

Bruker

Bruker Avance 400 MHz

104

1 BBO (BB-H/F-D) Z  
-80 ~130

2 <sup>1</sup>H 15N-31P S/N <sup>1</sup>H 500: 1,  
-20~80

1. 40~400MHz NMR

2. <sup>1</sup>H NMR

3. DEPT

4. COSY DQFCOSY TOCSY

5. <sup>1</sup>H-X HSQC HMBC HETCOR HMQC

6. NOE

13782518817

-

/

HP6890/5973N

7683

116

1. 10-800amu
2. 1 pg/ $\mu$  LCFN 1  $\mu$  L
3. RM\$ 20 1
4. (EI)

13839090661

Agilent 1100

114

0.01-10ml/min

0.1-100µl

DAD

190-950nm

10-80

1. HPLC

2

3.

4.

13839090661

CHN2400

332

1ug      1ug      1ug  
:      ± 0.3      ± 0.1      ± 0.2

0.001-3.6mg

0.001-1.0mg

0.001-6.0mg

C H N

13839090661

I CP-N\$

DRC- e

118

1. 2 270amu
2. 600 1600 W
3. >150,000 0.3 3.0amu
4. 9
5. <0.5 cps
6. : ppb- ppt

13673524419

X-

X

Bruker

D8Advance

105

1. 20KW X ( 450mA)

2 0.5-120

3. 20-40KV

1. LynxEye 2. EVA

3. 1200 4.

5. Cu

13673524419

Agilent GC 6890

115

1. 5 120 0.01

4-450

2. :

3. FID 5pgC/sec( ) 10X7

4. ECD 0.008pg/sec( ) 5

13782513234

-17

329

190nm 900nm

,

13782513234



DT- 40

TG —1000

0.001mg

1, 2, 5, 10, 20, 50, 100, 200 mg

± 1

DTA —1000

10 20 50 100 200 500 1000 μ V

± 1

DSC -600

0.5 1.0 3.0 10.0 20.0 50.0 100.0ml/s

0.0 1ml/s

(TG)

DTA

DSC TG-DTA

419

13782513234

Z5000

190- 900nm

0. 2nm - 0. 4nm » 1. 3nm - 2. 6nm

0. 02 - 20. 0 10

1. 00 - 20. 0 mA

200 - 1000. 0V

419

13837342237

WATERS UPLC-TOD

Waters

m/z 5 ~ 3000

: ESI ,

APCI

(Full Scan)

(SIM)

MRM

Dynamic MRM

Product Ion Scan

Precursor Ion Scan

/

Neutral Loss/Gain Scan

0 15000 psi

MassLynx

102

13837342237

DX600

121

< 1%          1. 0mL/min    2000psi

0.05- 5.00mL/min

0.05- 5.00mL/min

0.01mL

ED50

0.1 ns

HPLC

PPT-PPM

15136724278

/

/

FTS- 40

S208

4000- 400 cm<sup>-1</sup>,

0. 2cm<sup>-1</sup>;

HATR

13782518817

FTS NEXUS

s208

7500~370cm<sup>-1</sup>, 1,

0. 2cm<sup>-1</sup> 1

0. 1%T

3600: 1

450~60cm<sup>-1</sup> 1

HATR

13782518817

Avatar 360E. S. P. FTI R

s208

0.1cm<sup>-1</sup>

4000—200 cm<sup>-1</sup>,

4cm<sup>-1</sup>

—

5

5000: 1

2000cm<sup>-1</sup>

0.01cm<sup>-1</sup>

13782518817

Agi l ent GC 5890  
s208

FI D

350

13782518817



GC3400

s208

FI D, TCD, NPD,

ECD

350

13782518817

JEM2100

s116

0.194 nm

0.14nm

50 -1 500 000

80, 100, 120, 160, 200KV

15836069531

FP- 6500

s115

220- 750nm

1 3 5 10 20nm

1nm

$\pm 1.5$ nm

15836069531

UV-1700

s115

190-1100nm

2nm

± 0.5nm

0.2nm

3A 3 A

15836069531

15937393370

JSM 6390LV

117

3. 0mm;

: 4. 0mm;

5- 30 ;

0. 5- 30KV

: 150mm

X=80mm Y=40mm Z=48mm

T=- 10 +90 R=360

13643731614

JSM6390LV

s117

STA 449C

- 1200

0.1-50 K/min

1K

± 3%

STA 449C

TG-DTA TG-DSC

13643731614

DSC 204 F1

s114

-150- 600

0- 200K/min

0- 200K/min

150

DSC

/

13643731614

Thermo Cahn

DCA 315

s114

: 1- 1000 mN/m 0- 180

: ± 0. 001 mN/m ± 0. 01

1μ g

: 100g 75mm

0. 1mm

: 70mm

40mm

0. 0001mm

264 μ m/sec

2 μ m/sec

: - 10- +100

13643731614



-

-

1260-1287

s108

1260

0.015

0.1% 0.1

0.001

0.01

2 3 4

40.95

1287

/

2A

+/- 14.5V

/

1 V/1pA

10μ Hz ~1MHz ( 1260 1255 )

13643731614

CH 660D

s108

1 : ± 10V 2 250mA

3 1 1012

4 1 10-12-0.1A/V 12

CH 600C

i R

660C

± 10V

± 250mA

50pA

13643731614

ATAGO

Pol ax- 2L

s108

-179.95°      +180.00°

± 0.10°

LED ( 589nm)

13643731614

Agi l ent

HP1200

s107

0.01-10ml/min

0

- 40MPa

200 600nm

10 -80

13525069053

waters  
Waters 1525  
s107

1525 0.01-10.00ml/min  
6000psi

2487 190-700nm  
2.7x 10<sup>-10</sup>g/ml

2475 150W  
200-890nm 210-900nm

2465 DC

10 A-200μ A 10nA-200μ A 10nA-200μ A

1500 20 60

13525069053

PE700

s113

190~900nm

8

0.002mg/L

0.02μ g/L

μ g/L

13525069053

/

/

Bruker  
micrOTOF II Focus  
s106

: ESI APCI

ESI: 100% 1  $\mu$ l/min-1 ml/min (  
) APCI 100% 1500 ul/min

50 - 20,000 m/z

<2 ppm <5 ppm

10pg >100:1

17500(FWHM) @922 m/z 12000(FWHM) @200m/z

13525069053

13782518817