

Lampiran 1

Data Pengamatan

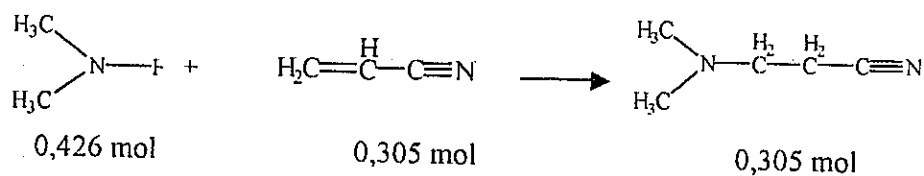
No	Nama reaksi	Perlakuan	Hasil	Keterangan								
1	Sianoetilasi	1. pengadukan 8 jam 2. destilasi	21 ml dimetilamino propionitril (61 %)	-								
2	Metilasi	1. pengadukan 8 jam 2. pencucian dengan dietil eter 3. reksistalisasi dengan etanol-eter (1:2)	7,745 g garam 2-siano- <i>N,N,N</i> -trimetil etanamonium iodida (72 %)	-								
3	Demetilasi	1. refluks 18 jam 2. evaporasi pada suhu 130 °C 3. Penyaringan	0,3485 g dimetil amio propionitril (71 %)	Kristal mengendap setelah evaporasi								
4	Desianoetilasi dan β -eliminasi	1. Refluks 18 jam 2. Pengenceran 4 X HCl standar dan HCl sampel 3. Titrasi 50 ml HCl hasil pengenceran dengan NaOH	<table border="1"> <thead> <tr> <th>$V_{NaOH} * S$</th> <th>$V_{NaOH} * St$</th> </tr> </thead> <tbody> <tr> <td>40 ml</td> <td>44 ml</td> </tr> <tr> <td>41,5 ml</td> <td>43,5 ml</td> </tr> <tr> <td>42,9 ml</td> <td>40,5 ml</td> </tr> </tbody> </table>	$V_{NaOH} * S$	$V_{NaOH} * St$	40 ml	44 ml	41,5 ml	43,5 ml	42,9 ml	40,5 ml	Produk dialirkan kedalam larutan HCl 50 ml, 0,25 M
$V_{NaOH} * S$	$V_{NaOH} * St$											
40 ml	44 ml											
41,5 ml	43,5 ml											
42,9 ml	40,5 ml											

* S : untuk HCl sampel
St : untuk HCl standar

Lampiran 2

Perhitungan

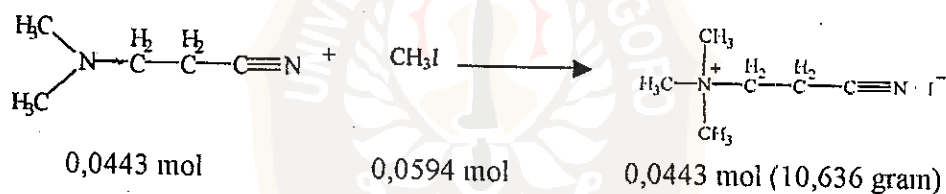
I. Sintesis dimetilamino propionitril



$$\begin{aligned}
 \text{Volume produk} &= 21,50 \text{ ml} \\
 &= 0,191 \text{ mol}
 \end{aligned}$$

$$\begin{aligned}
 \text{Rendemen} &= \frac{0,191}{0,305} \times 100\% \\
 &= 62,62\%
 \end{aligned}$$

II. Sintesis garam 2-siano-*N,N,N*-trimetil etanamonium iodida

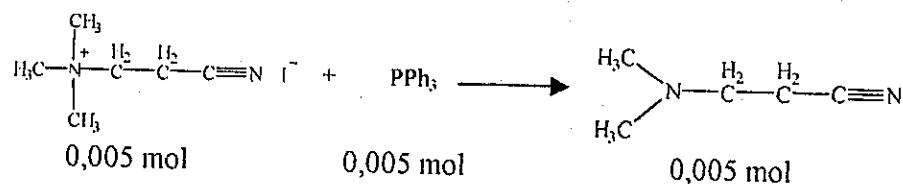


$$\text{Berat garam hasil} = 7,745 \text{ gram}$$

$$\begin{aligned}
 \text{Rendemen} &= \frac{7,745}{10,636} \times 100\% \\
 &= 72,82\%
 \end{aligned}$$

III. Reaksi dekuarternerisasi Garam 2-siano-*N,N,N*-trimetil etanamonium iodida

1. Produk demetilasi



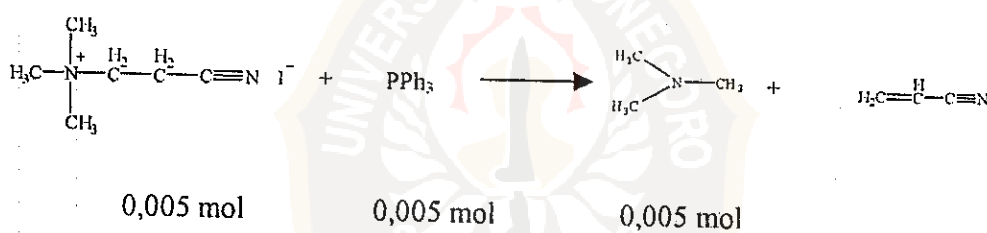
$$\text{Berat produk} = 0,3485 \text{ gram}$$

$$= 3,551 \cdot 10^{-3} \text{ mol}$$

$$\text{Rendemen} = \frac{3,551 \cdot 10^{-3}}{5 \cdot 10^{-3}} \times 100 \%$$

$$= 71,02 \%$$

2. Produk Desianoetilasi dan β -Eliminasi



$$\begin{aligned} V_{\text{NaOH}} \text{ untuk HCl sampel} &= \frac{(40 + 41,5 + 42,9) \text{ ml}}{3} \\ &= 41,46 \text{ ml} \end{aligned}$$

$$\begin{aligned} V_{\text{NaOH}} \text{ untuk HCl standar} &= \frac{(44 + 43,5 + 40,5) \text{ ml}}{3} \\ &= 42,67 \text{ ml} \end{aligned}$$

$$\text{Mol HCl} = \text{Mol NaOH}$$

$$\begin{aligned}\text{Untuk HCl standar} &= 41,46 \text{ ml} \times 0,25 \text{ M} \\ &= 10,365 \text{ mmol}\end{aligned}$$

$$\begin{aligned}\text{Untuk HCl sampel} &= 42,64 \text{ ml} \times 0,25 \text{ M} \\ &= 10,6675 \text{ mmol}\end{aligned}$$

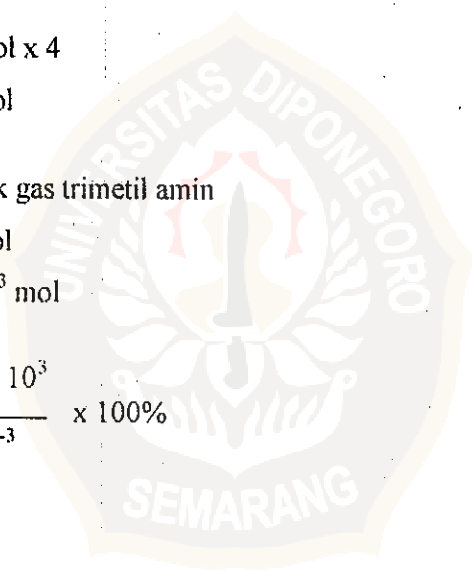
$$\begin{aligned}\Delta \text{HCl} &= (10,6675 - 10,3650) \text{ mmol} \\ &= 0,302 \text{ mmol}\end{aligned}$$

Karena sebelum titrasi dilakukan pengenceran 4 x maka mol sebelum pengenceran

$$\begin{aligned}&= 0,302 \text{ mmol} \times 4 \\ &= 1,208 \text{ mmol}\end{aligned}$$

$$\begin{aligned}\Delta \text{HCl} &= \text{mol produk gas trimetil amin} \\ &= 1,208 \text{ mmol} \\ &= 1,208 \cdot 10^{-3} \text{ mol}\end{aligned}$$

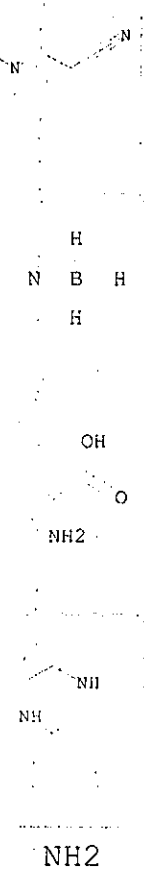
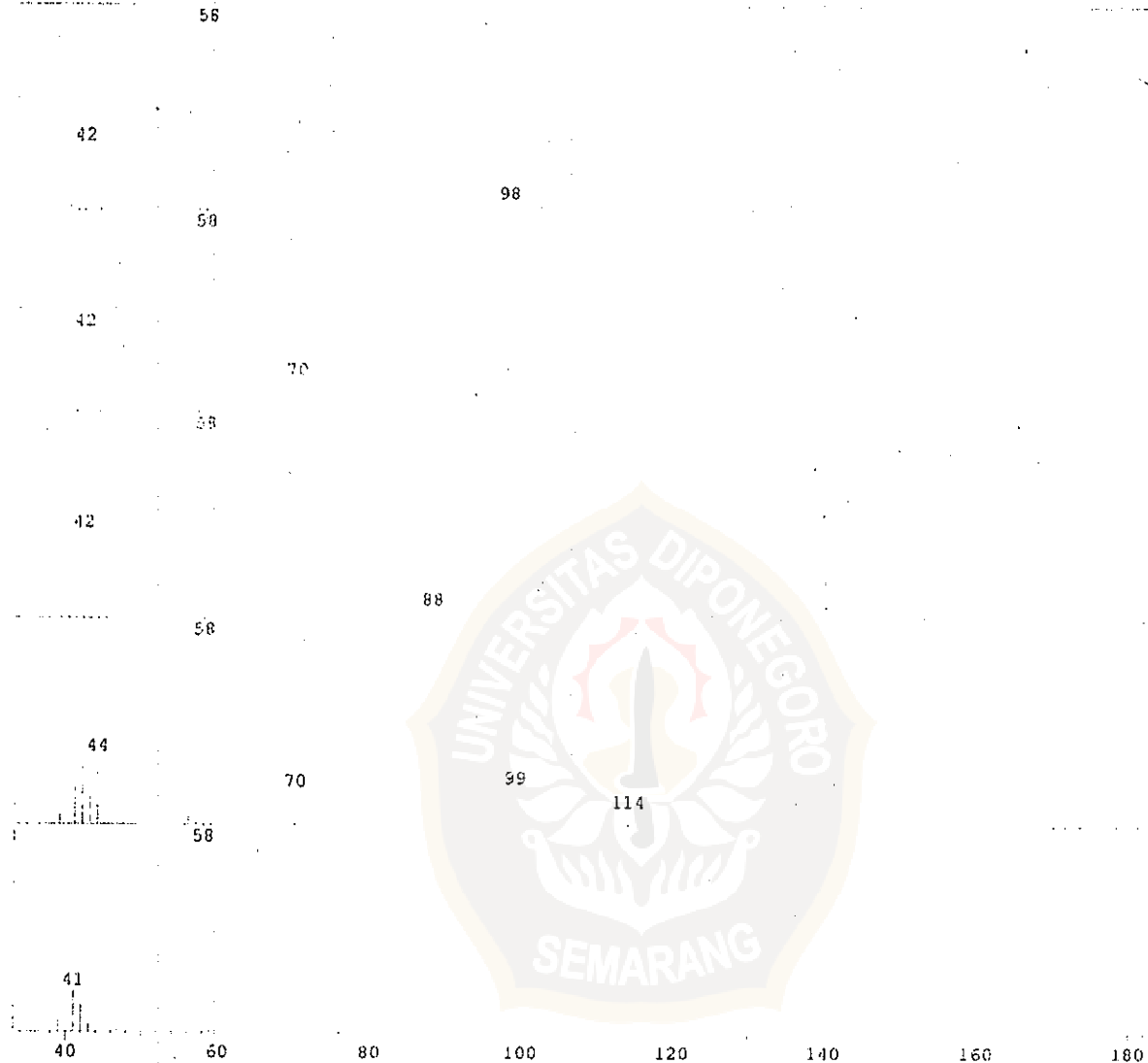
$$\begin{aligned}\text{Rendemen} &= \frac{1,208 \cdot 10^{-3}}{5 \cdot 10^{-3}} \times 100\% \\ &= 24,16 \%\end{aligned}$$



Lampiran 3

Spektrum data base

Hit List>



SI	Mol. Wgt.	Mol. Form./Compound Name	CAS No.	Entry	LIB#
84	98	C ₅ H ₁₀ N ₂	1738-25-6	1222	1
82	73	Propanenitrile, 3-(dimethylamino)-	75-22-9	293	1
81	103	Boron, (N,N-dimethylmethanamine)trihydro-, (T-4)-	80-60-4	1822	1
80	114	Butanoic acid, 2-amino-	2815-34-1	2954	1
79	73	Piperazine, 2,5-dimethyl-, trans-	75-64-9	297	1
		2-Propanamino, 2-methyl-			
		tert-Butylamine			
		Trimethylaminomethane			
		1,1-Dimethyle			

Library Name
 (1) NIST62.LIB

Lampiran 4

Gambar alat sintesis

