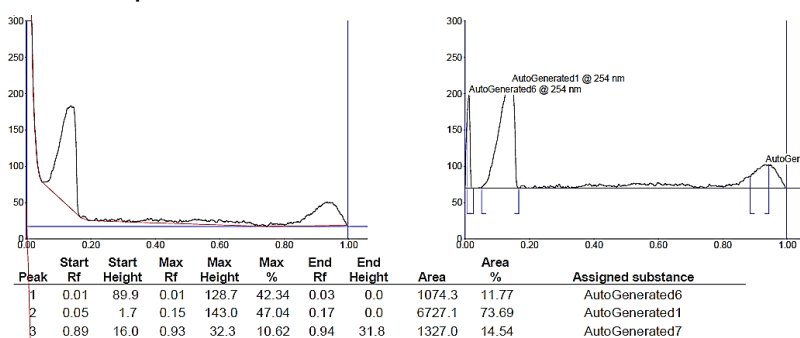
Lampiran 3.1 Data Hasil TLC Scanner Lempuyang Gajah



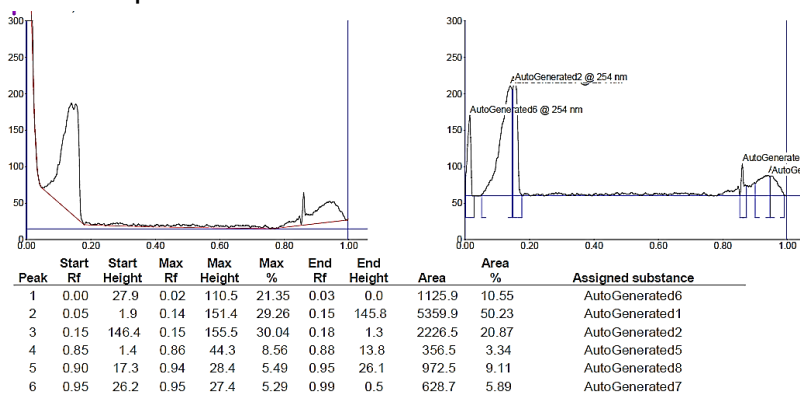
1. Ekstrak LG 1 pelarut etanol 30%



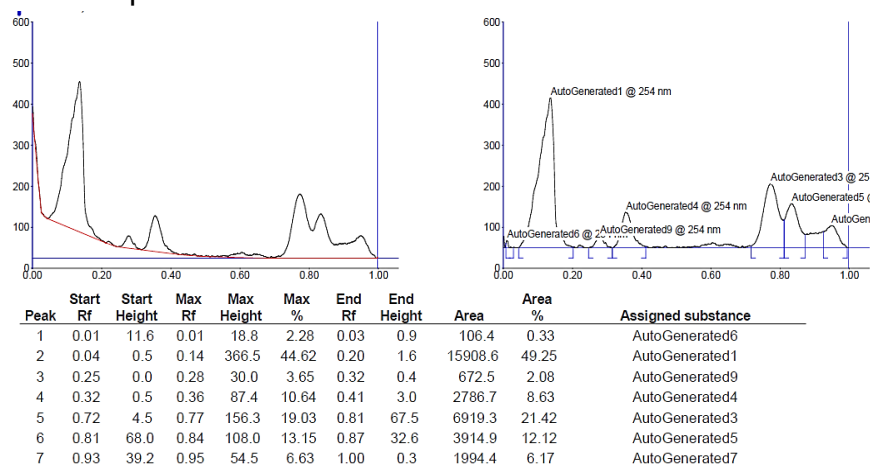
2. Ekstrak LG 1 pelarut etanol 30%



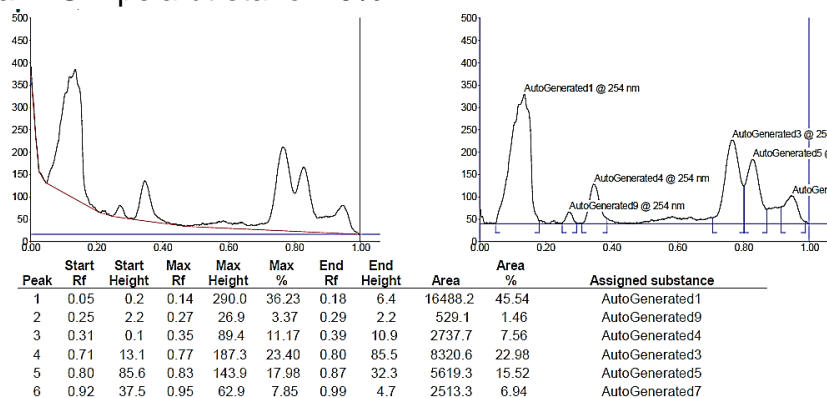
3. Ekstrak LG 1 pelarut etanol 30%



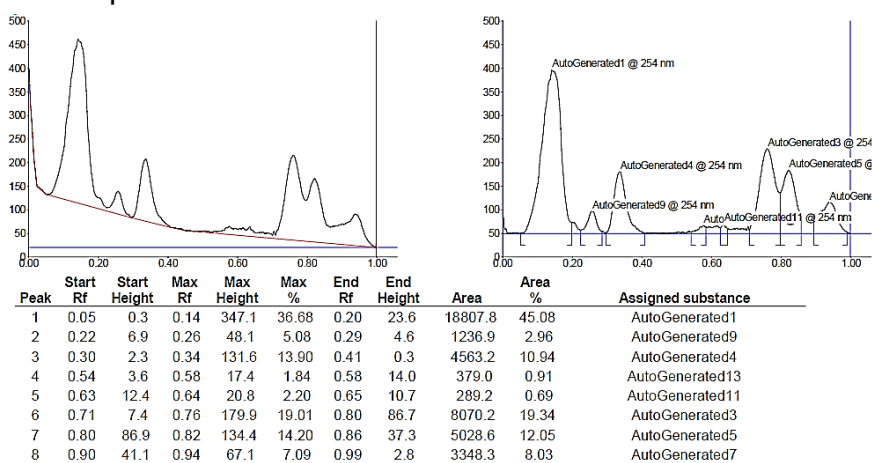
4. Ekstrak LG 2 pelarut etanol 70%



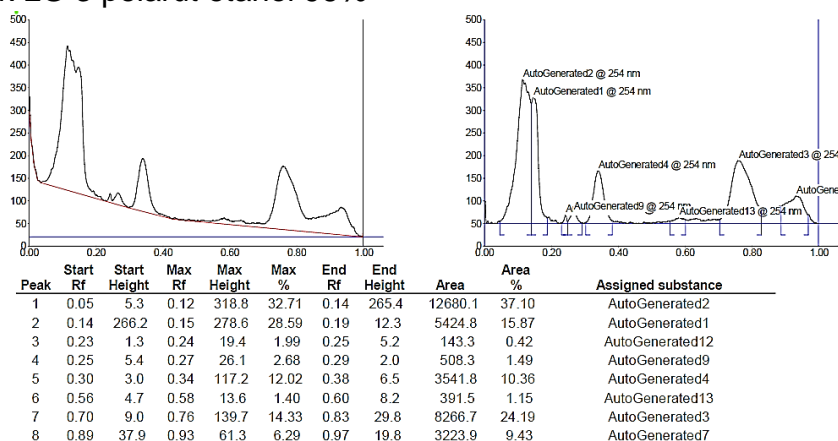
5. Ekstrak LG 2 pelarut etanol 70%



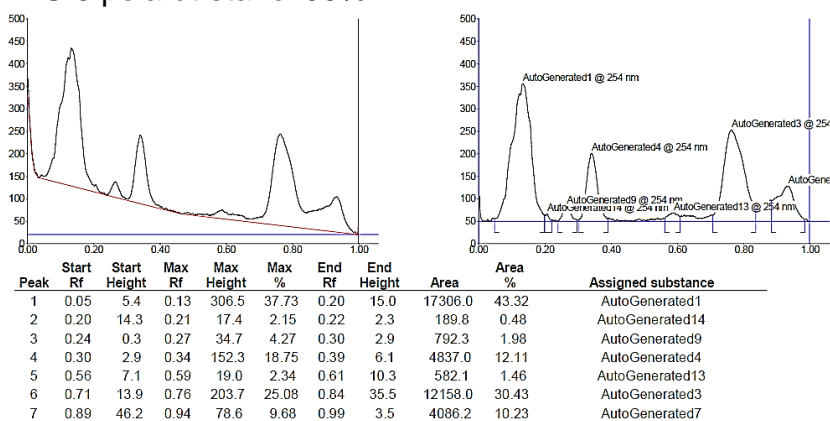
6. Ekstrak LG 2 pelarut etanol 70%



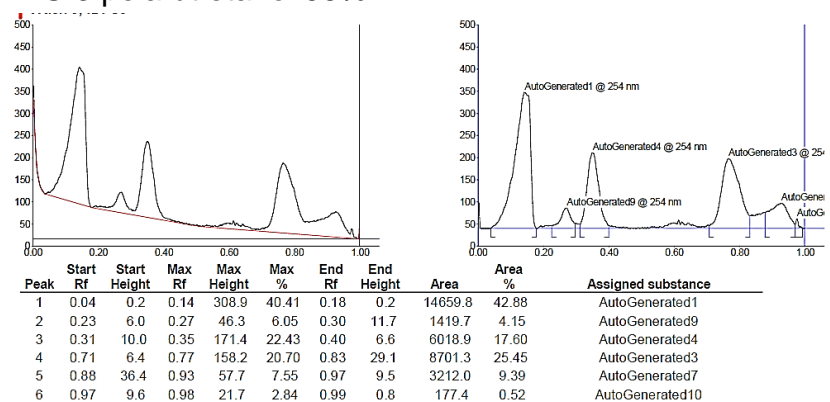
7. Ekstrak LG 3 pelarut etanol 96%



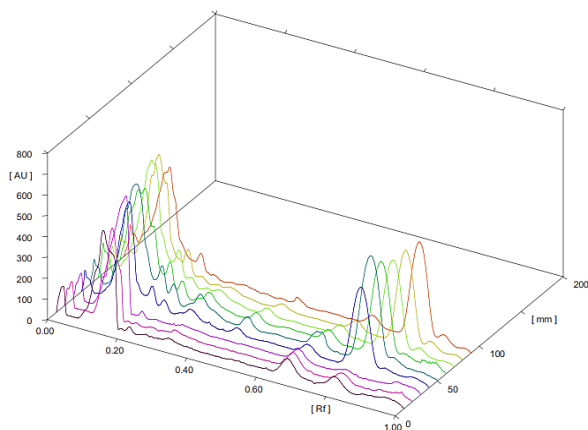
8. Ekstrak LG 3 pelarut etanol 96%



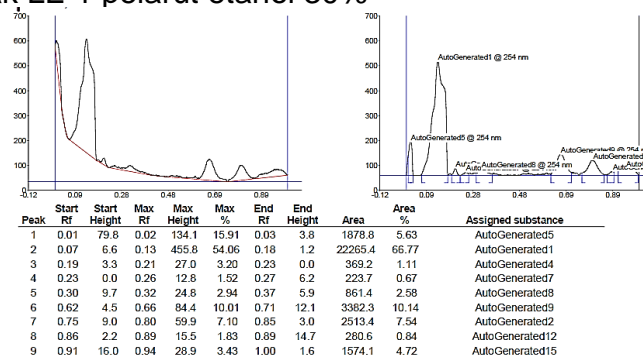
9. Ekstrak LG 3 pelarut etanol 96%



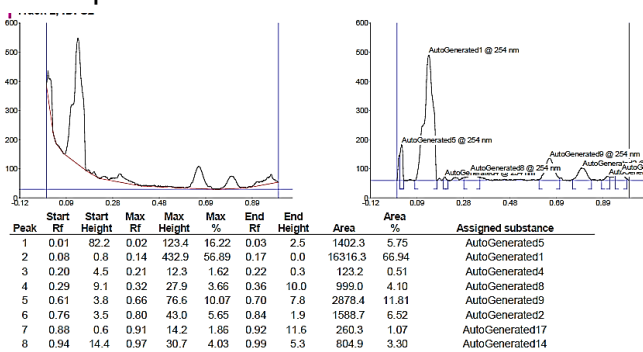
Lampiran 3.2 Data Hasil *TLC Scanner UV 254* Lempuyang Emprit



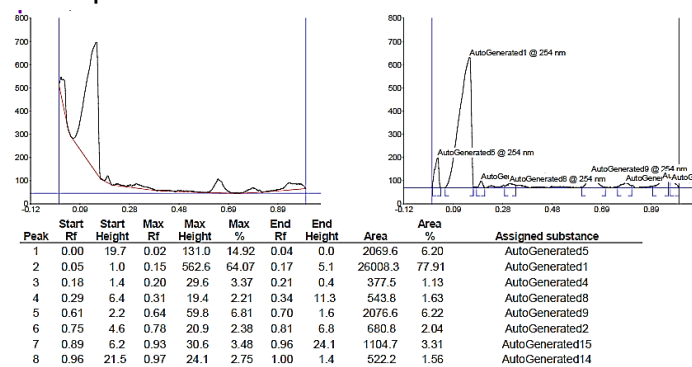
1. Ekstrak LE 1 pelarut etanol 30%



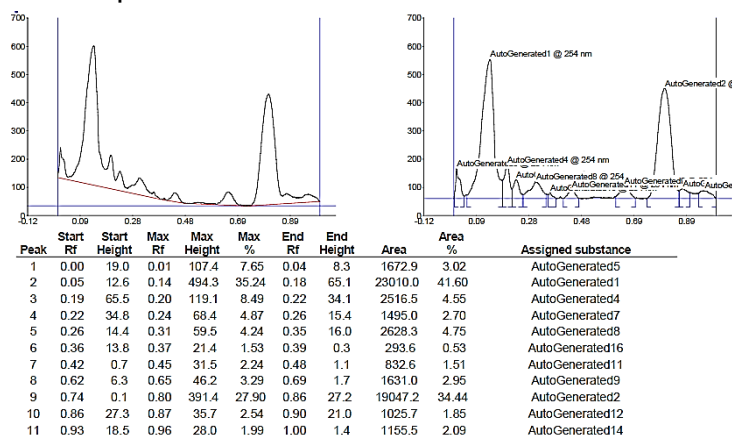
2. Ekstrak LE 1 pelarut etanol 30%



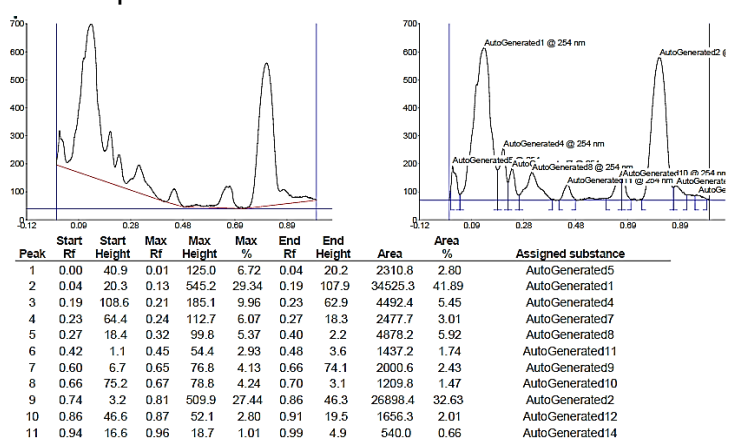
3. Ekstrak LE 1 pelarut etanol 30%



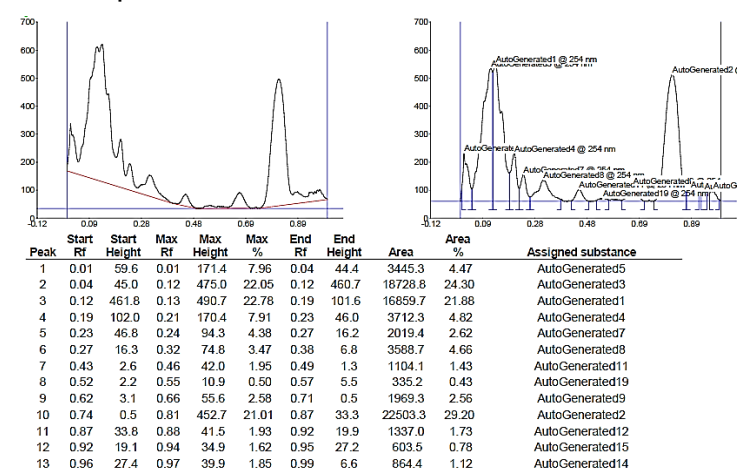
4. Ekstrak LE 2 pelarut etanol 70%



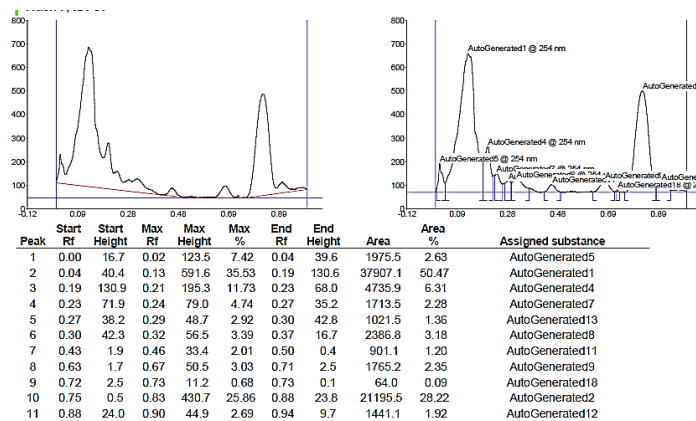
5. Ekstrak LE 2 pelarut etanol 70%



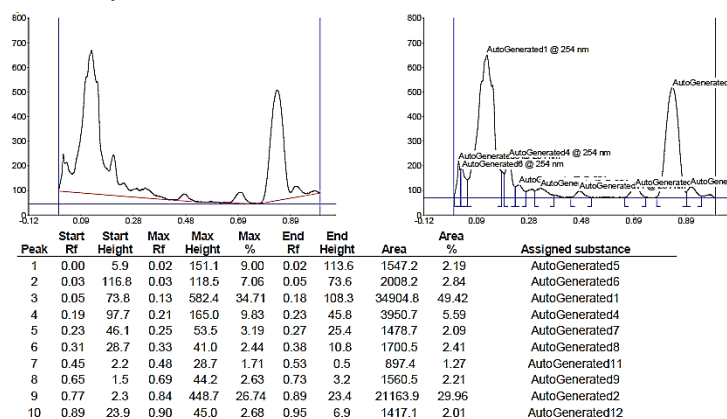
6. Ekstrak LE 2 pelarut etanol 70%



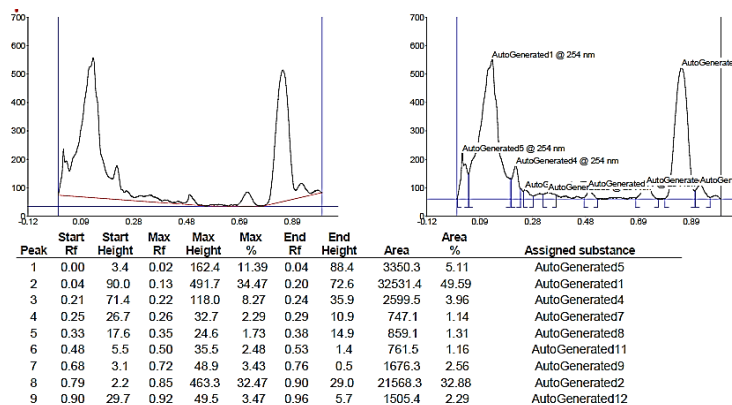
7. Ekstrak LE 3 pelarut etanol 96%



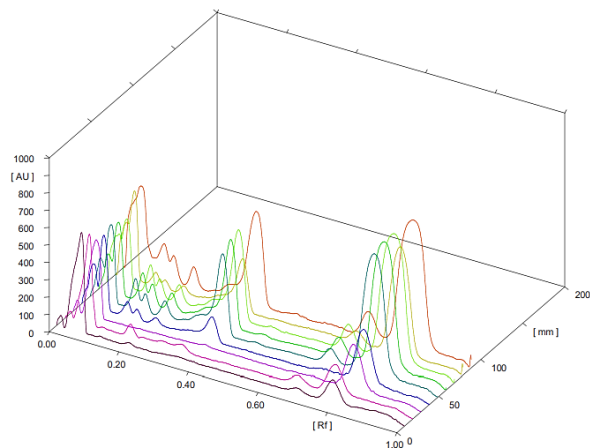
8. Ekstrak LE 3 pelarut etanol 96%



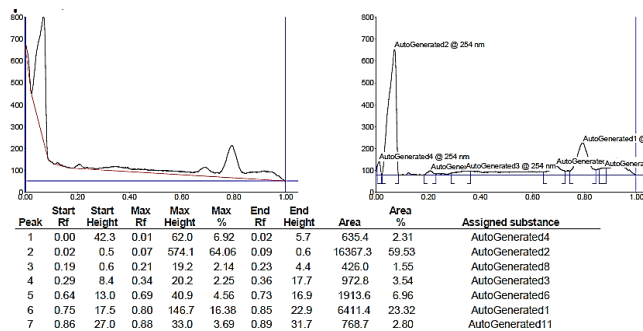
9. Ekstrak LE 3 pelarut etanol 96%



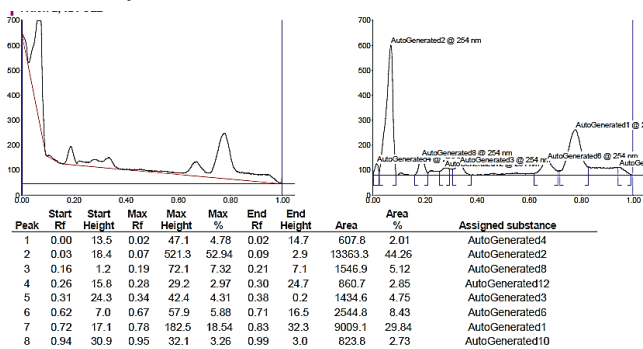
Lampiran 3.3 Data Hasil *TLC Scanner UV 254* Lempuyang Wangi



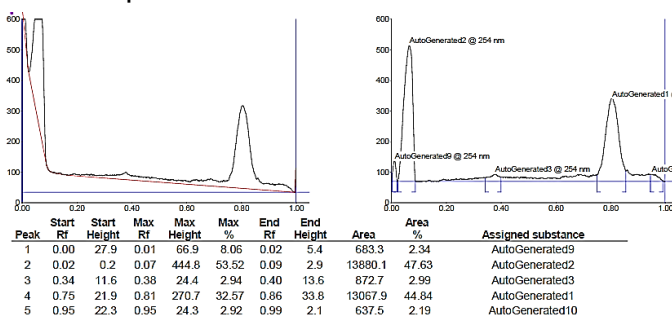
1. Ekstrak LW 1 pelarut etanol 30%



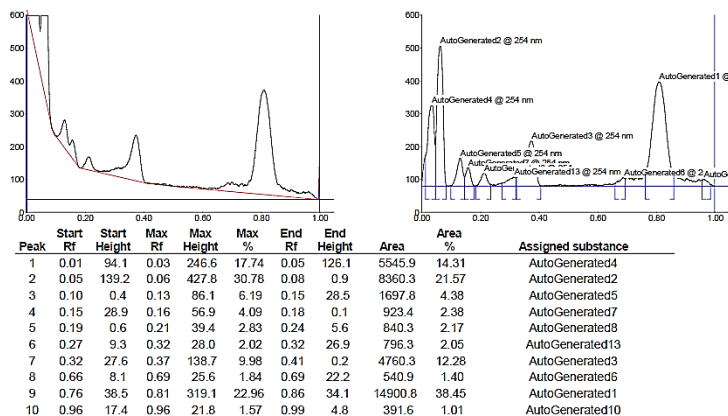
2. Ekstrak LW 1 pelarut etanol 30%



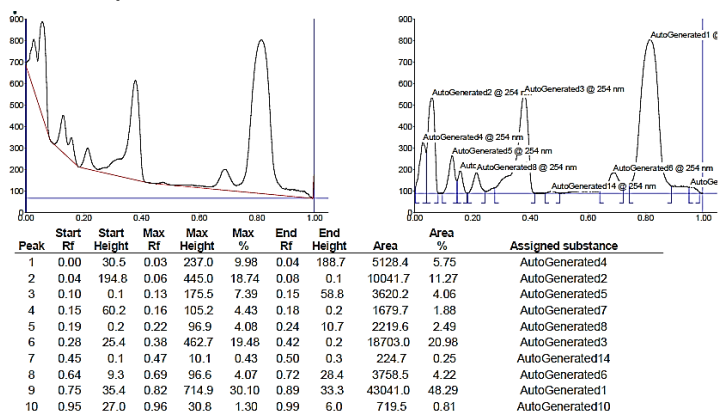
3. Ekstrak LW 1 pelarut etanol 30%



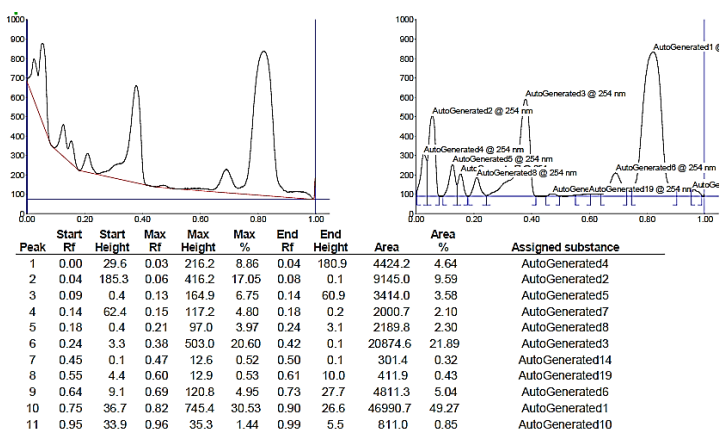
4. Ekstrak LW 2 pelarut etanol 70%



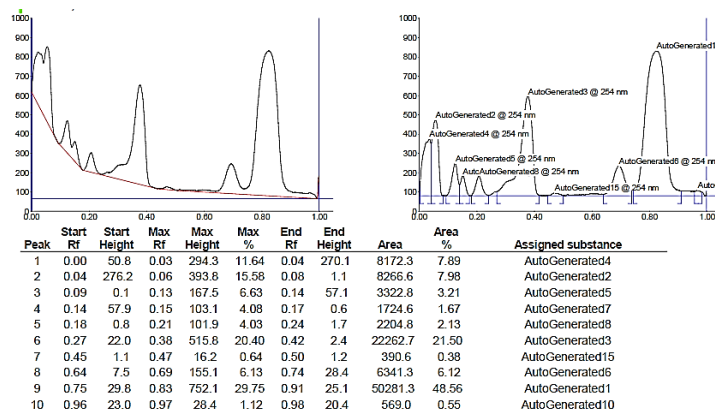
5. Ekstrak LW 2 pelarut etanol 70%



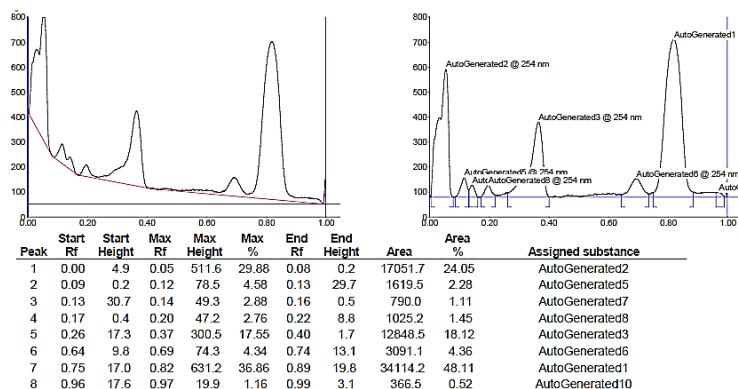
6. Ekstrak LW 2 pelarut etanol 70%



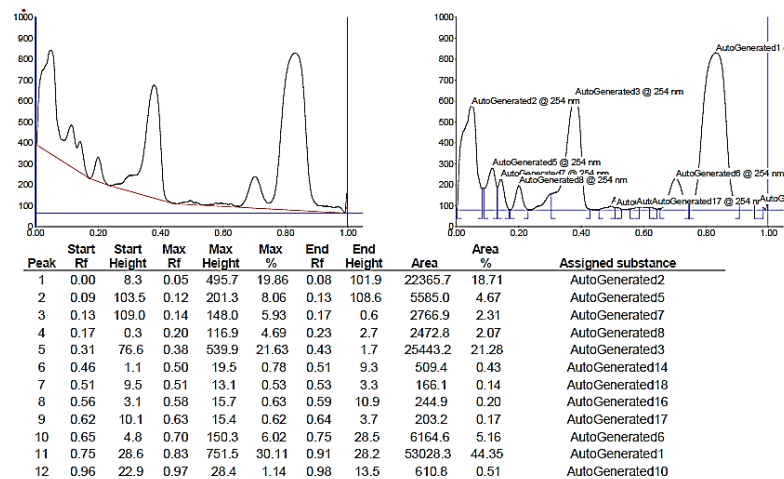
7. Ekstrak LW 3 pelarut etanol 96%



8. Ekstrak LW 3 pelarut etanol 96%



9. Ekstrak LW 3 pelarut etanol 96%



Lampiran 4. Dokumentasi Kegiatan



Gambar 1. Penyiapan Sampel



Gambar 2. Pencucian Sampel



Gambar 3. Perajangan Sampel



Gambar 4. Pengeringan Sampel



Gambar 5. Penggilingan Simplisia



Gambar 6. Penimbangan Simplisia



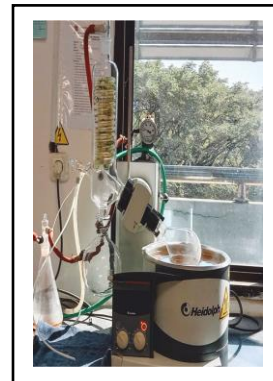
Gambar 7. Proses Ekstraksi Maserasi



Gambar 8. Penyarian I Hasil Ekstraksi



Gambar 9. Penyarian II Hasil Ekstraksi



Gambar 10. Penguapan Ekstrak Cair Menggunakan Rotary Evaporator



Gambar 11. Timbang Wadah Kosong



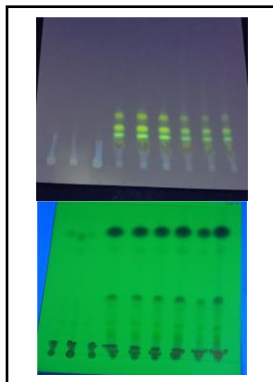
Gambar 12. Penguapan Ekstrak Dalam Eksikator



Gambar 13. Penotolan Pada Lempeng KLT



Gambar 14. Proses Elusi Lempeng KLT



Gambar 15. Pengamatan di bawah Sinar UV 254 dan UV 366



Gambar 16. Analisis Lempeng KLT dengan Alat TLC Scanner