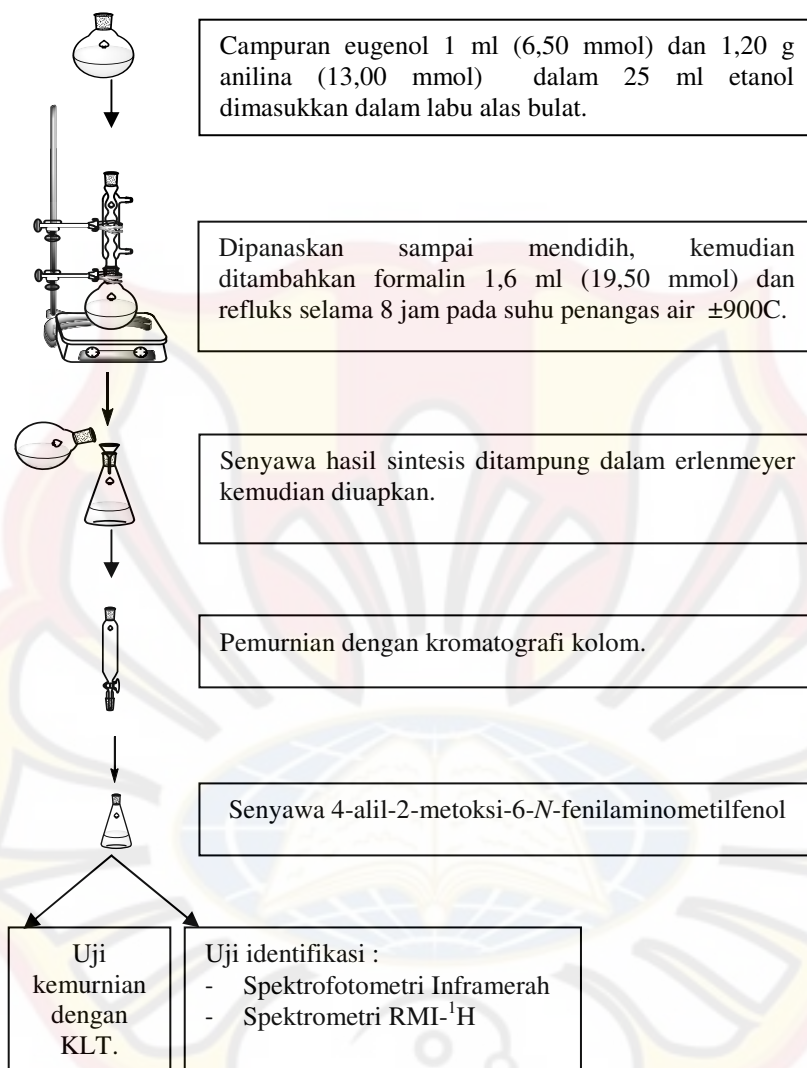


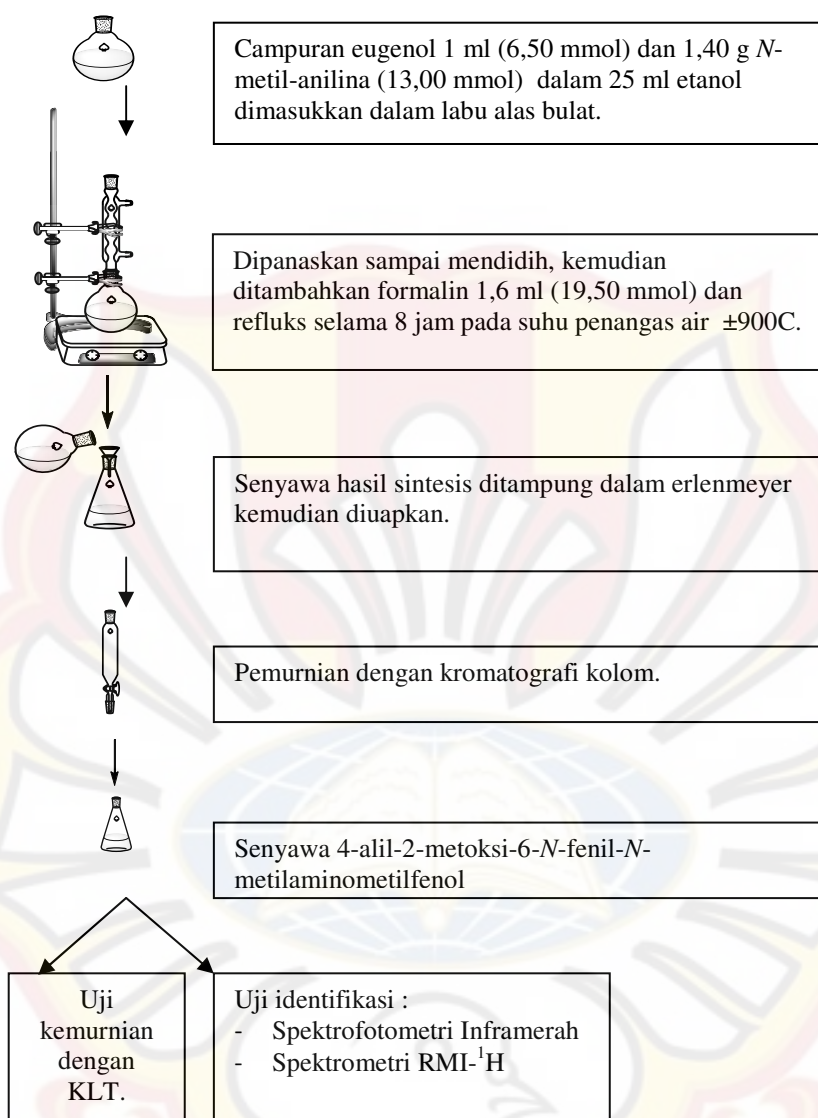
LAMPIRAN A

SKEMA SINTESIS 4-ALIL-2-METOKSI-6-N-FENILAMINOMETIL FENOL



LAMPIRAN B

SKEMA SINTESIS 4-ALIL-2-METOKSI-6-N-FENIL-N-METIL AMINOMETILFENOL



LAMPIRAN C
**PERHITUNGAN MOL, BERAT DAN VOLUME EUGENOL,
AMINA DAN FORMALIN**

Eugenol

$$\rho = 1,067 \text{ g/cm}^3$$

$$\text{BM} = 164,20$$

$$\rho = \frac{m}{v}$$

$$1,067 = \frac{m}{1}$$

$$m = 1,067 \text{ gram}$$

$$n = \frac{m}{\text{BM}}$$

$$= \frac{1,067}{164,20}$$

$$= 6,5 \times 10^{-3} \text{ mol} = 6,50 \text{ mmol}$$

Formalin

$$\% \text{ kadar} = 37 \% \text{ b/v}$$

$$= \frac{37 \text{ gram}}{100 \text{ ml}} = \frac{1,23 \text{ mol}}{100 \text{ ml}}$$

$$= 12,3 \text{ mmol / ml}$$

Formalin yang dibutuhkan

$$= 3 \times 6,50 = 19,50 \text{ mmol}$$

$$v = 19,50 / 12,30$$

$$= 1,60 \text{ ml}$$

Anilina

$$\rho = 1,022 \text{ g / cm}^3$$

$$\text{BM} = 93,13$$

Anilina yang dibutuhkan

$$= 2 \times 6,50 = 13,00 \text{ mmol}$$

$$m = 13,00 \times 93,13$$

$$= 1210,69 \text{ mg} = 1,21 \text{ gram}$$

$$v = \frac{1,21}{1,022}$$

$$= 1,20 \text{ ml}$$

N - metilanilina

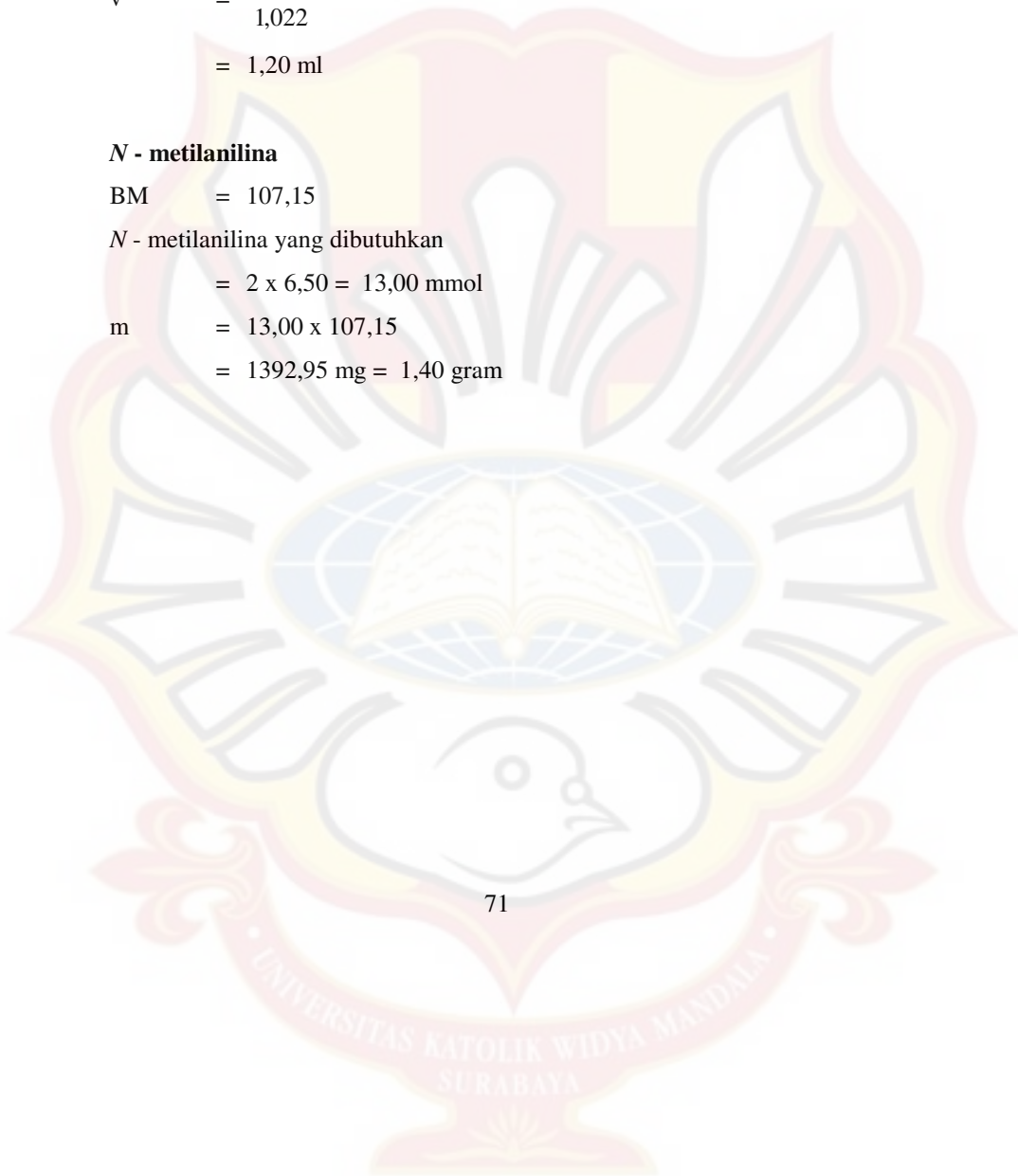
$$\text{BM} = 107,15$$

N - metilanilina yang dibutuhkan

$$= 2 \times 6,50 = 13,00 \text{ mmol}$$

$$m = 13,00 \times 107,15$$

$$= 1392,95 \text{ mg} = 1,40 \text{ gram}$$



LAMPIRAN D
PERHITUNGAN BERAT TEORITIS 6-ALIL-8-METOKSI-3-FENIL-1,3-BENZOKSAZIN

- **Eugenol**
mmol = 6,5 mmol (Lampiran C)
- **Formalin**
mmol = 19,5 mmol (Lampiran C)
- **Anilina**
mmol = 13 mmol (Lampiran C)



6,5 mmol 19,5 mmol 13 mmol 6,5 mmol

Dalam sintesis masih terkandung eugenol, sehingga perbandingan mol dihitung berdasarkan integrasi pada spektra ¹H-NMR

$$\begin{aligned} \text{Perbandingan integrasi Eugenol : Produk} &= 9 : 41 \\ &= 1 : 4,5 \end{aligned}$$

- **6-alil-8-metoksi-3-fenil-1,3-benzoksazin**

(BM = 281,14)

$$\text{mmol teoritis} = \frac{4,5}{5,5} \times 6,5 \text{ mmol} = 5,3 \text{ mmol}$$

$$\text{berat teoritis} = 5,3 \times 281,14 = 1490 \text{ mgram} = 1,49 \text{ gram}$$

LAMPIRAN E
PERHITUNGAN PERSENTASE HASIL SINTESIS 6-ALIL-8-METOKSI-3-FENIL-1,3-BENZOKSAZIN

Berat molekul 6-alil-8-metoksi-3-fenil-1,3-benzoksazin = 281,14

mmol teoritis 6-alil-8-metoksi-3-fenil-1,3-benzoksazin = 5,3 mmol

- **Sintesis I**

berat praktis = 920 mg (dihitung dari berat total praktis 1,13 g yang dikonversi dengan perbandingan integrasi eugenol : produk = 1 : 4,5)

$$\text{mmol praktis} = \frac{920}{281,14} = 3,27 \text{ mmol}$$

$$\text{persentase hasil} = 3,27 \times \frac{100\%}{5,30} = 61,7\%$$

- **Sintesis II**

berat praktis = 900 mg (dihitung dari berat total praktis 1,10 g yang dikonversi dengan perbandingan integrasi eugenol : produk = 1 : 4,5)

$$\text{mmol praktis} = \frac{900}{281,14} = 3,20 \text{ mmol}$$

$$\text{persentase hasil} = \frac{3,20 \times 100\%}{5,30} = 60,4\%$$

- **Sintesis III**

berat praktis = 890 mg (dihitung dari berat total praktis 1,09 g yang dikonversi dengan perbandingan integrasi eugenol : produk = 1 : 4,5)

$$\text{mmol praktis} = \frac{890}{281,14} = 3,17 \text{ mmol}$$

$$\text{persentase hasil} = \frac{3,17 \times 100\%}{5,30} = 59,8\%$$

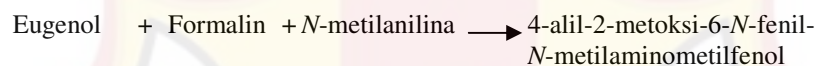
$$\text{Rata-rata persentase hasil} = \frac{61,7 + 60,4 + 59,8}{3} = 60,6\%$$



LAMPIRAN F

PERHITUNGAN BERAT TEORITIS 4-ALIL-2-METOKSI-6-N-FENIL-N-METILAMINOMETILFENOL

- **Eugenol**
mmol = 6,5 mmol (Lampiran C)
- **Formalin**
mmol = 19,5 mmol (Lampiran C)
- **N-metilanilina**
mmol = 13 mmol (Lampiran C)



6,5 mmol 19,5 mmol 13 mmol 6,5 mmol

- **4-alil-2-metoksi-6-N-fenil-N-metilaminometilfenol** (BM = 283,36)
mmol teoritis = 6,50 mmol
berat teoritis = 6,50 x 283,36 = 1840 mgram = 1,84 gram

LAMPIRAN G

PERHITUNGAN PERSENTASE HASIL SINTESIS 4-ALIL-2-METOKSI-6-N-FENIL-N-METILAMINOMETILFENOL

Berat molekul 4-alil-2-metoksi-6-*N*-fenil-*N*-metilaminometilfenol = 283,36
mmol teoritis 4-alil-2-metoksi-6-*N*-fenil-*N*-metilaminometilfenol
= 6,50 mmol

- **Sintesis I**

berat praktis = 804 mgram

$$\text{mmol praktis} = \frac{804,5}{283,36} = 2,84 \text{ mmol}$$

$$\text{persentase hasil} = \frac{2,84 \times 100\%}{6,50} = 43,7\%$$

- **Sintesis II**

berat praktis = 770 mgram

$$\text{mmol praktis} = \frac{770}{283,36} = 2,72 \text{ mmol}$$

$$\text{persentase hasil} = \frac{2,72 \times 100\%}{6,50} = 41,8\%$$

- **Sintesis III**

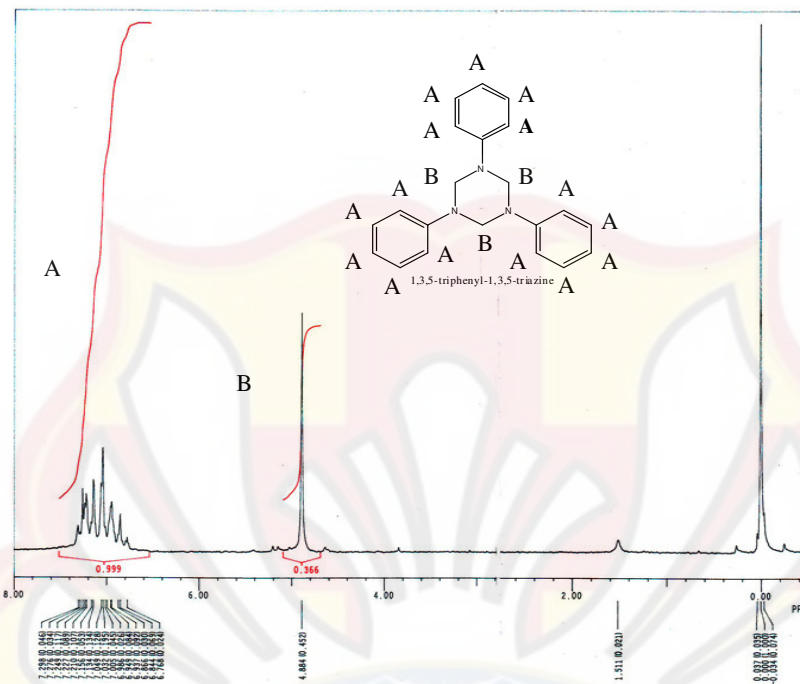
berat praktis = 810 mgram

$$\text{mmol praktis} = \frac{810}{283,36} = 2,86 \text{ mmol}$$

$$\text{persentase hasil} = \frac{2,86 \times 100\%}{6,50} = 44,0\%$$

$$\text{Rata-rata persentase hasil} = \frac{43,7 + 41,8 + 44,0}{3} = 43,2\%$$

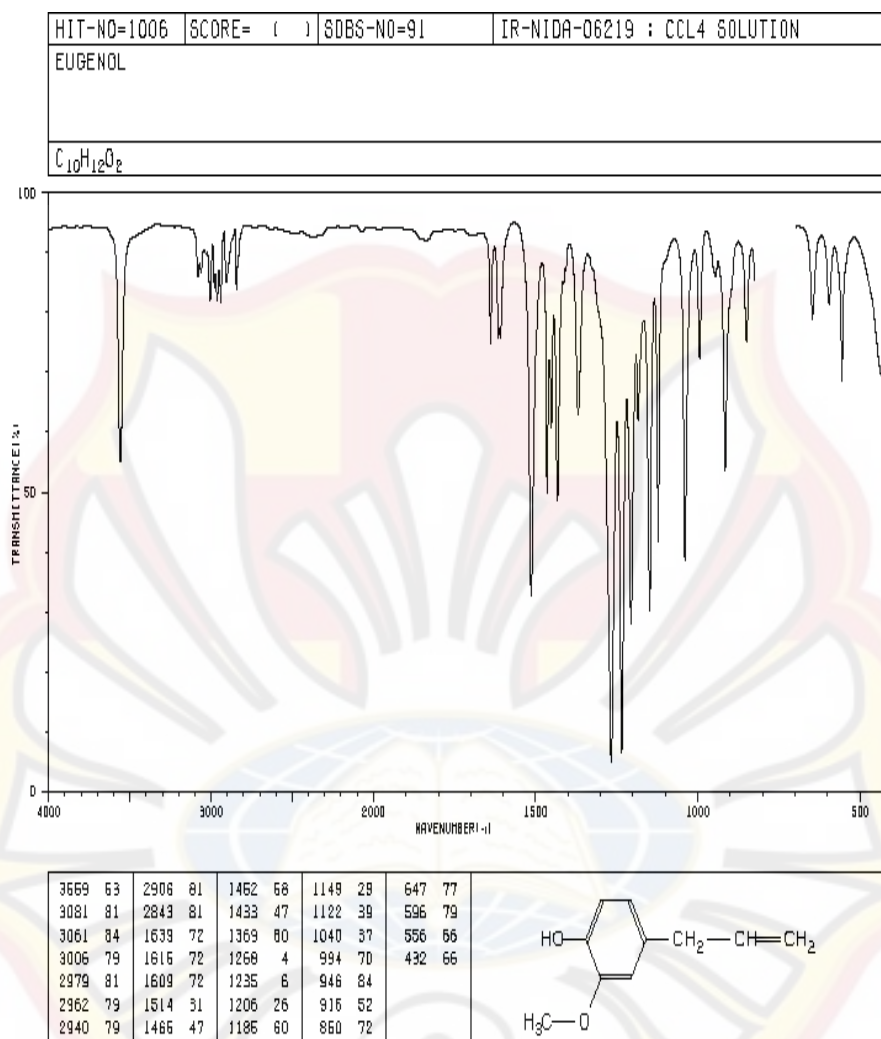
LAMPIRAN H
GAMBAR SPEKTRA ¹H-NMR 1,3,5-TRIFENIL-1,3,5-TRIAZIN



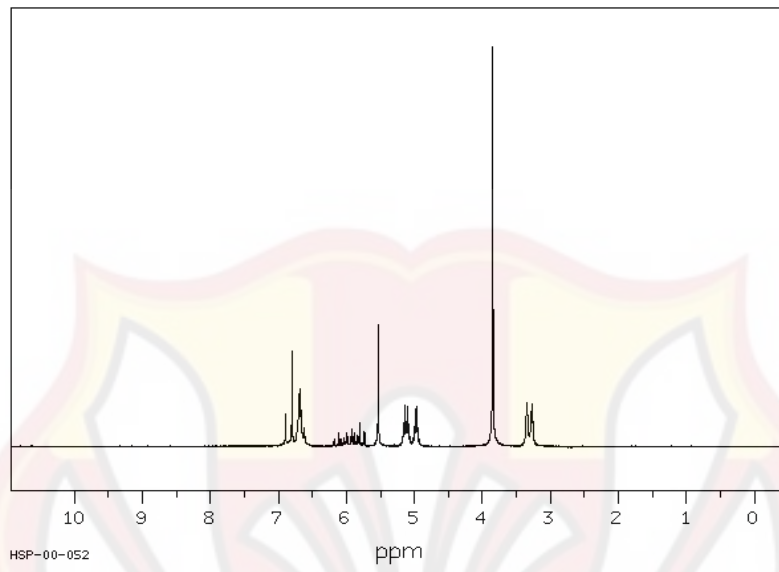
LAMPIRAN I
GAMBAR SUSUNAN ALAT SINTESIS



LAMPIRAN J
GAMBAR SPEKTROFOTOMETRI INFRAMERAH EUGENOL



LAMPIRAN K
GAMBAR SPEKTROMETRI ¹H – NMR EUGENOL



Assign.	Shift(ppm)
A	6.82
B	6.67
C	6.66
D	5.91
E	5.53
F	5.06
G	5.04
J	3.806
K	3.292

$J(B,K) = -0.6\text{HZ}$

