Lampiran A. Perhitungan bahan yang digunakan

KPK montmorillonit 80-150 meq/100 gram (Rabo, 1973)

Diasumsikan KPK lempung Purwodadi 50 meq/100 gram (Rabo, 1973)

Kation pengusir harus lebih banyak dari kation yang diusir sehingga dapat dibuat perbandingan Si:(Al dan Fe):KPK = 20 mmol : 12,5 mmol : 5mmol

A.1 Perhitungan Volume TEOS

ρ TEOS = 0,94 gram/mL

BM = 208,33 gram/mol

Berat TEOS = 20 mmol x 208,33

= 4166,6 mg

= 4,166 gram

Volume TEOS $= \frac{4{,}166 gram}{0{,}94 gram/mL} = 4{,}432$ mL

A.2 Perhitungan berat Al dan Fe

Bila 100% campuran Al dan Fe = 12,5 mmol

Maka ($Al_{75}Fe_{25}$) dapat ditulis

Al 75% = 9,375 mmol $AlCl_3.6H_2O$

Fe 25% = 3,125 mmol $FeCl_3.6H_2O$

Dengan cara yang sama dapat dibuat tabel:

$Al_{x\%}Fe_{y\%}$	$AlCl_3.6H_2O$ (mmol)	$FeCl_3.6H_2O$ (mmol)
$Al_{75}Fe_{25}$	9,375	3,125
$Al_{50}Fe_{50}$	6,25	6,25
$Al_{25}Fe_{75}$	3,125	9,375

BM $FeCl_3.6H_2O$ = 270,29804 gram/mol

Berat 25% Fe atau (Fe_{25}) = mol $FeCl_3.6H_2O$ x BM $FeCl_3.6H_2O$

= 3,125 mmol x 270,29804

= 844,681375 mgram

= 0,8447 gram

BM $AlCl_3.6H_2O$ = 241, 43254 gram/mol

Berat 75% Al atau (Al_{75}) = mol $AlCl_3.6H_2O$ x BM $AlCl_3.6H_2O$

= 9,375 mmol x 241, 43254

= 2263,430063 mgram

= 2,2634 gram

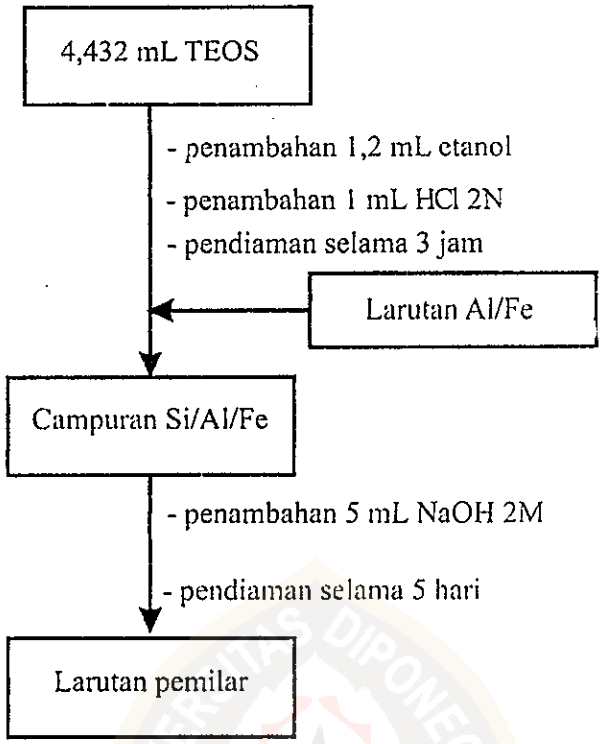
Dengan cara yang sama dapat dibuat tabel Al/Fe:

Larutan	$AlCl_3.6H_2O$ (gram)	$FeCl_3.6H_2O$ (gram)
$Al_{75}Fe_{25}$	2,2634	0,8447
$Al_{50}Fe_{50}$	1,5090	1,6890
$Al_{25}Fe_{75}$	0,7545	2,5340

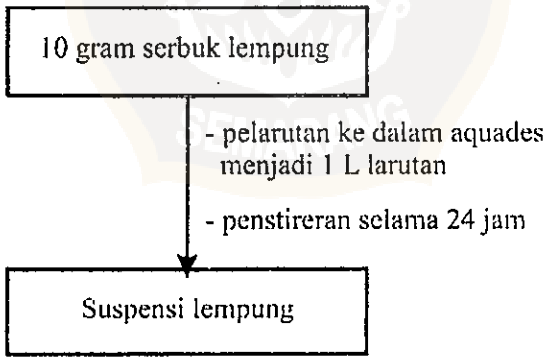
Lampiran B. Skema kerja penelitian

B.1 Preparasi serbuk lempung 200 mesh

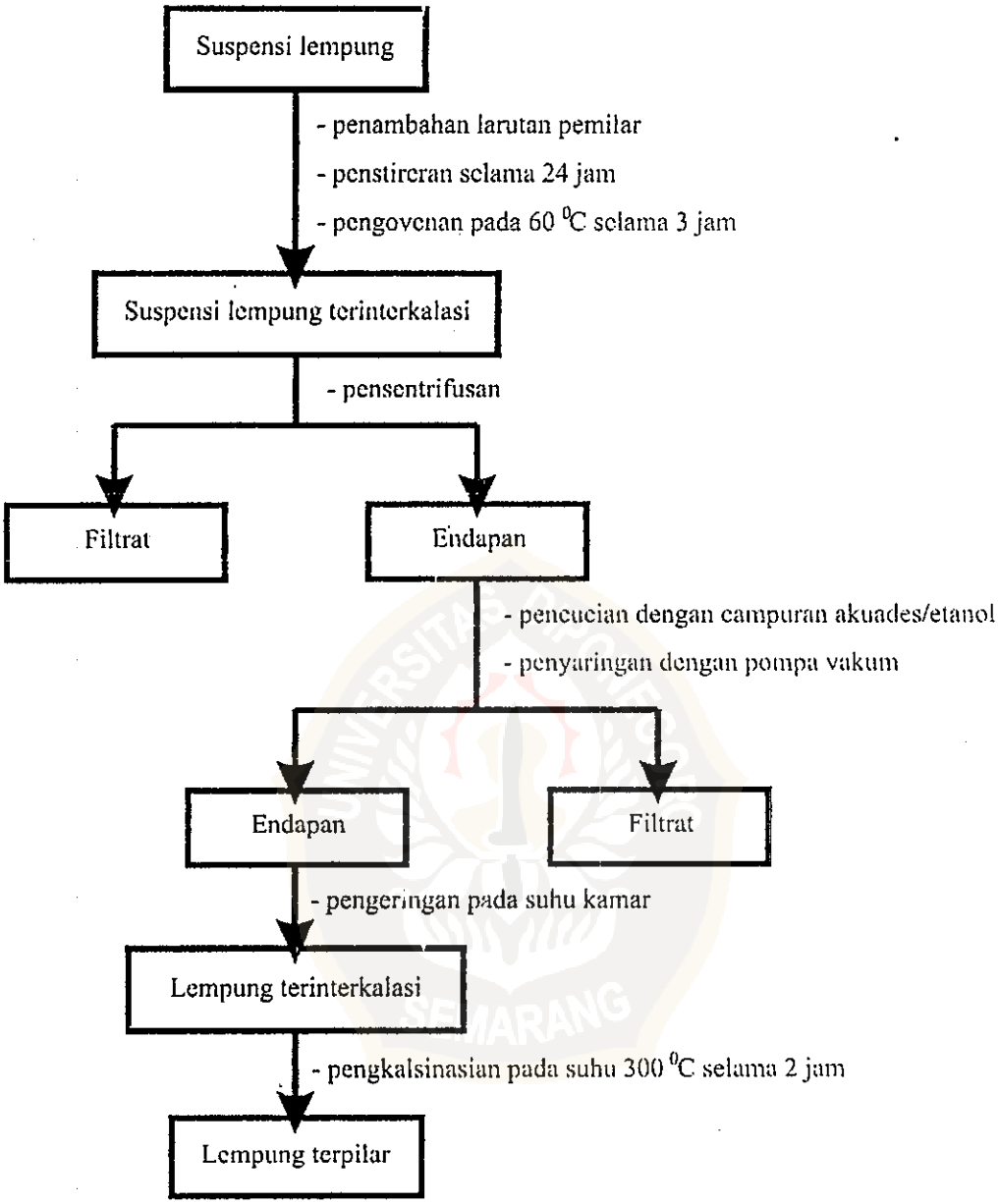
B.2 Preparasi larutan pemilar



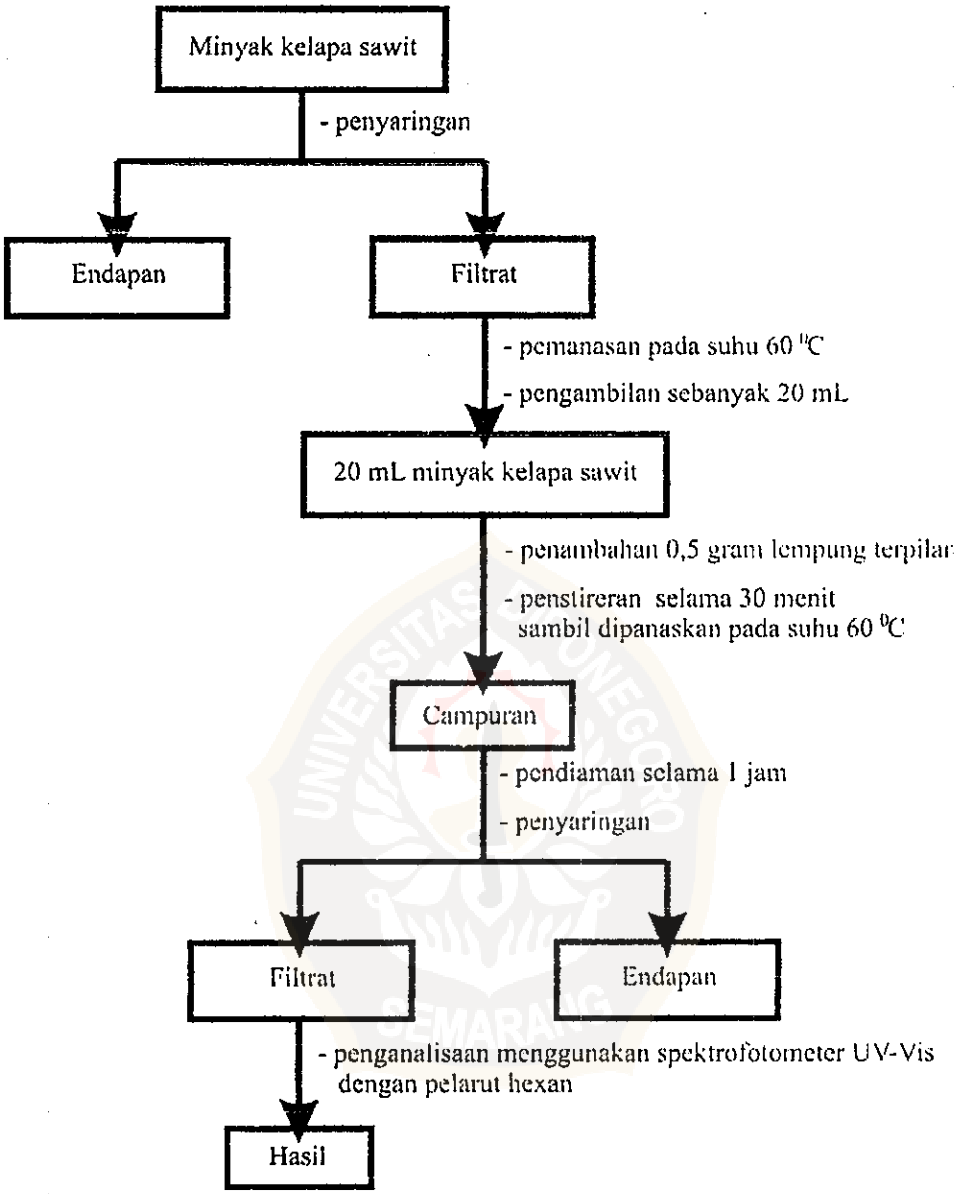
B.3 Preparasi suspensi lempung



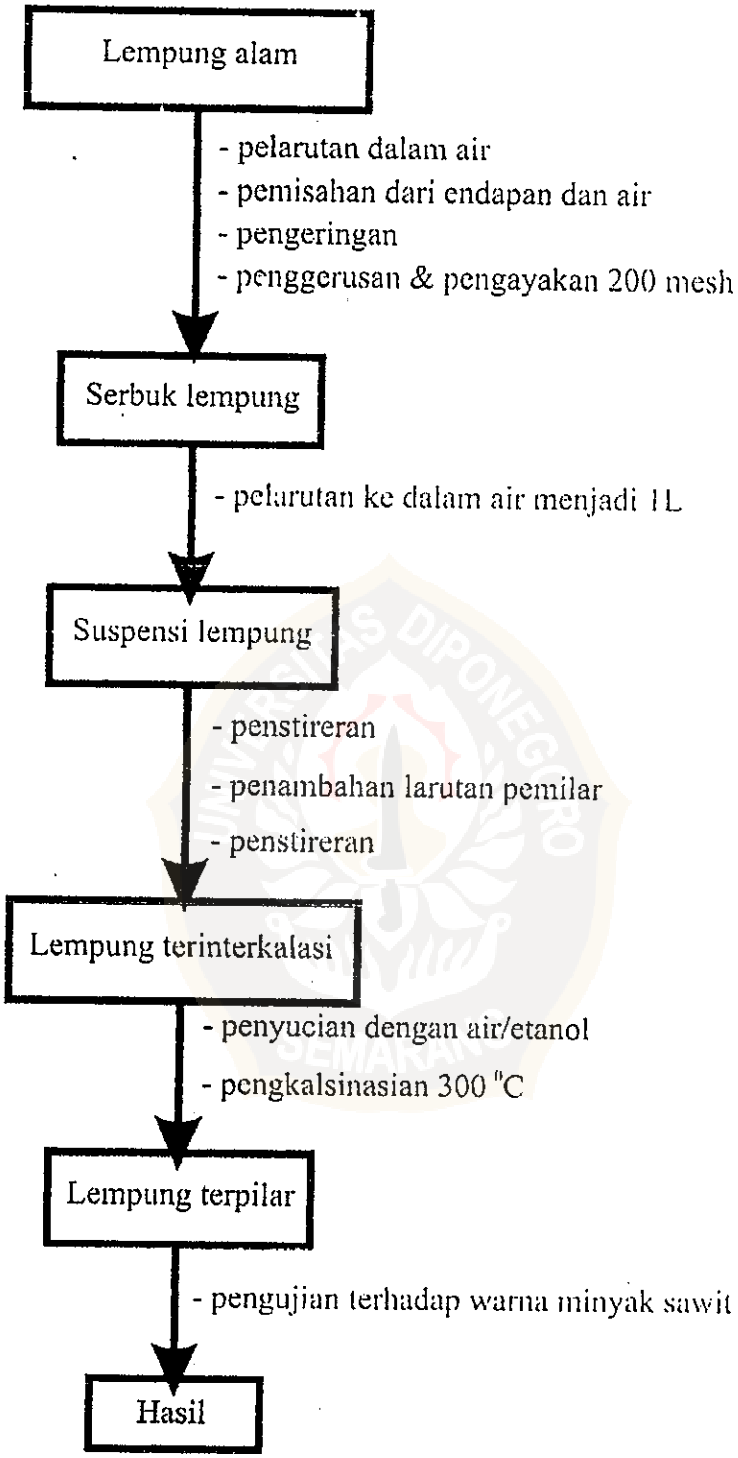
B.4 Pembuatan lempung terpilar



B.5 Uji adsorpsi lempung terhadap warna minyak kelapa sawit

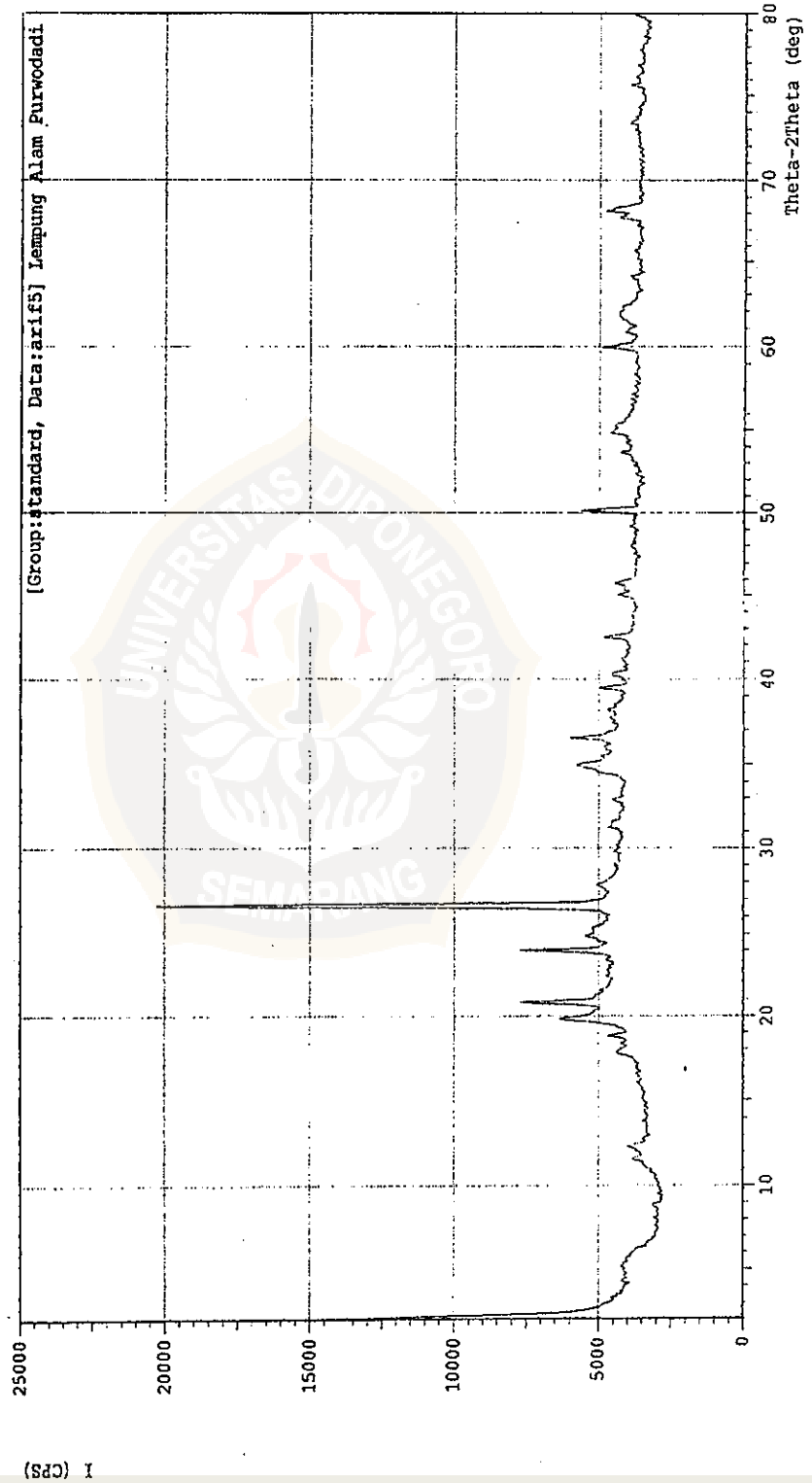


B.6 Skema Kerja Total

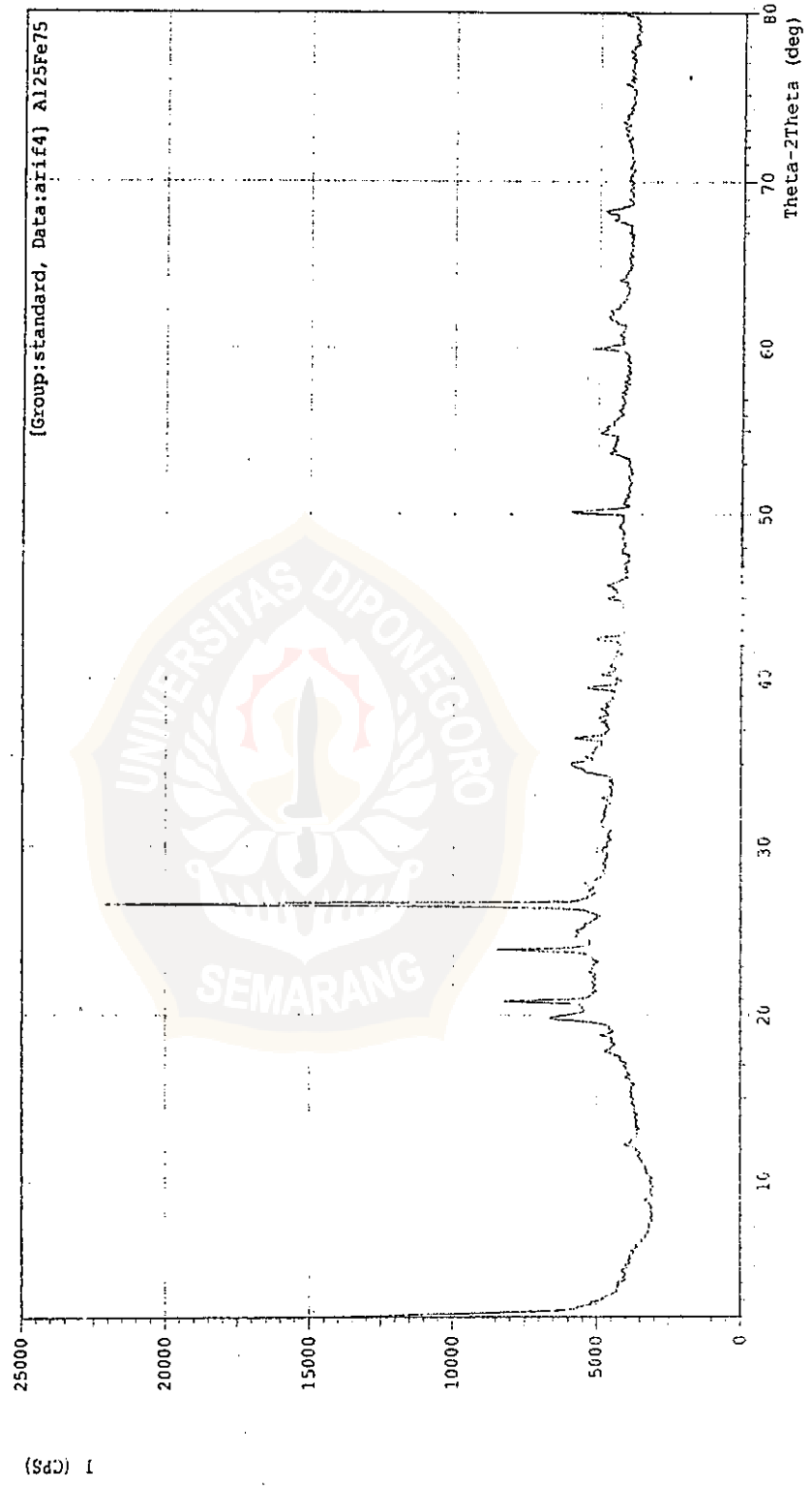


Lampiran C. Data hasil analisis dengan Difraktometer Sinar-X

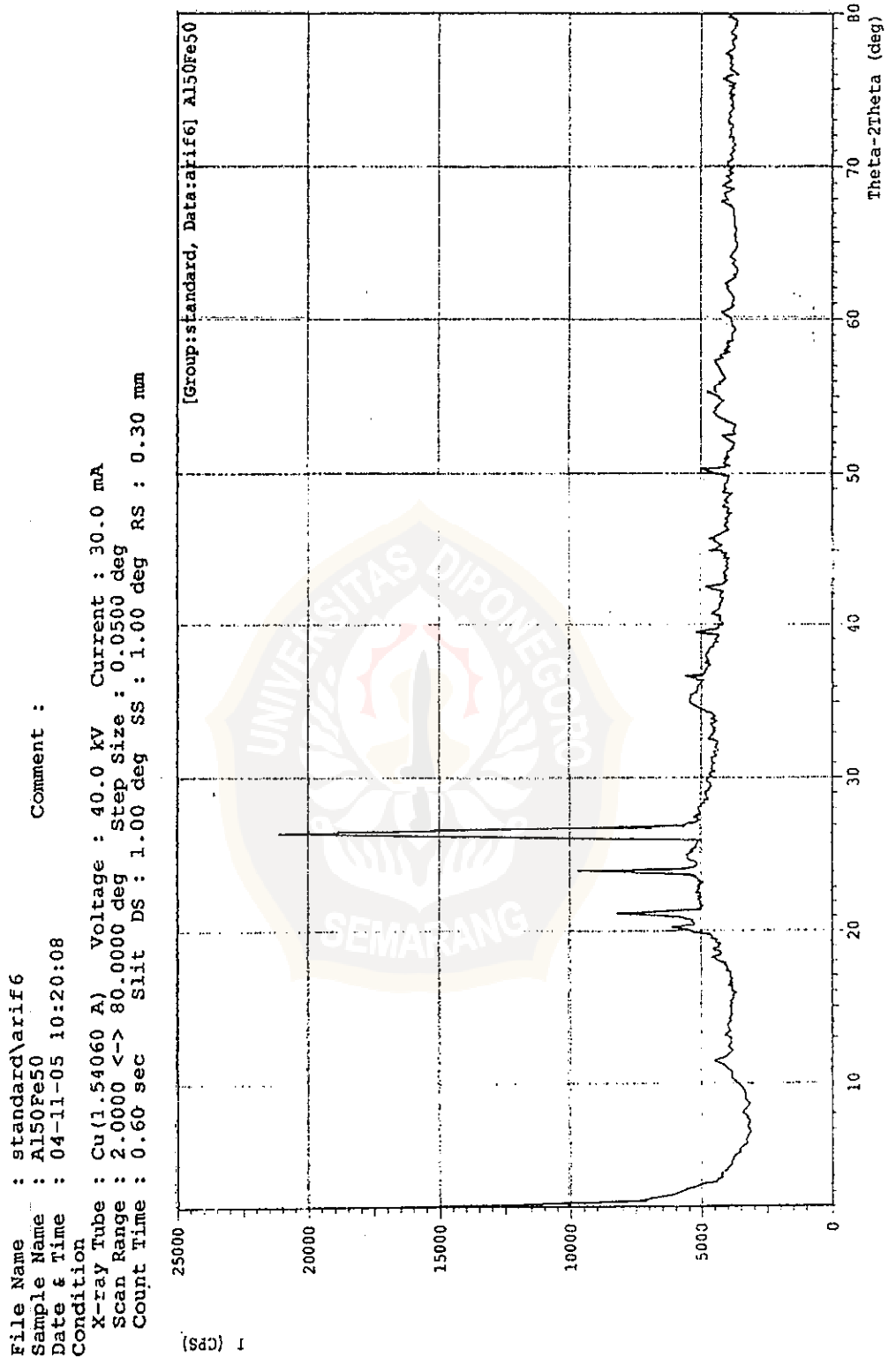
C.1 Lempung alam Purwodadi



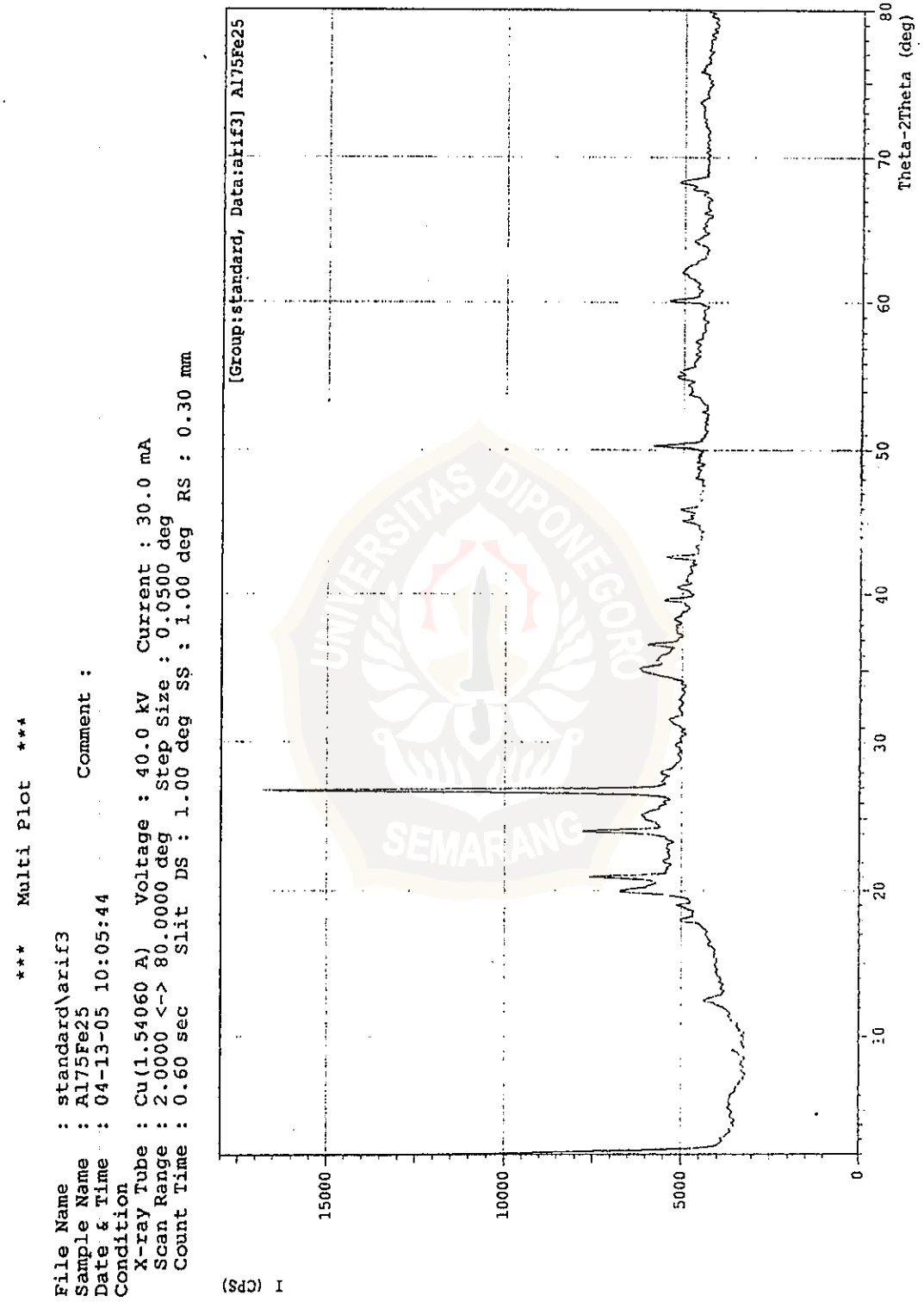
C.2 Lempung terpilar $Al_{25}Fe_{75}$



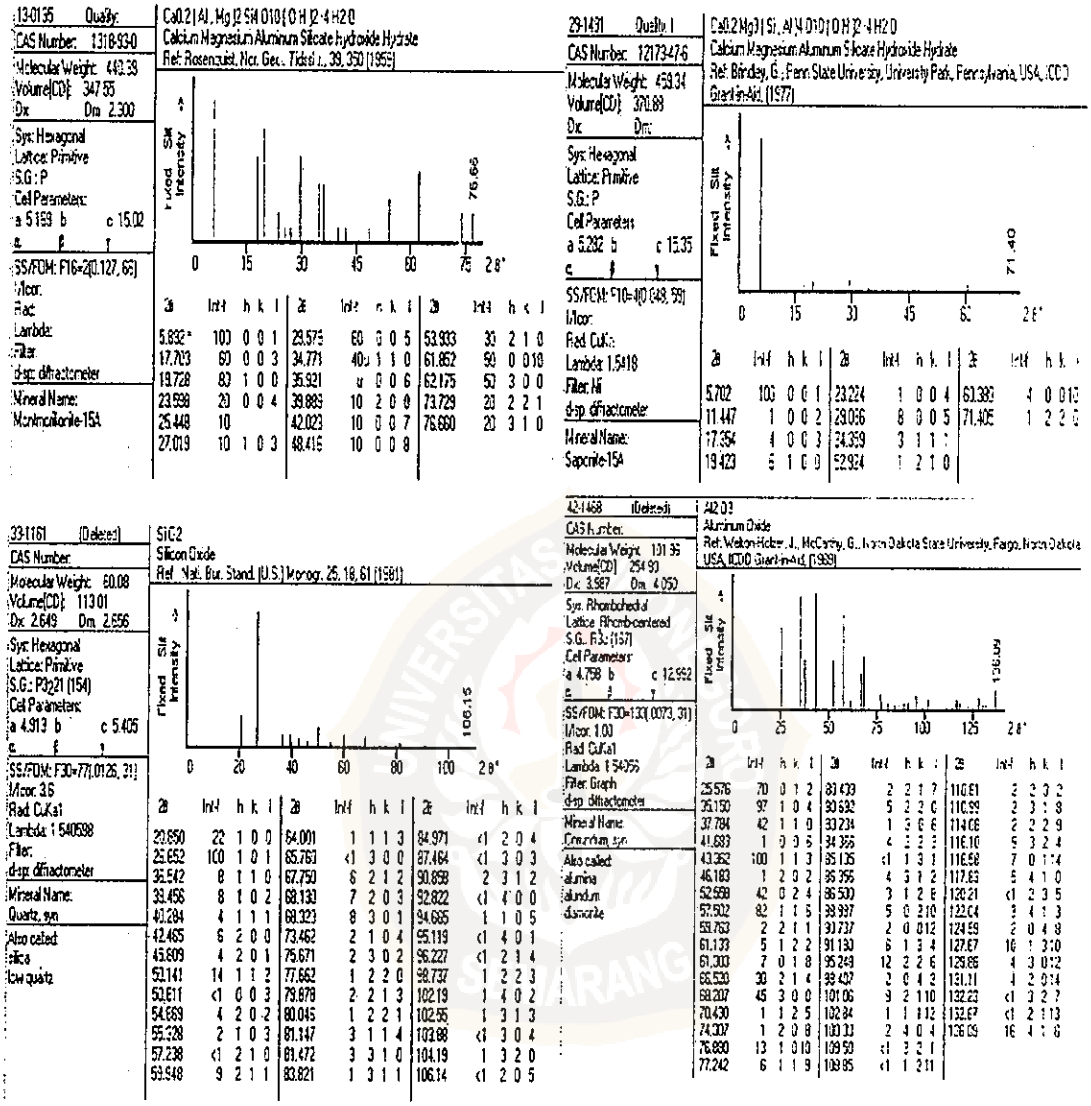
C.3 Lempung terpilar $Al_{50}Fe_{50}$



C.4 Lempung terpilar $Al_{75}Fe_{25}$



Lampiran D. Data puncak XRD mineral murni ASTM



Data puncak XRD mineral murni ASTM (Lanjutan)