



JURUSAN TEKNOLOGI PENGOLAHAN HASIL PERTANIAN
Division of Agricultural Product Processing Technology
FAKULTAS TEKNOLOGI PERTANIAN UNIVERSITAS GADJAH MADA
Faculty of Agricultural Technology Gadjah Mada University

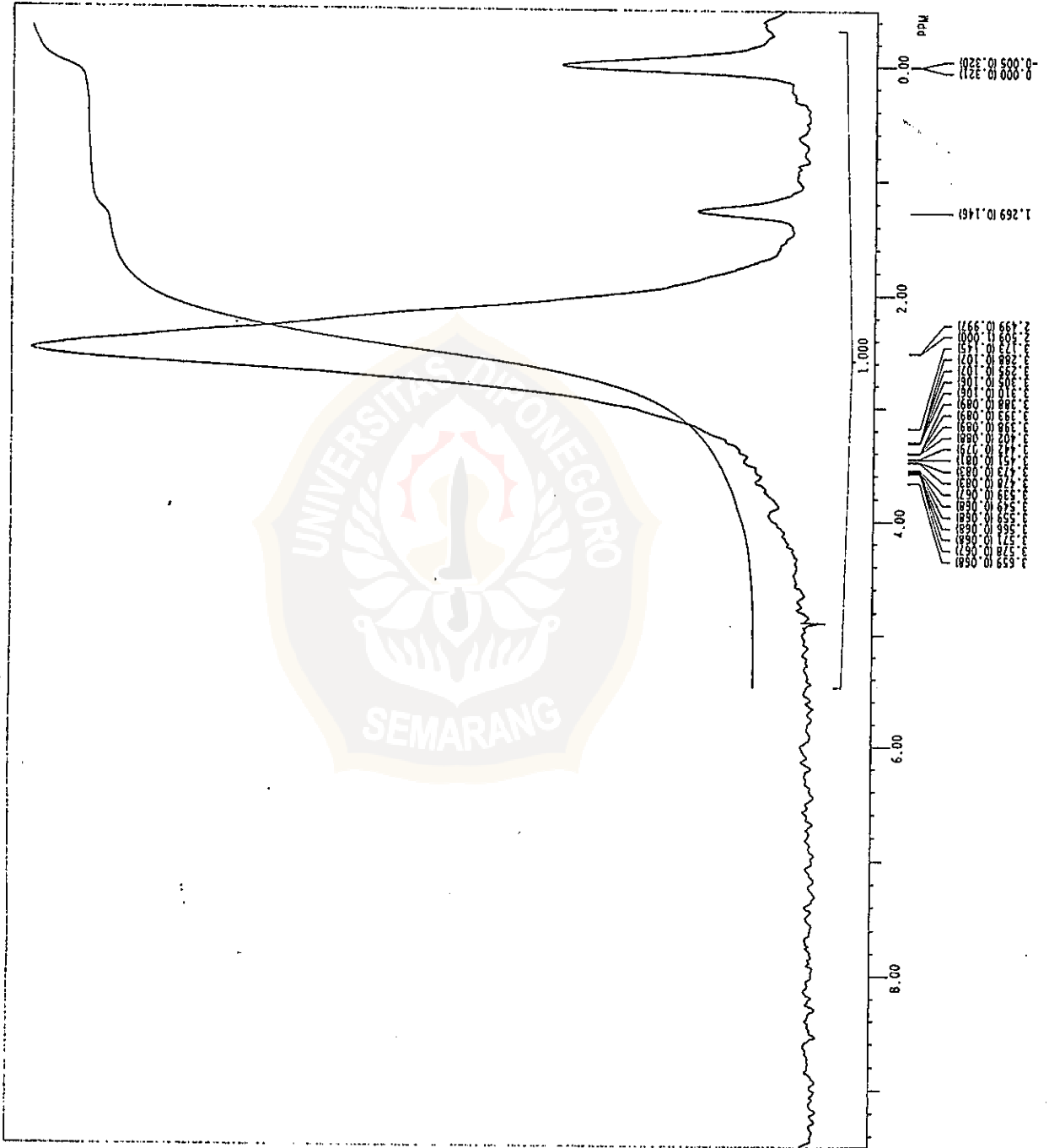
Data Analisa

Kode 0	Kadar gula reduksi	2,3077 % 2,2934 %
Kode 2	Kadar gula reduksi	2,6067 % 2,6523 %
Kode 4	Kadar gula red.	3,3539 % 3,3846 %
Kode 6	Kadar gula red.	2,6552 % 2,6380 %
Kode 8	Kadar gula red.	2,0493 % 2,0636 %
Kode 10	Kadar gula red.	1,1228 % 1,0872 %

Yogyakarta, 6 Maret 2009
 Lab. Kimia Bio Kimia Pengolahan

Slamet Rahardi
 130358864

Lampiran 2. Spektra NMR ¹H bioselulosa nata de coco dalam DMSO

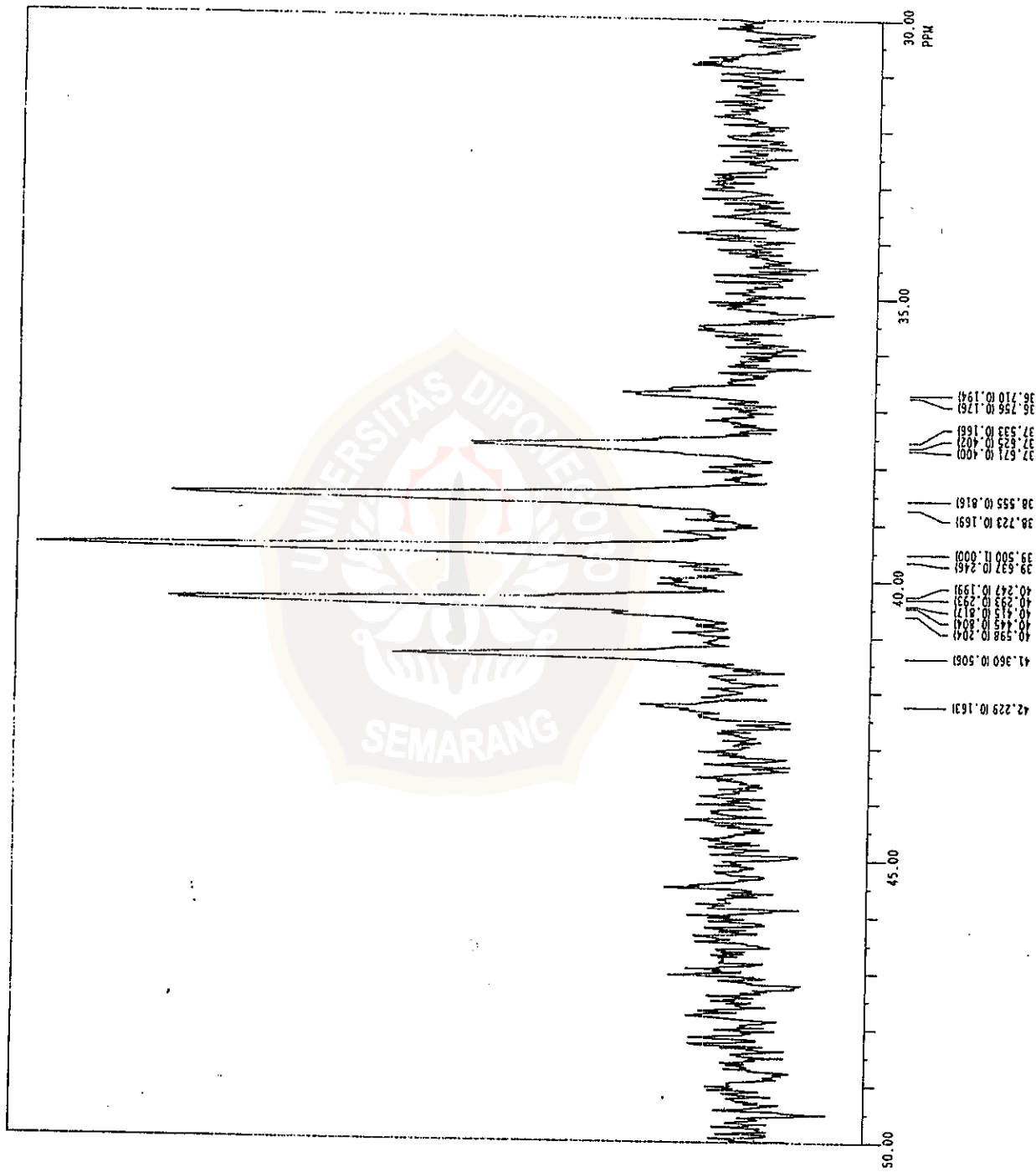


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*** HITACHI FT-NMR R-1500 ***
*** ACQUISITION COMMENT ***
SAMPLE : H-5
SOLVENT : DMSO
CONC. :
REFER. : TMS
TUBE D. : 5-H 12/11
OPERATOR : Dr. M. RUDHANTO
DATE : 2002/12/20 09.00
MEMO : LAB BASAR BERSAMA
      UNAIR SURABAYA
*** ACQUISITION PARAMETER ***
DATA NO. : 1212 - 0
NUCLEUS : R - 1
MODE : NORMAL
NO. ACQ. : 32
WIDTH : 20 PPM
POINTS : 16 KP
OFFSET : 22300.0 HZ
TEMP. : RT
R. GAIN : AUTO 48 DB
DEC 1
KUC : R - 1
MODE : NON-DEC
POWER : 10
FREQ : 0.0 HZ
PULS : CW
CWD SEQ 1
ENTVA : 5.000 SEC
PHASE : X
WIDTH : 5.0 USEC
CODE : ACQ.
*** PROCESSING PARAMETER ***
W.FUNC.1 : EXP (-)
POINTS : 0.12 SEC.
RANGE : 16 X
D.GAIN : 10.00 PPM
G.MODE : NORMAL
  
```

Keterangan:
Bioselulosa nata de coco
tidak larut dalam DMSO

Lampiran 3. Spektra NMR ¹³C bioselulosa nata de coco dalam DMSO



*** HITACHI FT-NMR R-1900 ***
*** ACQUISITION COMMENT ***

SAMPLE : N-10
SOLVENT : d-DMSO
CONC. :
REFER. : TMS
TUBE D. : 5-H 42/18
OPERATOR : Dr. M. RUDYANTO
DATE : 2002/12/20 09:00
MEMO : LAB DASAR BERBAHA
UMHIR SURABAYA

*** ACQUISITION PARAMETER ***

DATA NO. : 1810 - 0
NUCLEUS : C - 13
MODE : NORMAL
NO. ACQ. : 1021
WIDTH : 250 PPM
POINTS : 16 KP
OFFSET : 20400.0 HZ
TEMP. : RT
R. GAIN : AUTO 48 DB
DEC 1
NUCL : H - 1
MODE : COMP DEC
POWER : 45
FREQ : 224000.0 HZ
SARU : WIDE 70.0
CNO SEQ 1
INITIAL : 3.000 SEC
PHASE : X
WIDTH : 4.0 USEC
CODE : ACQ.

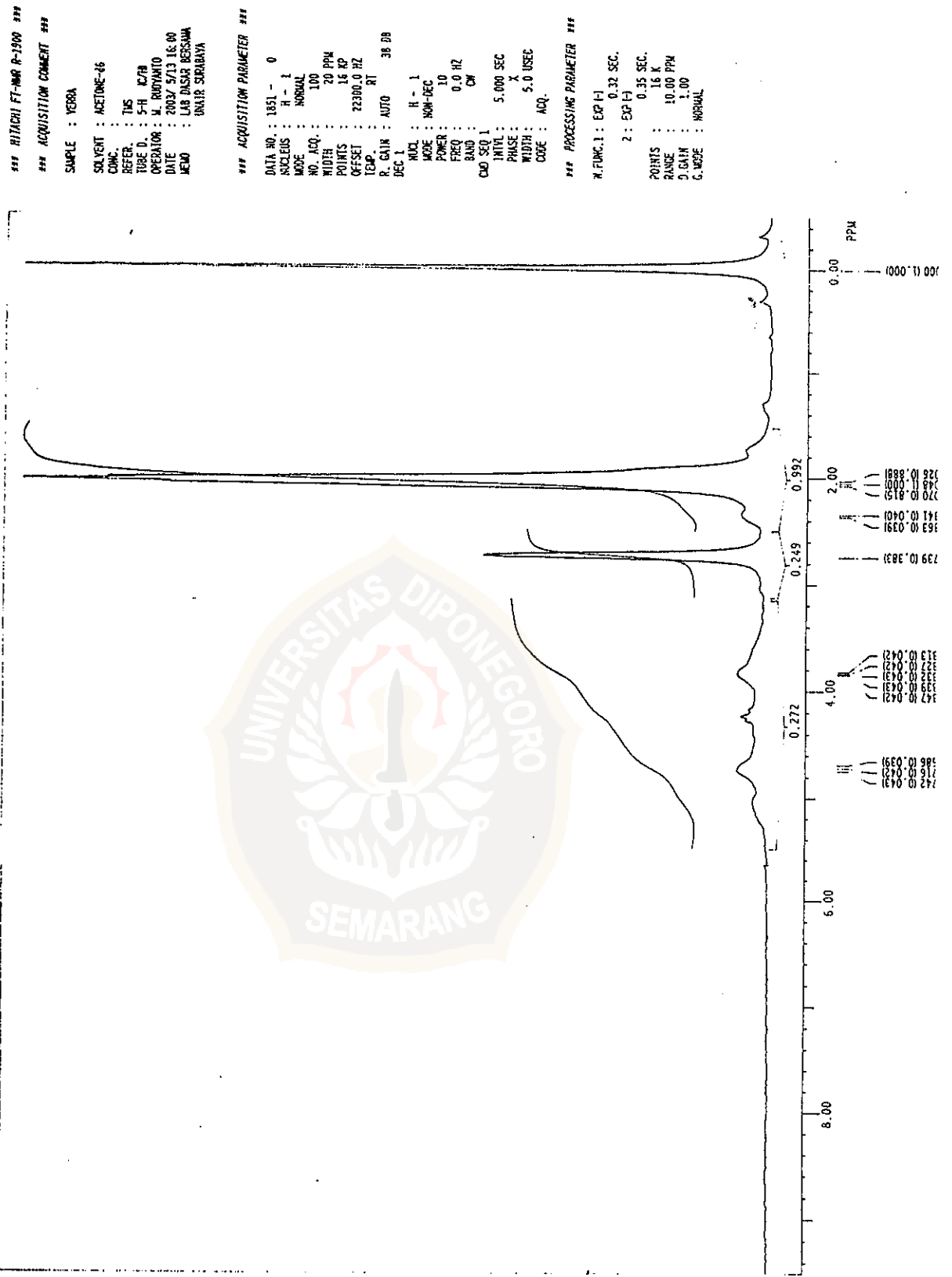
*** PROCESSING PARAMETER ***

W.FUNC.1 : EXP F1
POINTS : 0.67 SEC.
RANGE : 32 X
D.GAIN : 20.60 PPM
G.MODE : NORMAL

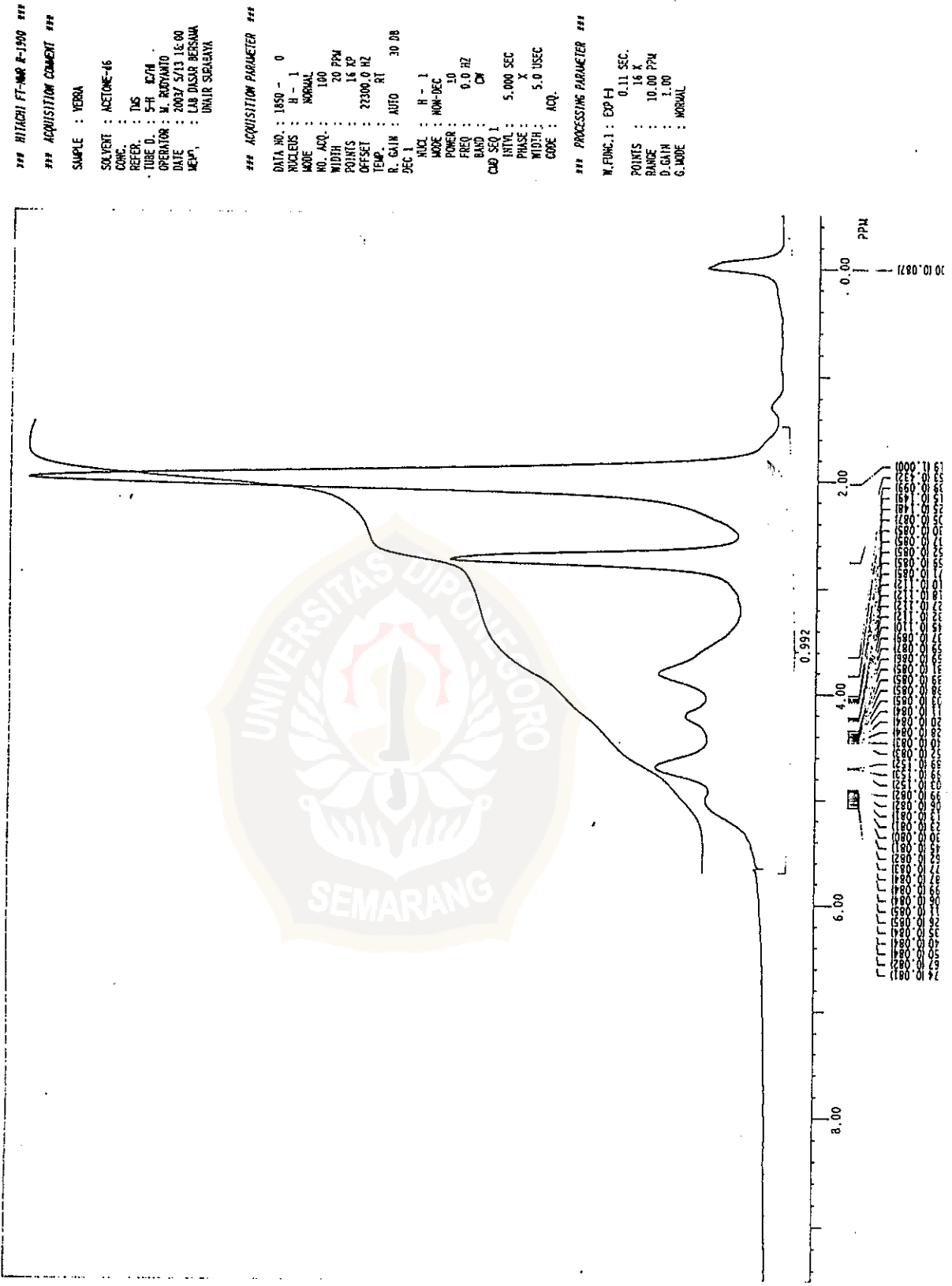
Keterangan:

Bioselulosa nata de coco
tidak larut dalam DMSO

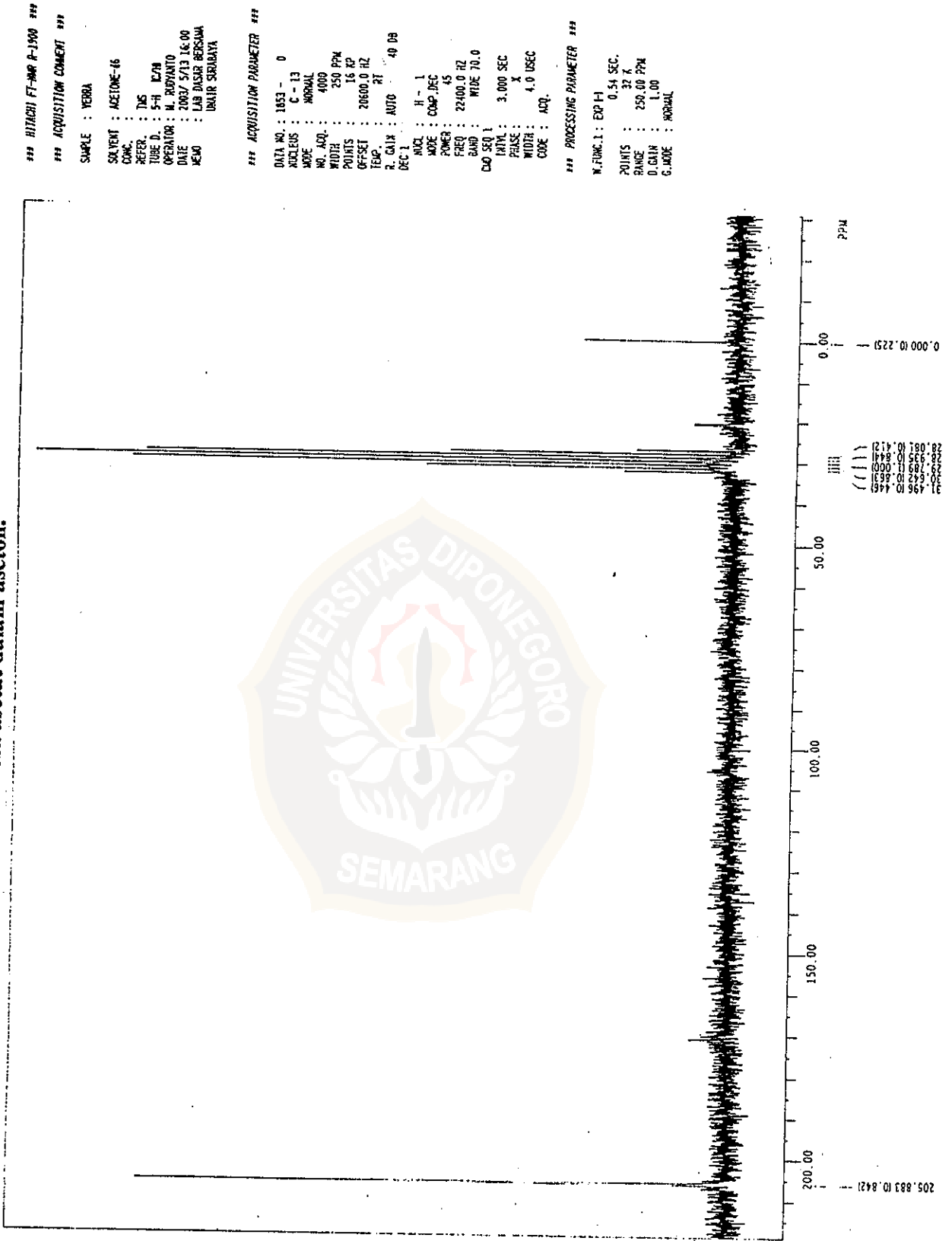
Lampiran 4. Spektra NMR ¹H larutan selulosa asetat dalam aseton (konsentrasi sampel rendah)



Lampiran 5. Spektra NMR ¹H larutan selulosa asetat dalam aseton (konsentrasi sampel tinggi)



Lampiran 6. Spektra NMR ¹³C larutan selulosa asetat dalam aseton.



Lampiran 7. Tabel Pergeseran Kimia Pelarut dan Pengotornya (Air).

Pelarut	Pergeseran kimia (ppm)		
	NMR ¹ H	NMR ¹³ C	Air
Asam acetat	11,65(1), 2,04(5)	179,0(1), 20,0(7)	
Aseton	2,05(5)	206,7(13), 29,9(7)	2,8
Asetonitril	1,94(5)	118,7(1), 1,39(7)	2,1
Bensena	7,16(1)	128,4(3)	0,4
Kloroform	7,26(1)	77,2(3)	1,6
Diklorometana	5,32(3)	54,0(5)	1,5
Dimetil Sulfoksida	2,50(5)	39,5(7)	3,3
Metanol	4,87(1), 7,58 (1), 7, 22(1)	49,1(7)	4,8
Piridin	8,74(1), 7,58(1), 7,22(1)	150,3(1), 135,9(3), 123,9(5)	4,9
Tetrahidrofuran	3,58, 1,73	67,4, 25,2	
Toluen	7,09, 7,00, 6,98, 2,09	137,5, 128,9 128,0, 125,2, 20,4	3,3
Air	4,8		4,8