TBI-Forensic Services Division
Quality System Risk Assessment

Risk Assessment Code: RA- FC-meth phentermine study-020322
RA-Unit-Issue-Date

Assessed By: Brett Trotter Date: 1/27/2022

Issue to Assess: Use of GC/FID to distinguish phentermine and methamphetamine

Laboratory/Discipline: Nashville / Forensic Chemistry

Policy Referenced: Forensic Chemistry SOP 21.1.7

Evaluation of Potential Risk:
Phentermine and methamphetamine have very similar mass spectrometer data. Therefore, in analytical schemes it is sometimes necessary to acquire GC/FID retention time data. These two compounds have similar retention times, and there exists a potential that the retention time for each compound might fall within the acceptance criteria for the other compound.

Potential Impact on Quality System: Medium

Proposed Plan (list RCA and/or CAR codes if they were initiated):

A solution of both phetermine and methamphetamine will be prepared at concentrations of about 1 mg/mL. This solution will be analyzed multiple times on the GC/FID of multiple instruments. The percent difference will be calculated. If the percent differences are less than 2% (the current acceptance criteria for GC/FID analysis) then the GC/FID will not be permitted to distinguish these compounds. If the percent differences are greater than 2% then GC/FID will be appropriate to distinguish phentermine and methamphetamine

Plan Assigned to: Brett Trotter Date: 1/26/2022

Plan Accepted: Select
If no, why? Yes

Technical Leader Signature: Allen B. Trotter 2-3-22

CLRS Signature: Jennifer Hall 2-3-22

Quality Assurance Manager: CH D Qe 02/03/22

GC/FID and GC/MS Retention Time Study of Phentermine and Methamphetamine

Phentermine and Methamphetamine have similar mass spectrometer data. Some concern exists that the Forensic Chemistry Unit's policy (FCU 21.1.7) may allow for misidentification of phentermine or methamphetamine by the fact that their respective retention times may fall within two percent of each other. It is impossible to exactly replicate instrument conditions which affect the retention time of a compound. Therefore, a study was conducted where a mixture of 1 mg/mL phentermine and methamphetamine was run on the GC/FID (ASGC100 method) and the GC/MS (ASMSDRUGS100 method). The results of the study are in the table below.

GC/FID (ASGC100 Method)

Instrument	Average Percent Difference
Gumbo	9.01 %
Heisenberg	5.43 %
Graceland	5.07 %
Kenny	9.48 %
Java	3.90 %
Donna 2	4.03 %
Quincy	6.99 %
Eggroll	5.41 %

GC/MS (ASMSDRUGS100 Method)

Instrument	Average Percent Difference
Gumbo	3.70 %
Heisenberg	4.00 %
Graceland	3.62 %
Kenny	5.28 %
Java	3.57 %
Donna 2	3.84 %
Quincy	3.72 %
Eggroll	3.34 %

Every instrument in the Forensic Chemistry Unit in Nashville on both the GC/FID and GC/MS methods were able to distinguish phentermine and methamphetamine by more than the two percent match criteria in policy. Analyst can confidently use retention time methods to distinguish these compounds. While this testing is appropriate, analyst need to consider that the quality of testing may not be as good as other testing methods such as GC/IR, FTIR, or LC/MS.

GC Standard Log

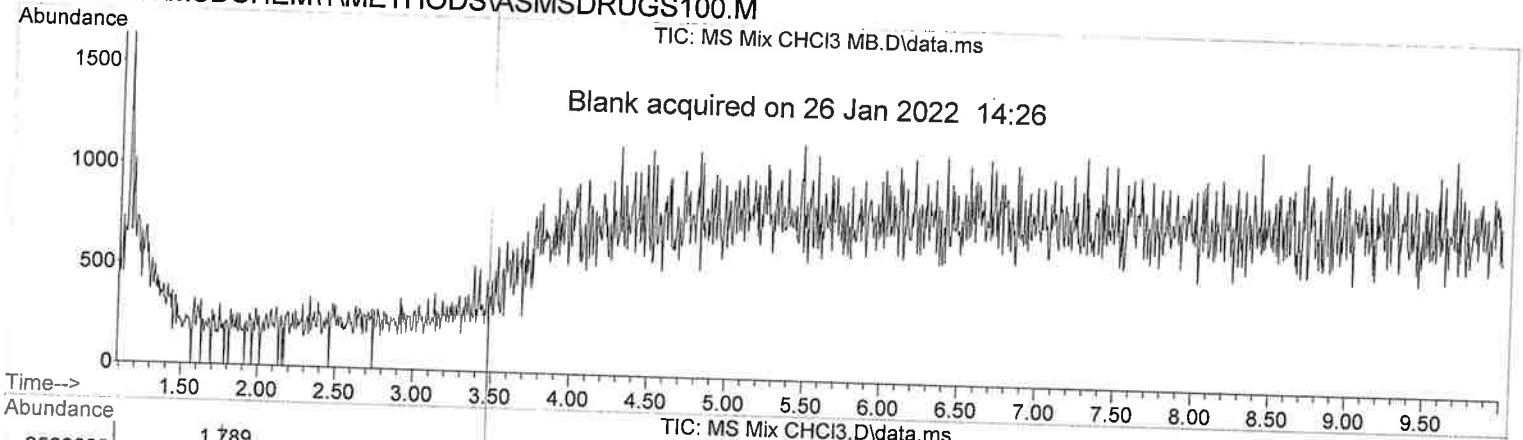
Tennessee Bureau of Investigation Crime Laboratory

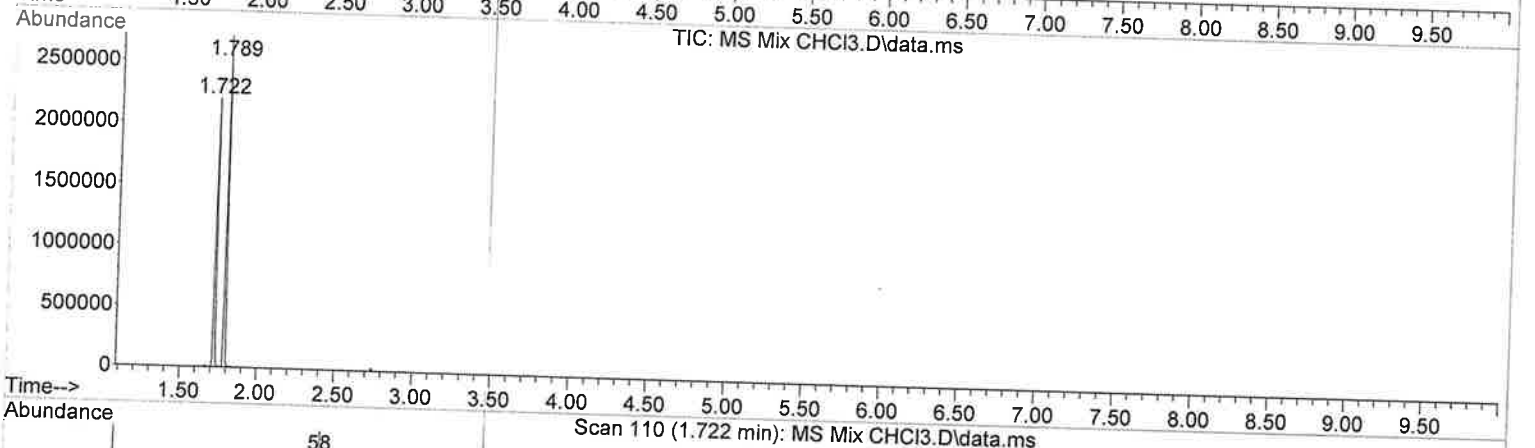
Standard	METHAMPHETAMINE AND PHENTERMINE
Source/Lot Number (Standard)	A-(D-L) METHAMPHETAMINE K&K LABS 732-A PHENTERMINE SIGMA 47H0208
Source/Lot Number (Solvent) (if applicable)	0.5N NaOH 200857 CHLOROFORM 59193 #3
Concentration	1mg/mL
Preparation Date and Initials (if applicable)	1-26-22
Expiration Date	1-26-23
Verification and Initials	GCMS BT
Remarks	

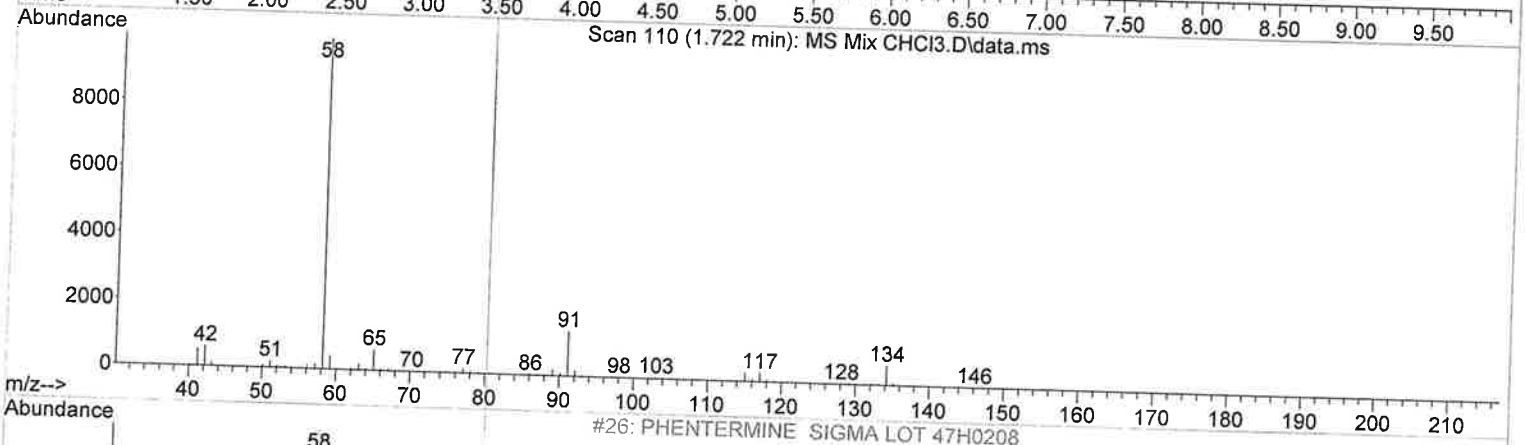
Date Destroyed and Initials: 2/2/2022 BT

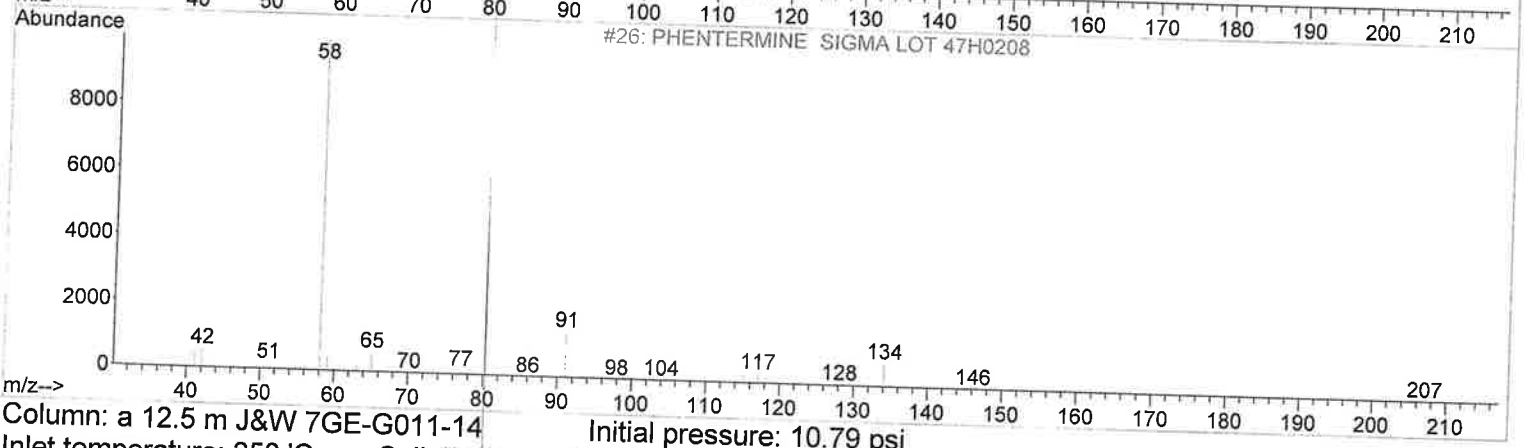
Tennessee Bureau of Investigation: Nashville Crime Laboratory
Name of file: C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\MS Mix CHCl3.D
Instrument: Gumbo (model: 5973N Serial number: US40620428)
Tuned on 24 Jan 2022 5:59 pm Scanned from 40.00 to 550.00 amu
Acquired by TBI Analyst on 26 Jan 2022 14:40 in vial # 98
Information: Sample Misc. Information: 0.5 N NaOH-CHCl3
Method: C:\MSDCHEM\1\METHODS\ASMSDRUGS100.M

1/26/22
BT





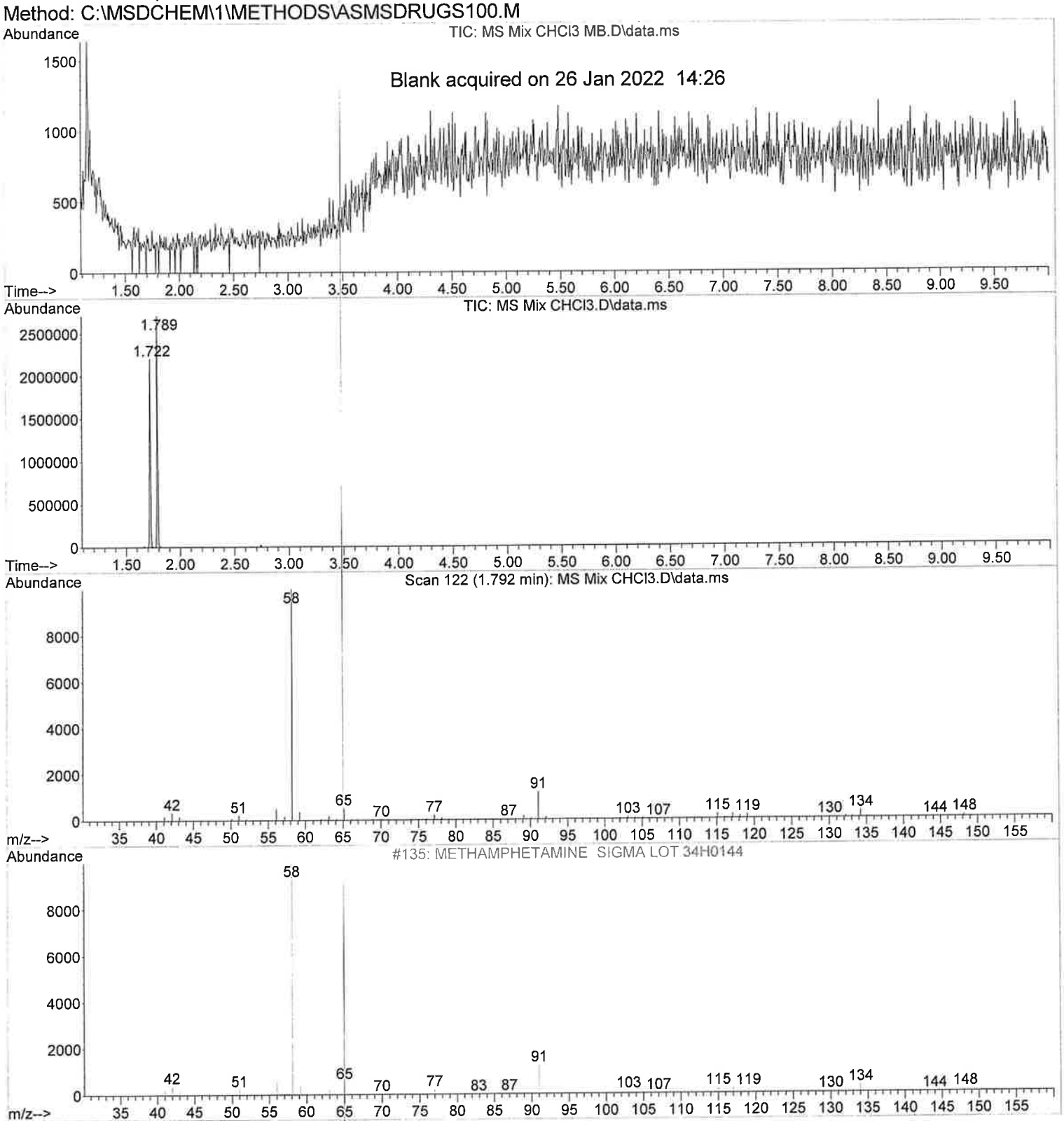




Column: a 12.5 m J&W 7GE-G011-14 Initial pressure: 10.79 psi
Inlet temperature: 250 'C Split Ratio: 40:1 Transfer Line Temp: 280 'C
Initial oven temp: 100 'C held for 1.00 min Ramp: 70.00 'C/min
Final temperature: 280 'C

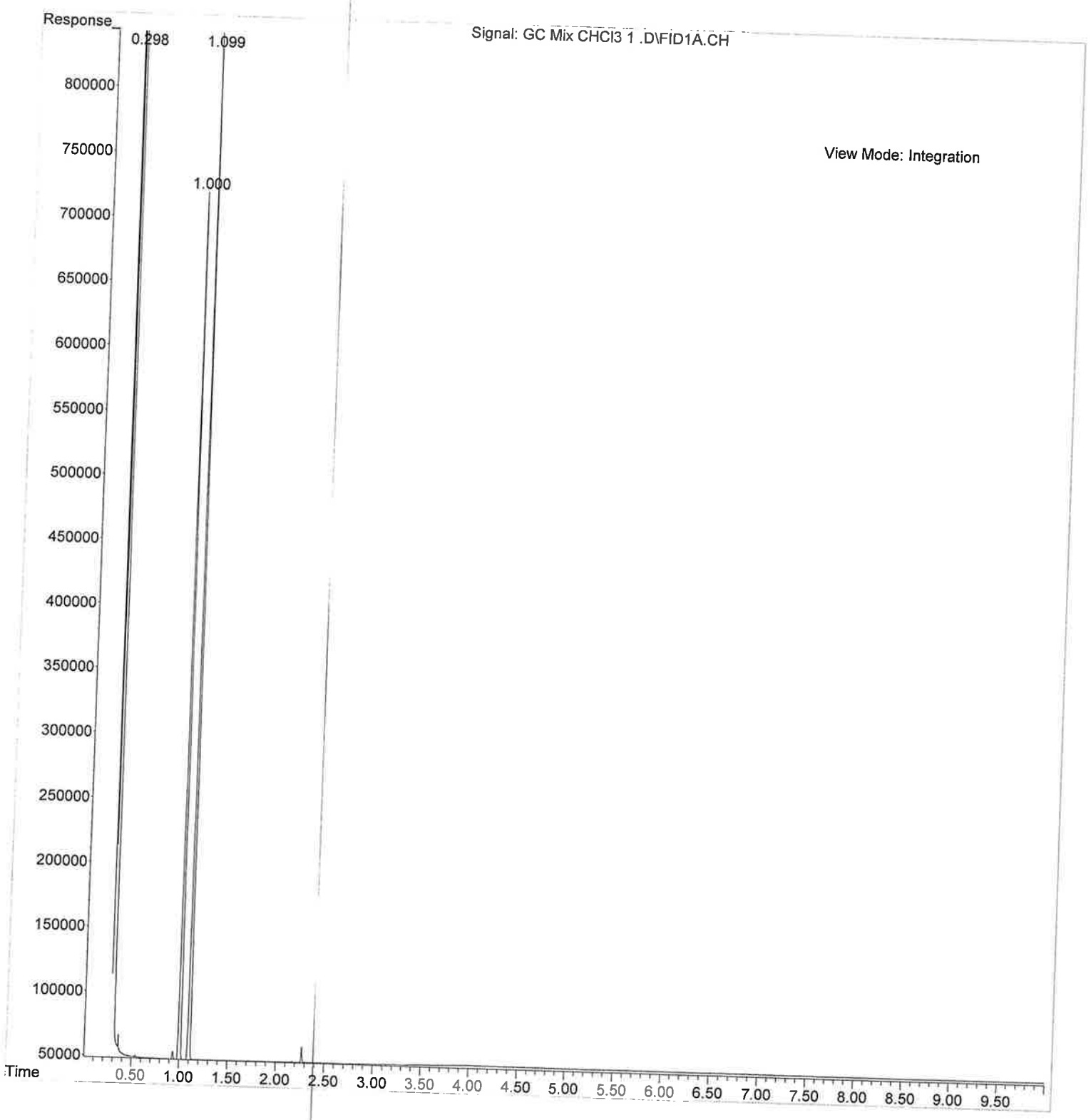
Tennessee Bureau of Investigation: Nashville Crime Laboratory
Name of file: C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\MS Mix CHCl3.D
Instrument: Gumbo (model: 5973N Serial number: US40620428)
Tuned on 24 Jan 2022 5:59 pm Scanned from 40.00 to 550.00 amu
Acquired by TBI Analyst on 26 Jan 2022 14:40 in vial # 98
Information: Sample Misc. Information: 0.5 N NaOH-CHCl3
Method: C:\MSDCHEM\1\METHODS\ASMSDRUGS100.M

1/26/22
BT

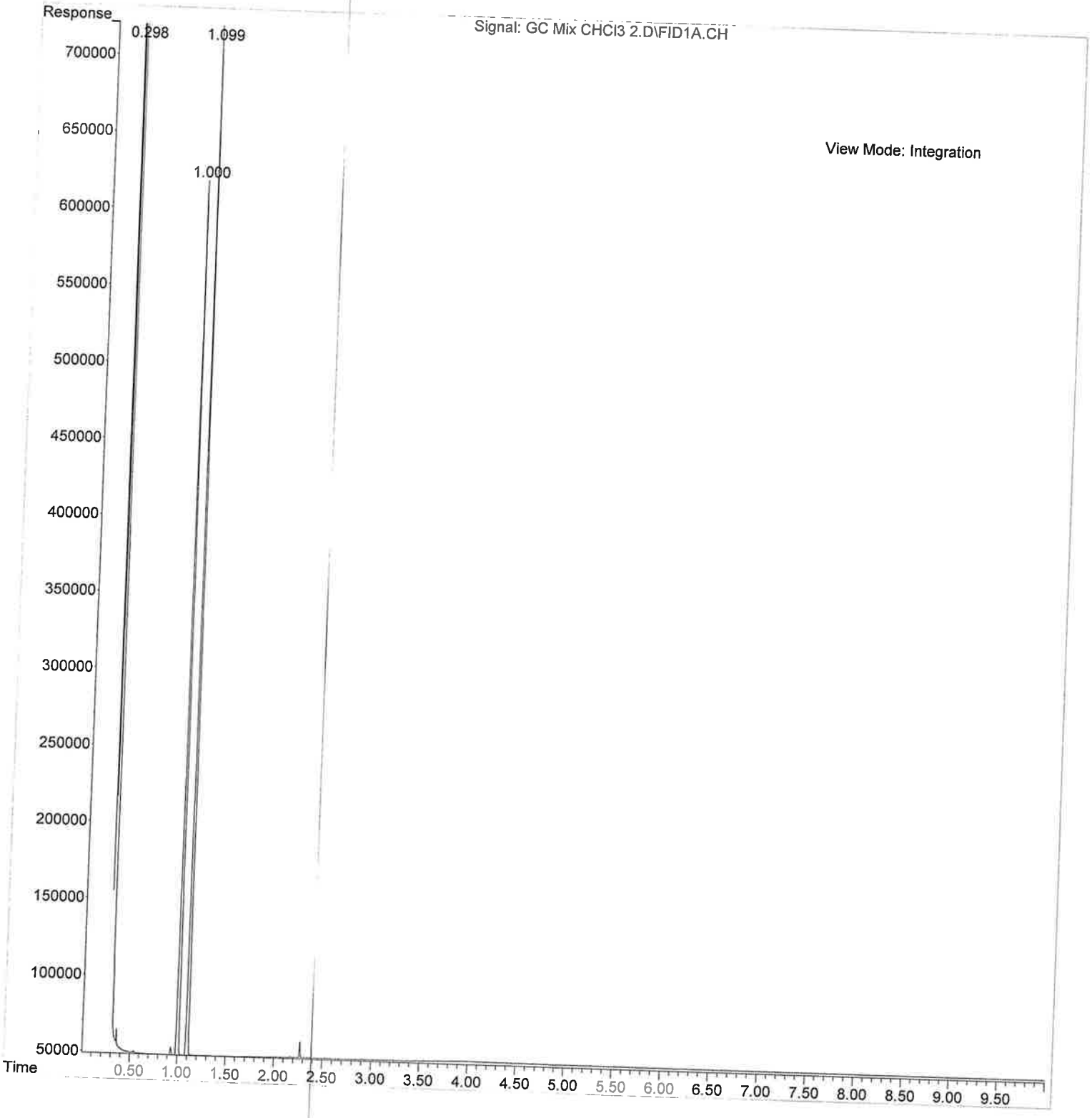


Column: a 12.5 m J&W 7GE-G011-14 Initial pressure: 10.79 psi
Inlet temperature: 250 'C Split Ratio: 40:1 Transfer Line Temp: 280 'C
Initial oven temp: 100 'C held for 1.00 min Ramp: 70.00 'C/min
Final temperature: 280 'C

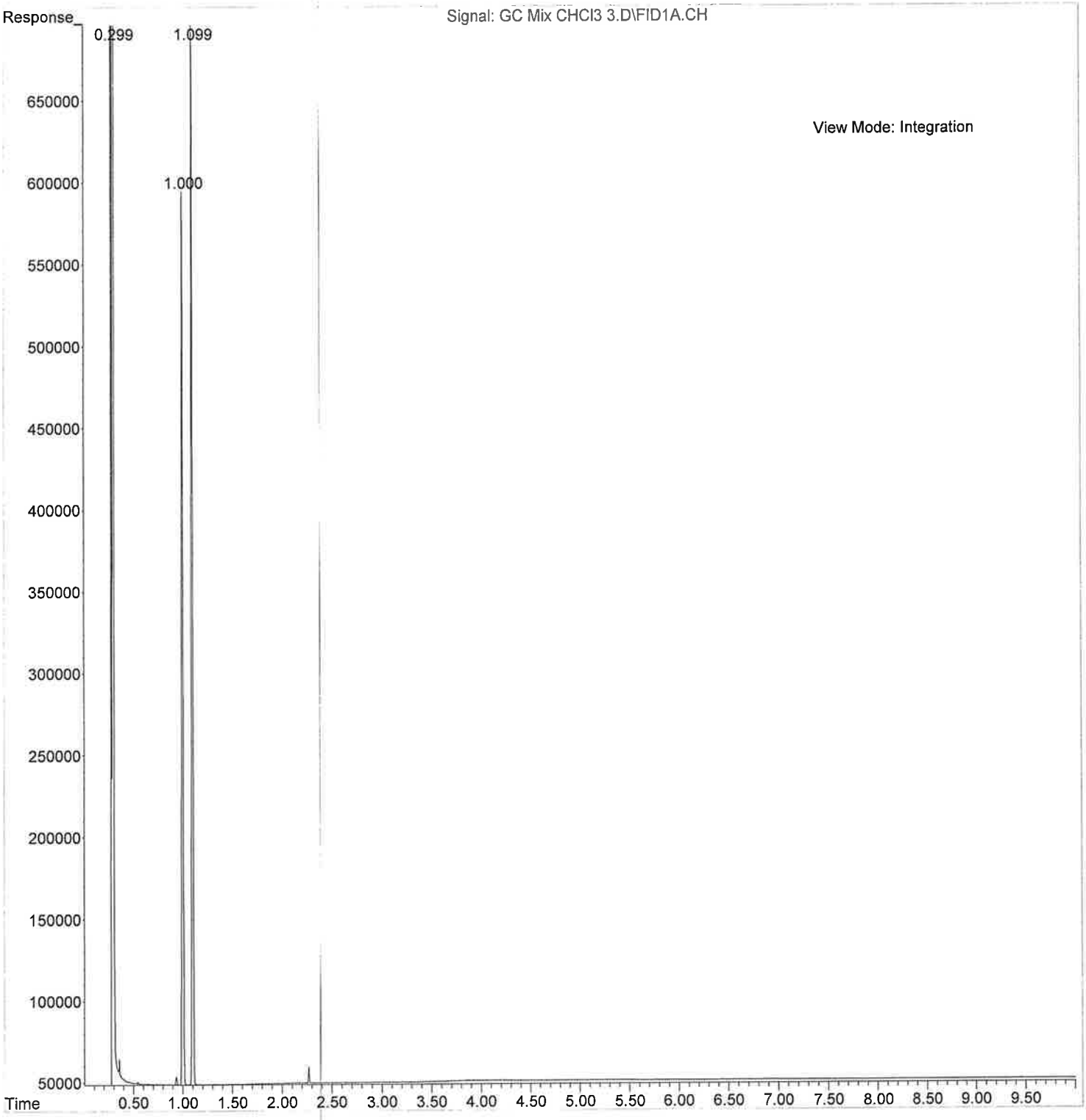
File :C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\GC Mix CHCl3 1 .D
Operator : TBI Analyst
Acquired : 26 Jan 2022 15:23 using AcqMethod ASGC100.M
Instrument : Gumbo
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 98



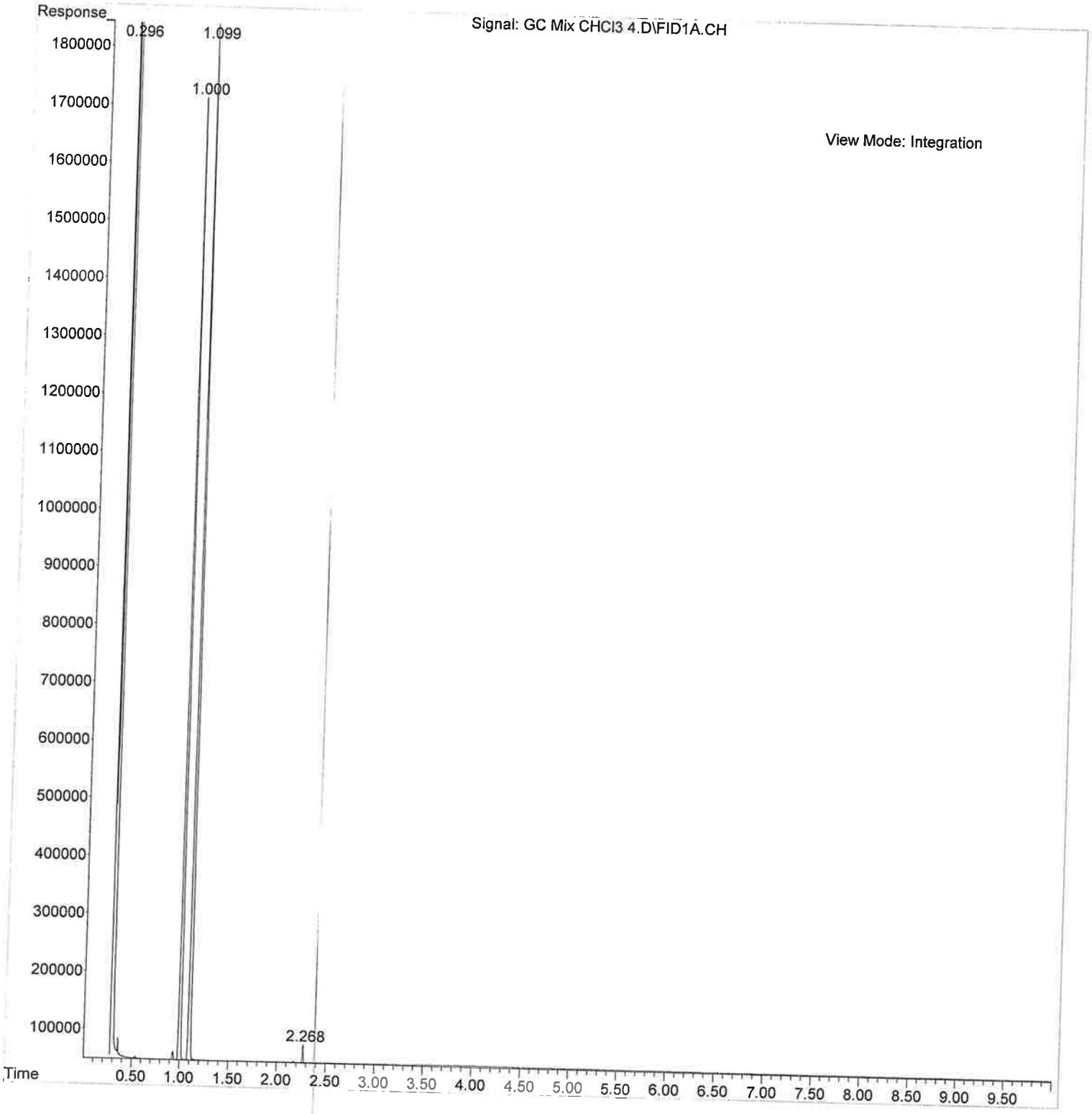
File :C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\GC Mix CHCl3 2.D
Operator : TBI Analyst
Acquired : 26 Jan 2022 16:05 using AcqMethod ASGC100.M
Instrument : Gumbo
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 98



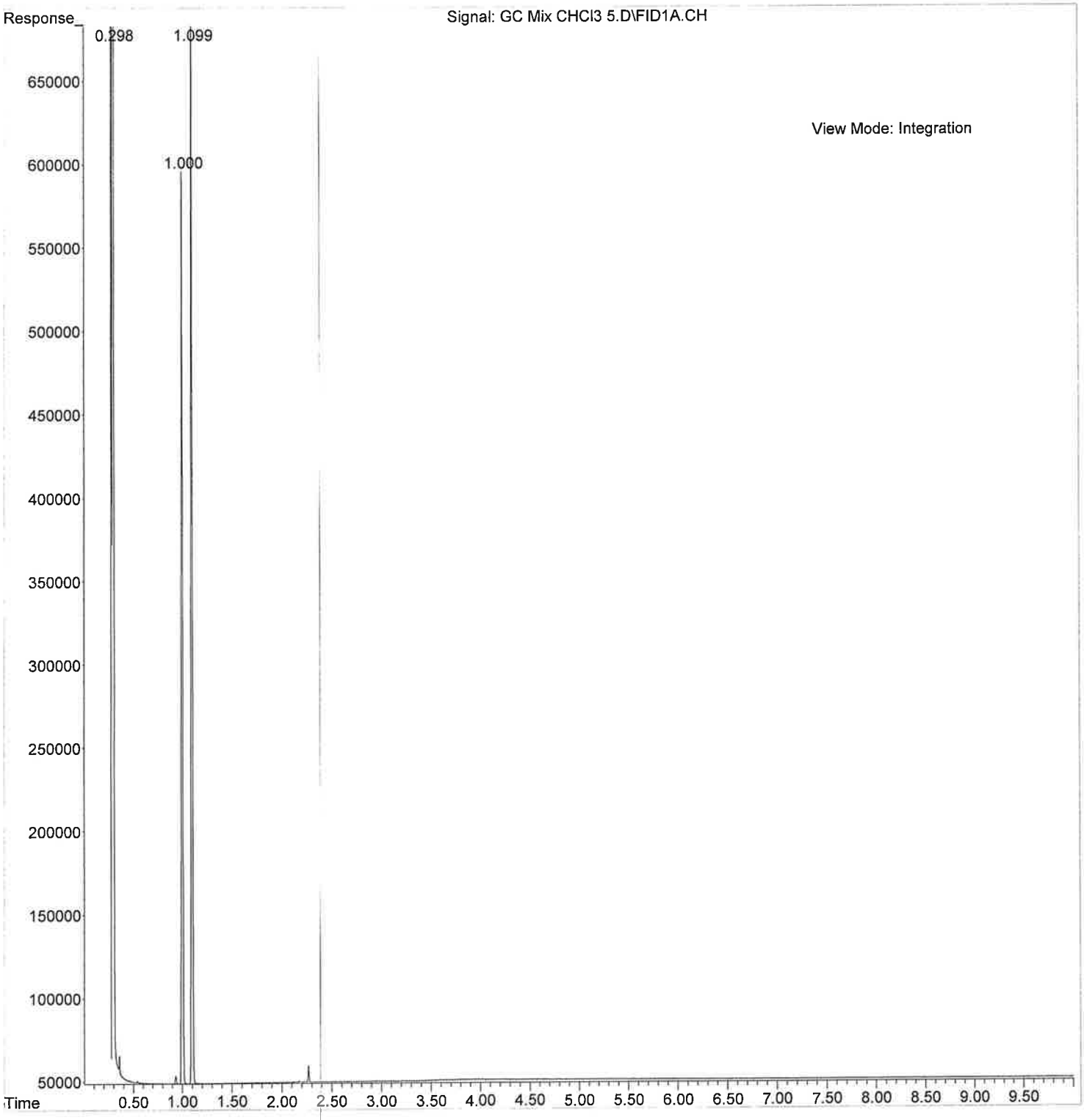
File :C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\GC Mix CHCl3 3.D
Operator : TBI Analyst
Acquired : 26 Jan 2022 16:46 using AcqMethod ASGC100.M
Instrument : Gumbo
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 98



File :C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\GC Mix CHCl3 4.D
Operator : TBI Analyst
Acquired : 26 Jan 2022 17:28 using AcqMethod ASGC100.M
Instrument : Gumbo
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 98

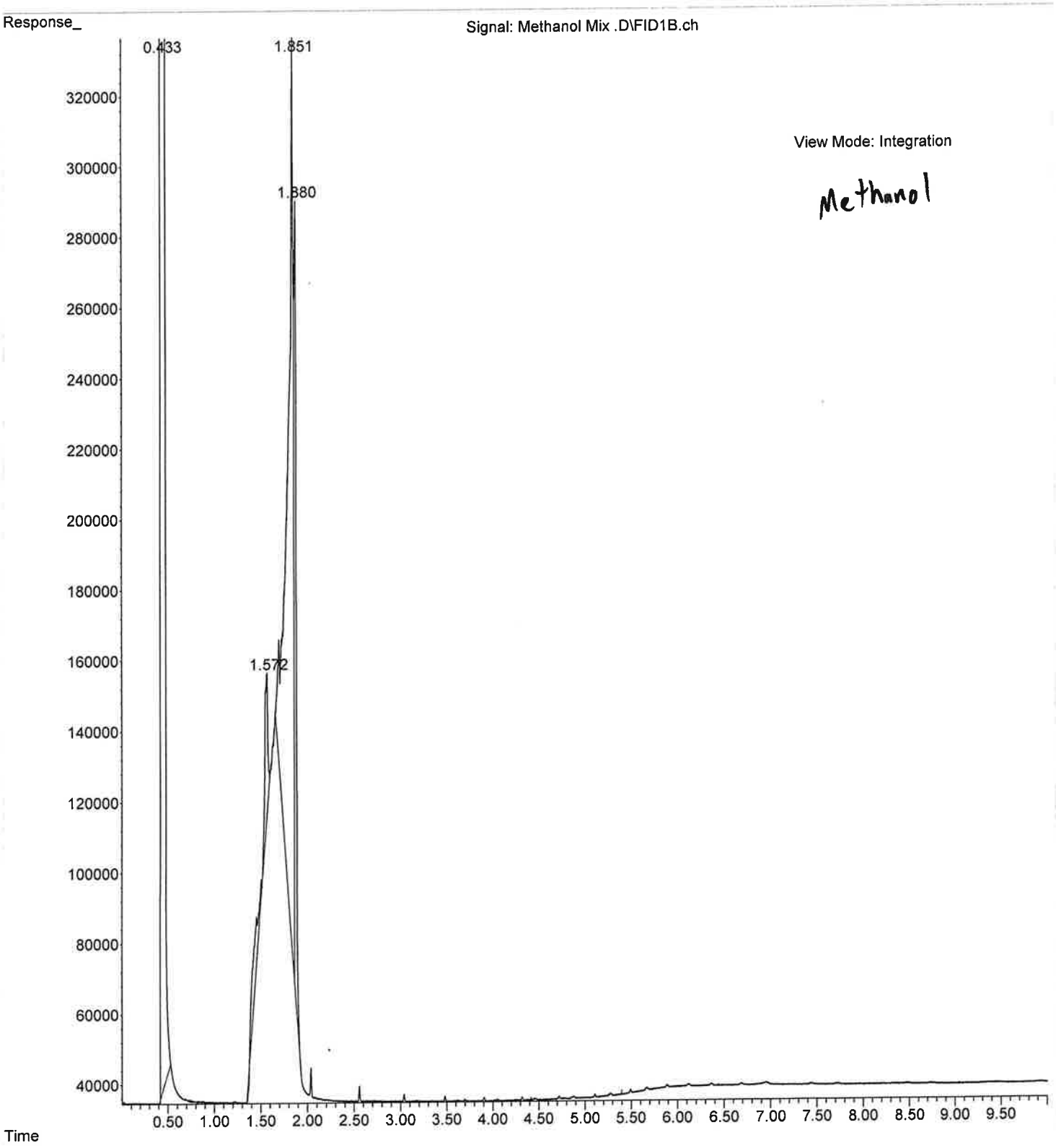


File :C:\msdchem\1\DATA\2022\BT\Jan\1-26-22\GC Mix CHCl3 5.D
Operator : TBI Analyst
Acquired : 26 Jan 2022 18:10 using AcqMethod ASGC100.M
Instrument : Gumbo
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 98



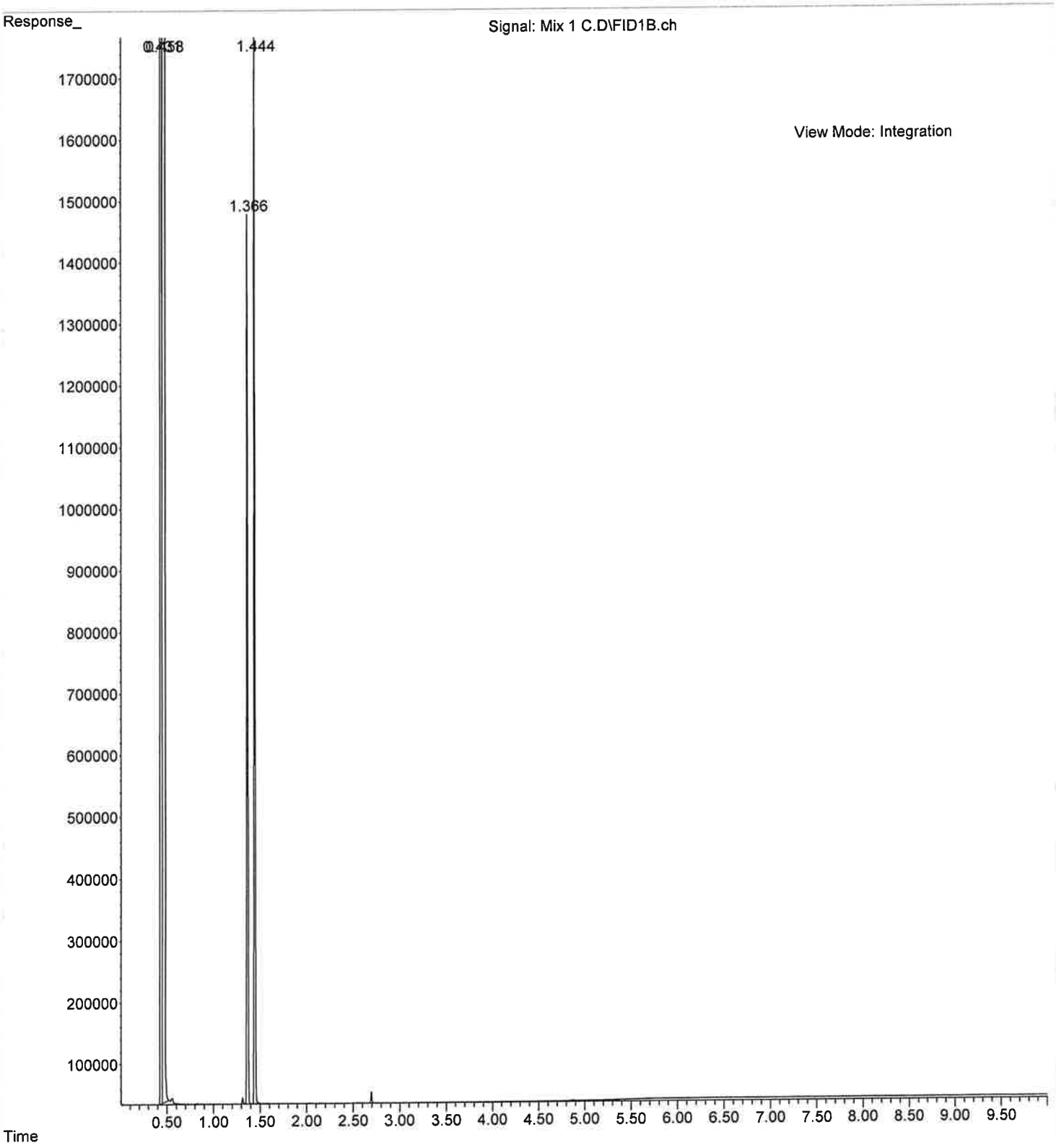
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Methanol Mix .D
Operator :
Acquired : 27 Jan 2022 08:41 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : Methanol
Vial Number: 102

1/27/22
BT



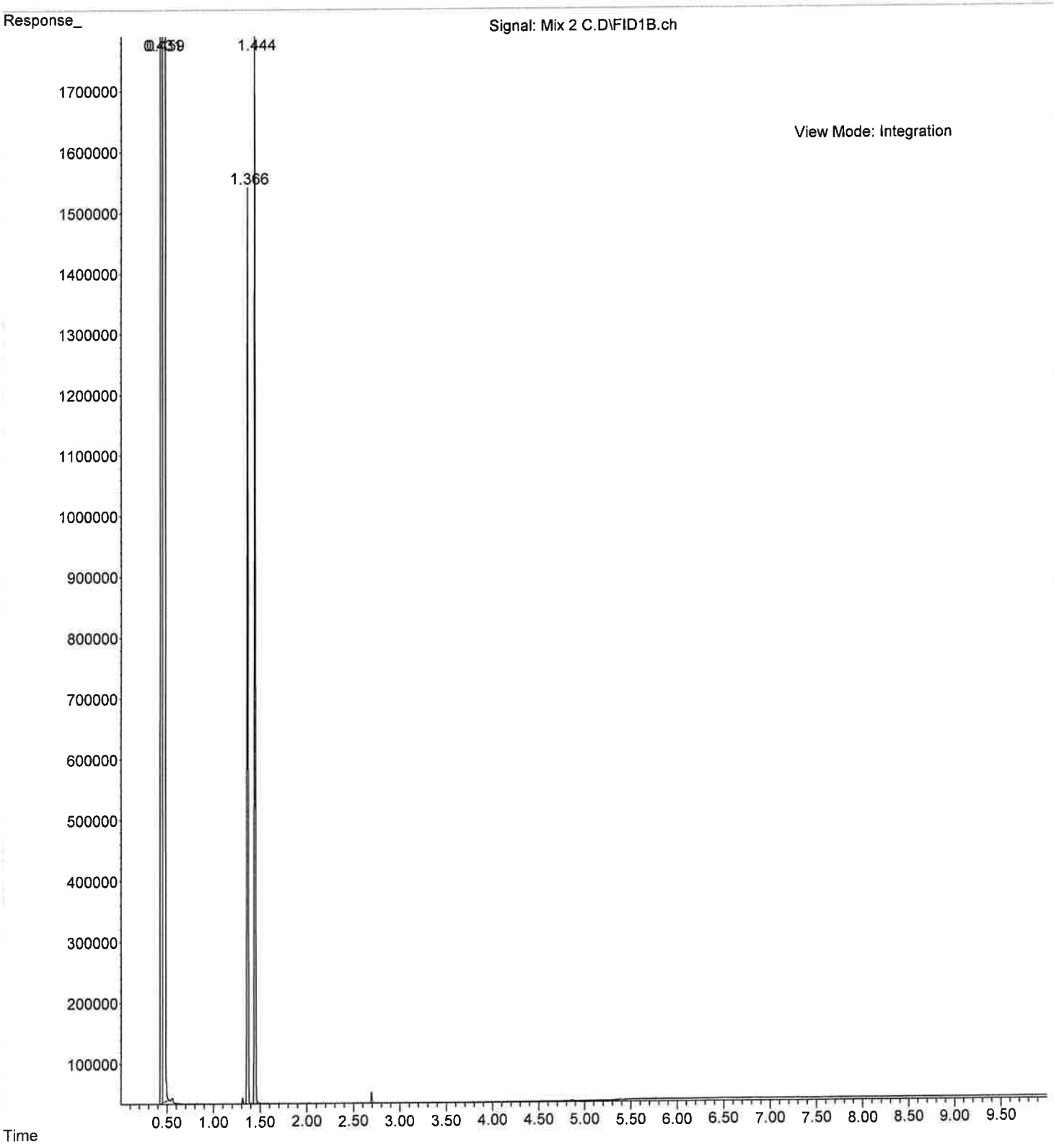
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 1 C.D
Operator :
Acquired : 27 Jan 2022 09:25 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 104

1/27/22
BT



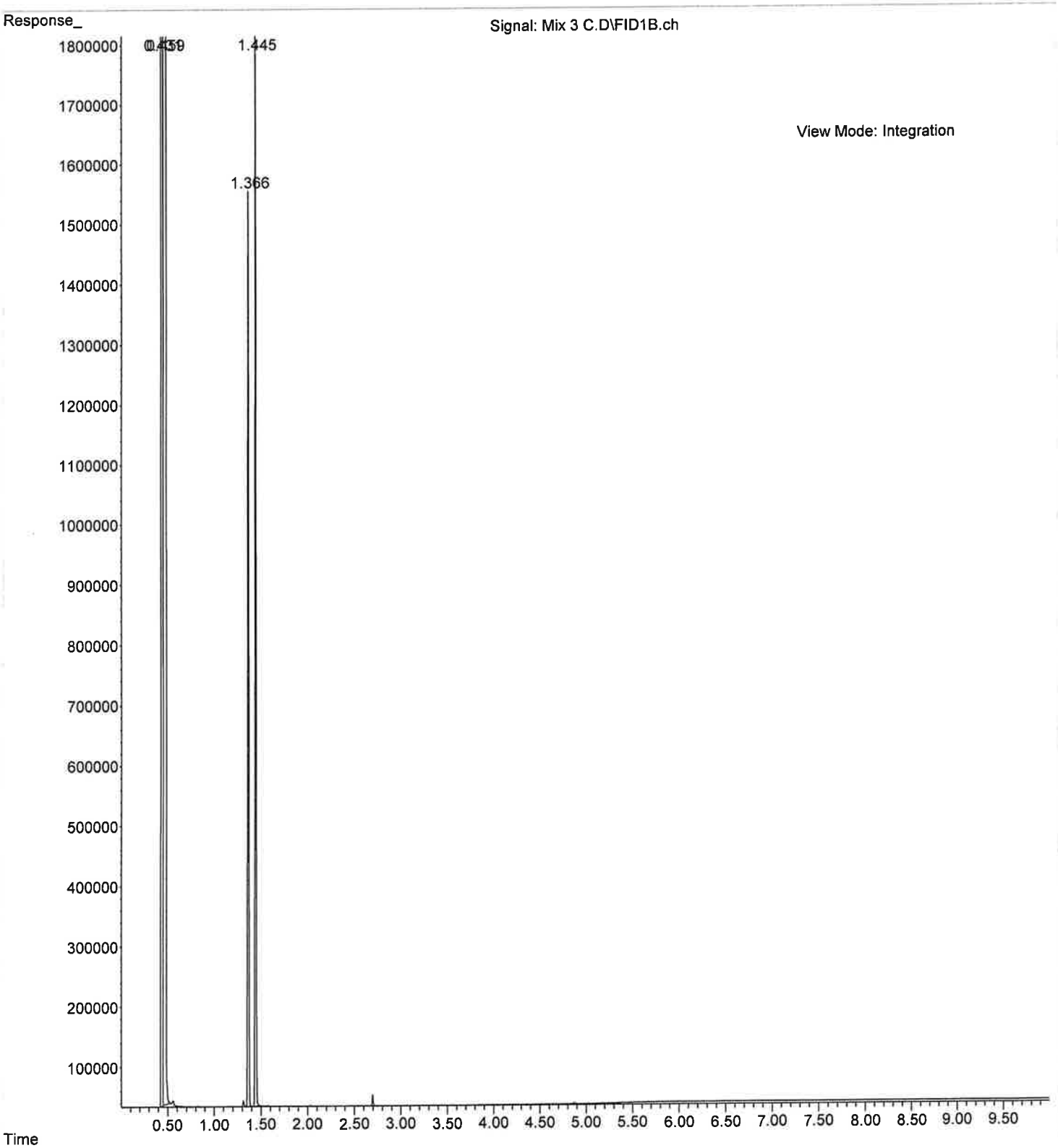
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 2 C.D
Operator :
Acquired : 27 Jan 2022 10:08 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 104

1/27/22
BT



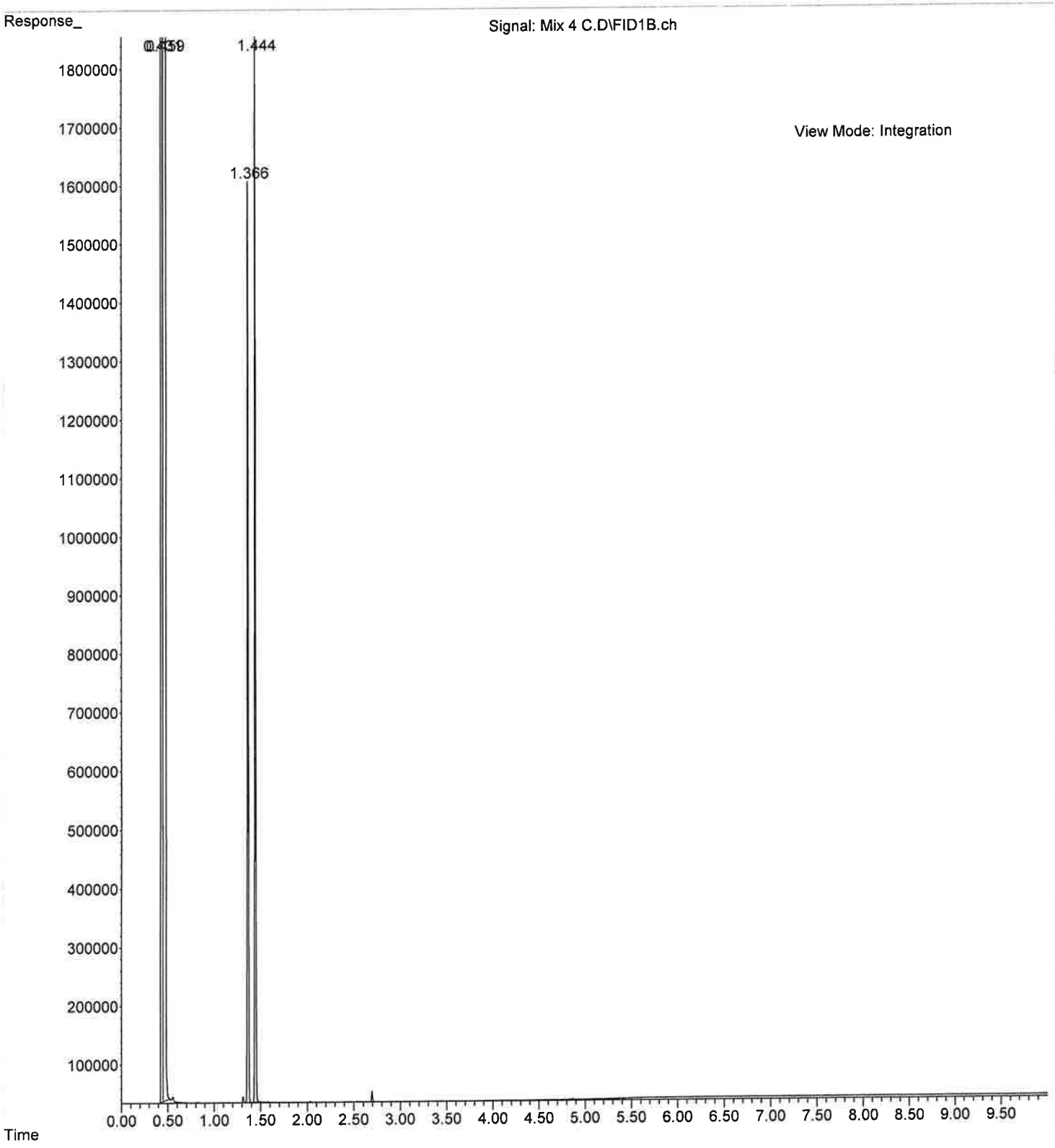
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 3 C.D
Operator :
Acquired : 27 Jan 2022 10:52 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 104

1/27/22
BT



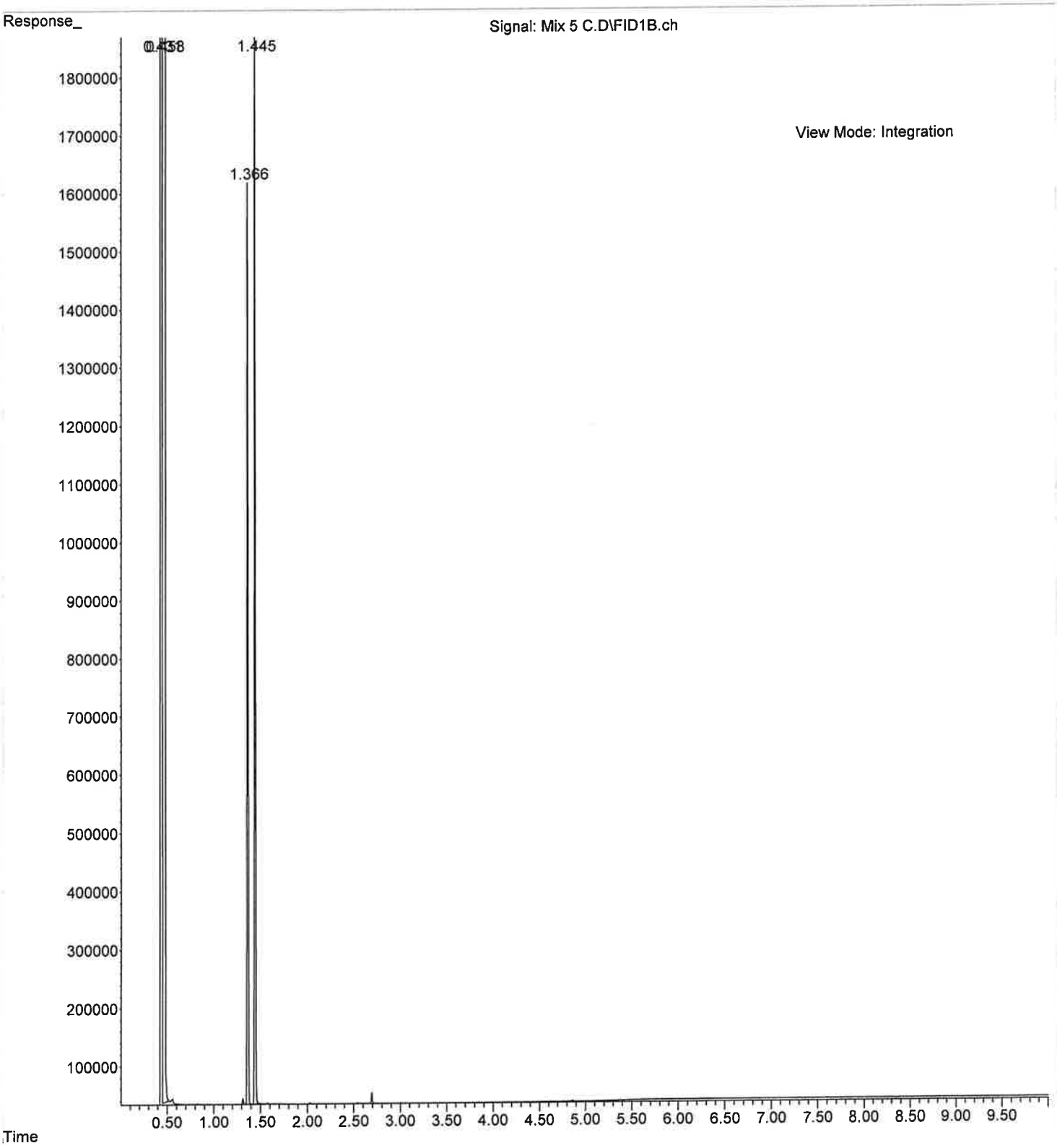
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 4 C.D
Operator :
Acquired : 27 Jan 2022 11:36 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 104

1/27/22
BT



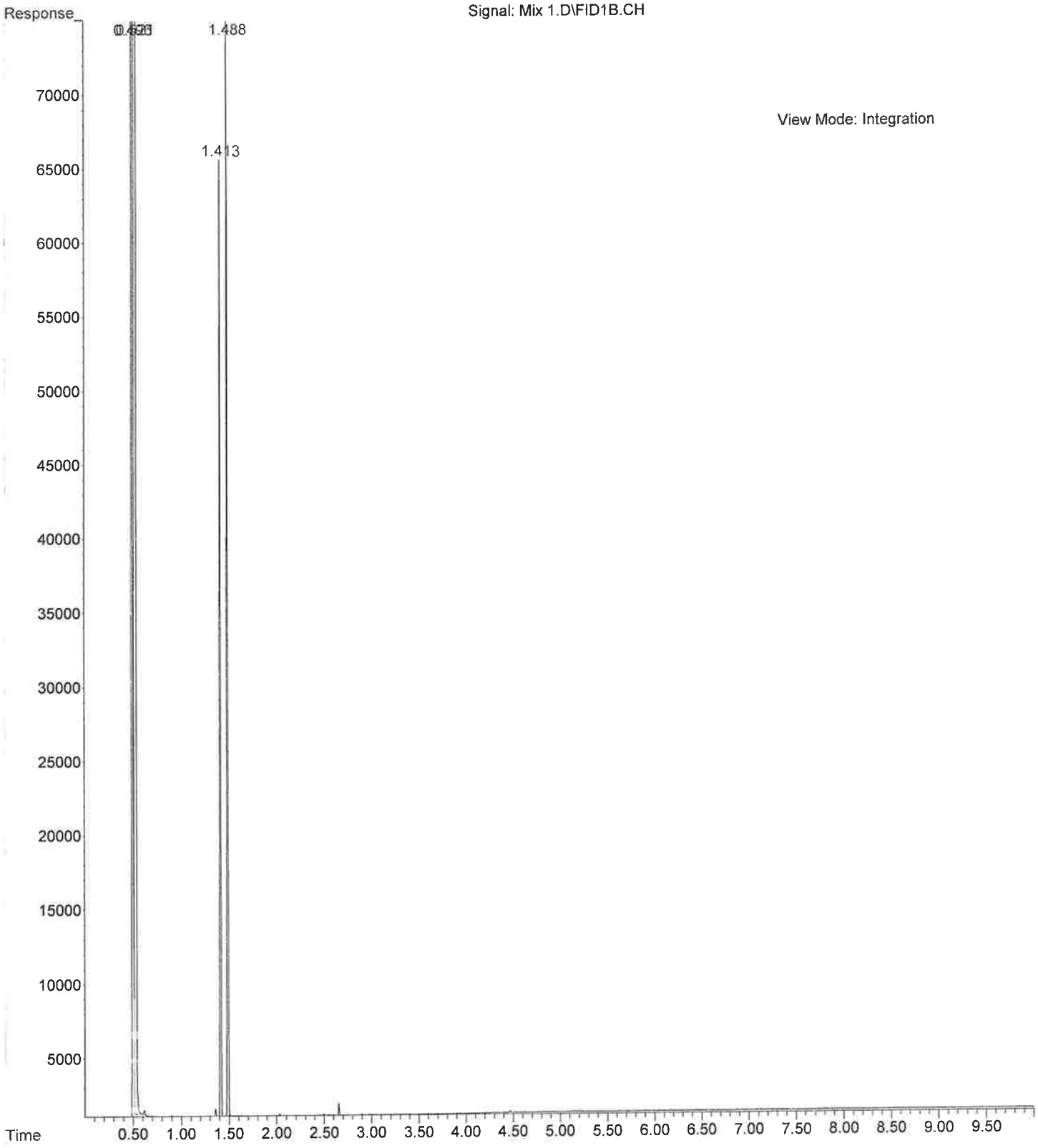
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 5 C.D
Operator :
Acquired : 27 Jan 2022 12:19 using AcqMethod ASGC100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 104

1/27/22
BT



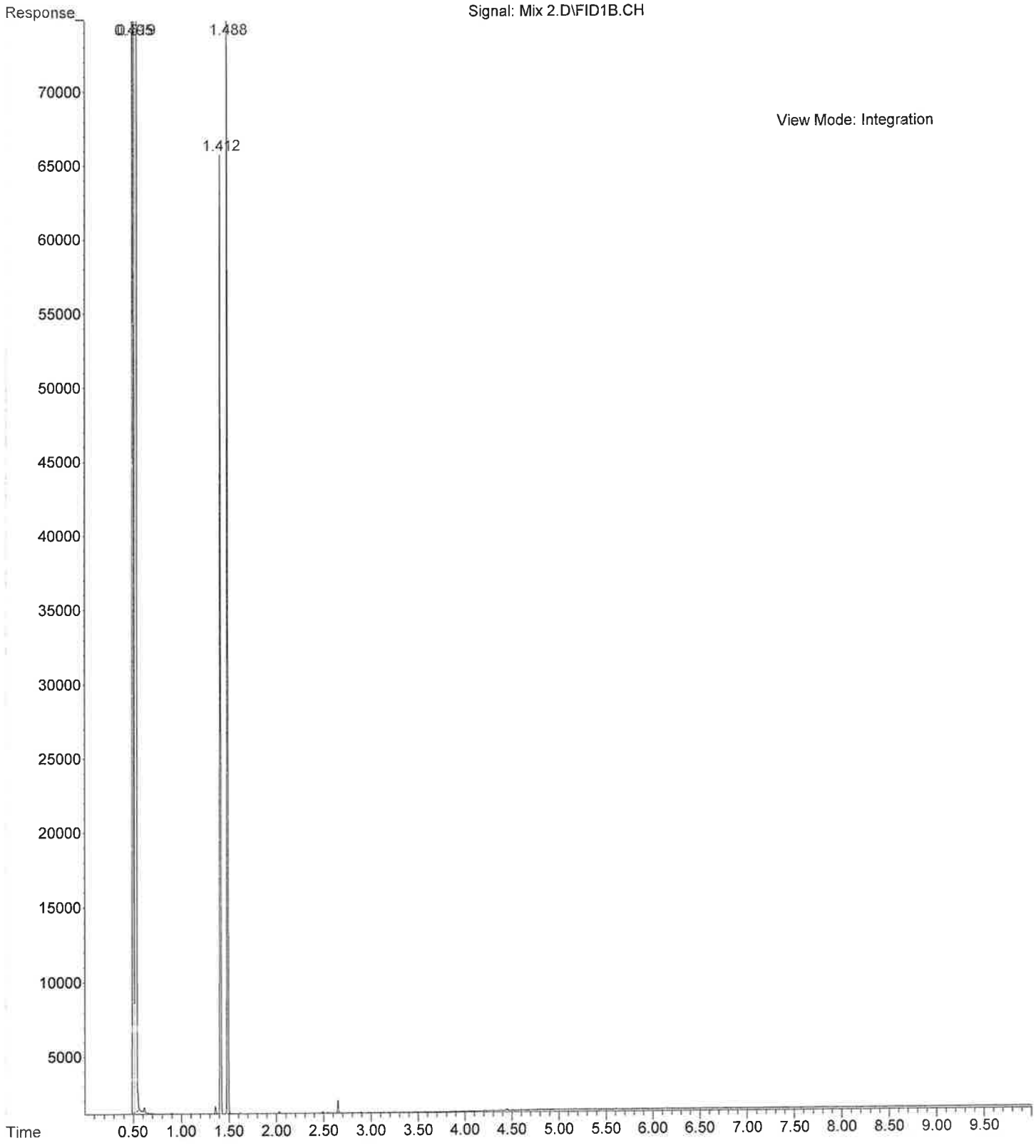
File :C:\msdchem\1\data\2022\BT\1-27-22\Mix 1.D
Operator : GJG
Acquired : 27 Jan 2022 13:30 using AcqMethod ASGC100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/27/22
BT



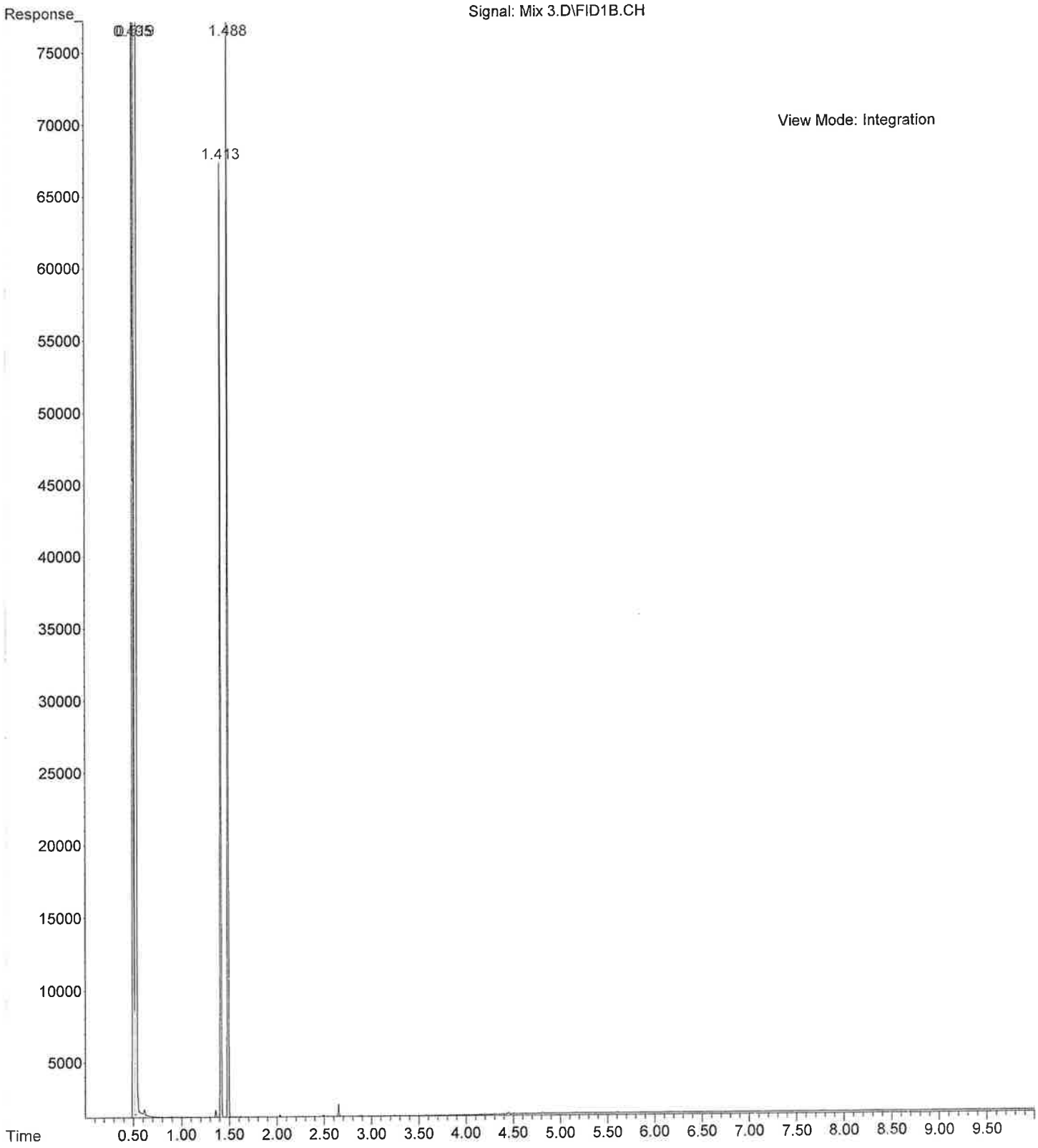
File :C:\msdchem\1\data\2022\BT\1-27-22\Mix 2.D
Operator : GJG
Acquired : 27 Jan 2022 14:13 using AcqMethod ASGC100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/27/22
BT



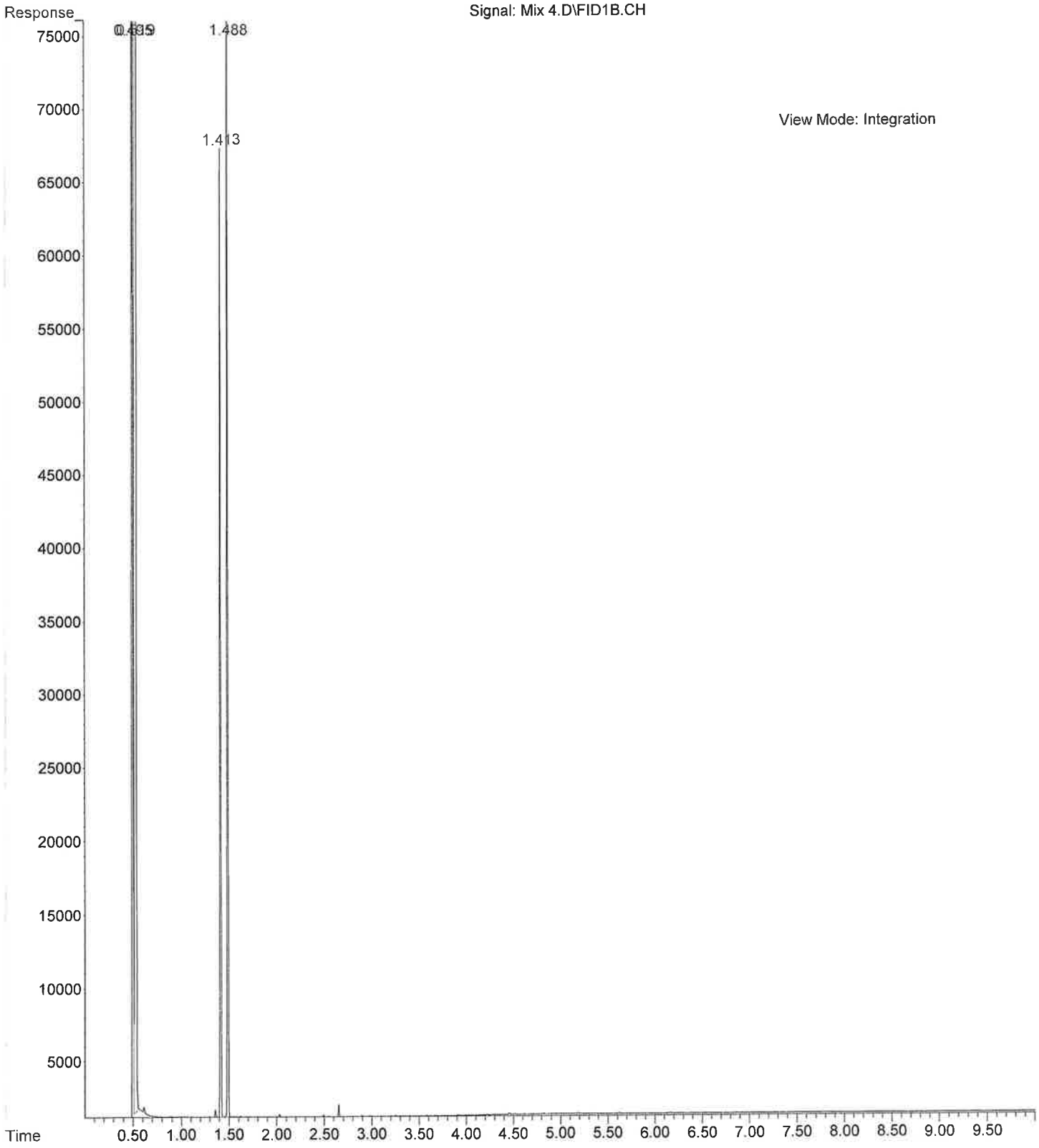
File :C:\msdchem\1\data\2022\BT\1-27-22\Mix 3.D
Operator : GJG
Acquired : 27 Jan 2022 14:57 using AcqMethod ASGC100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/27/22
BT



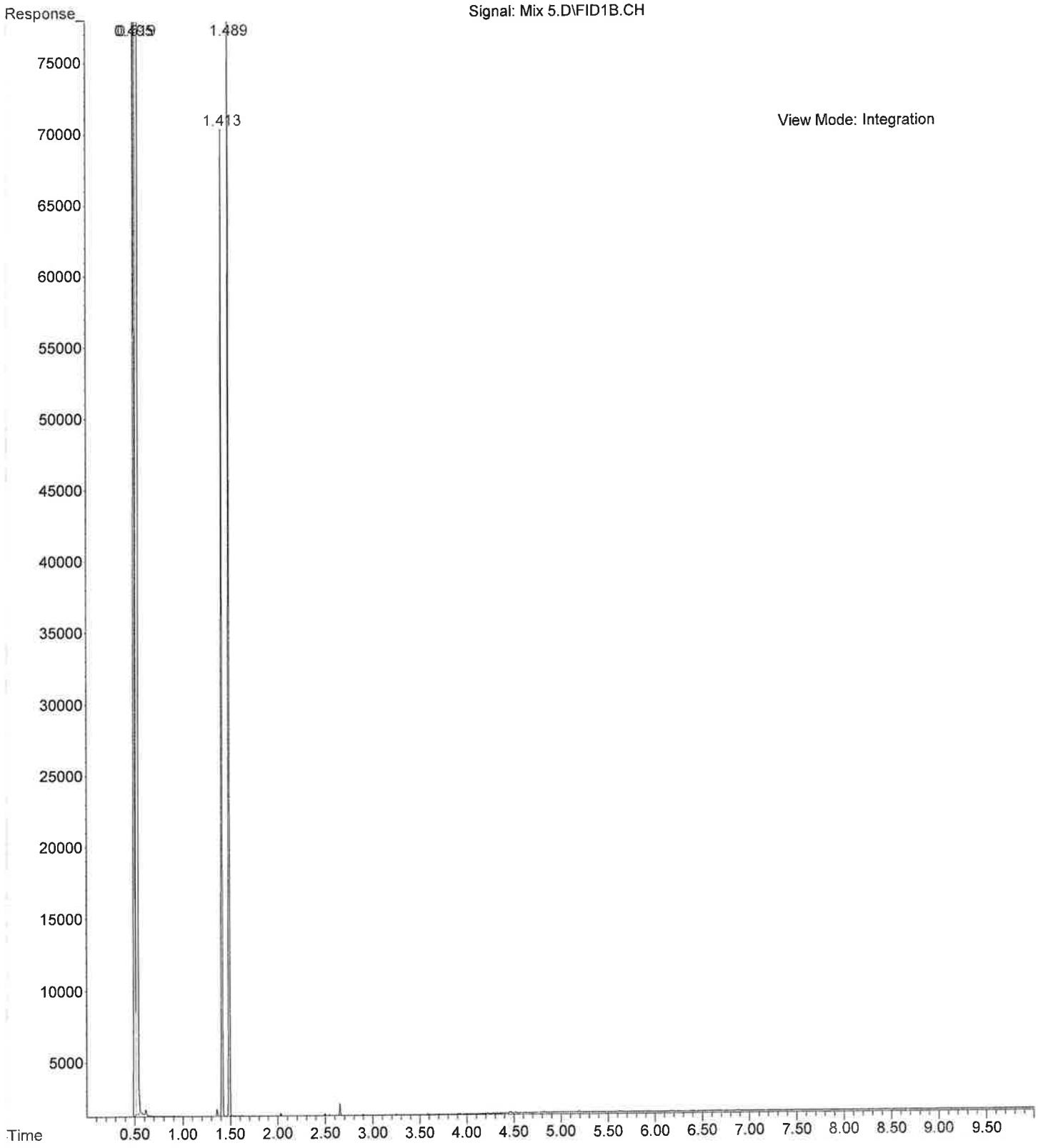
File :C:\msdchem\1\data\2022\BT\1-27-22\Mix 4.D
Operator : GJG
Acquired : 27 Jan 2022 15:41 using AcqMethod ASGC100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/27/22
BT



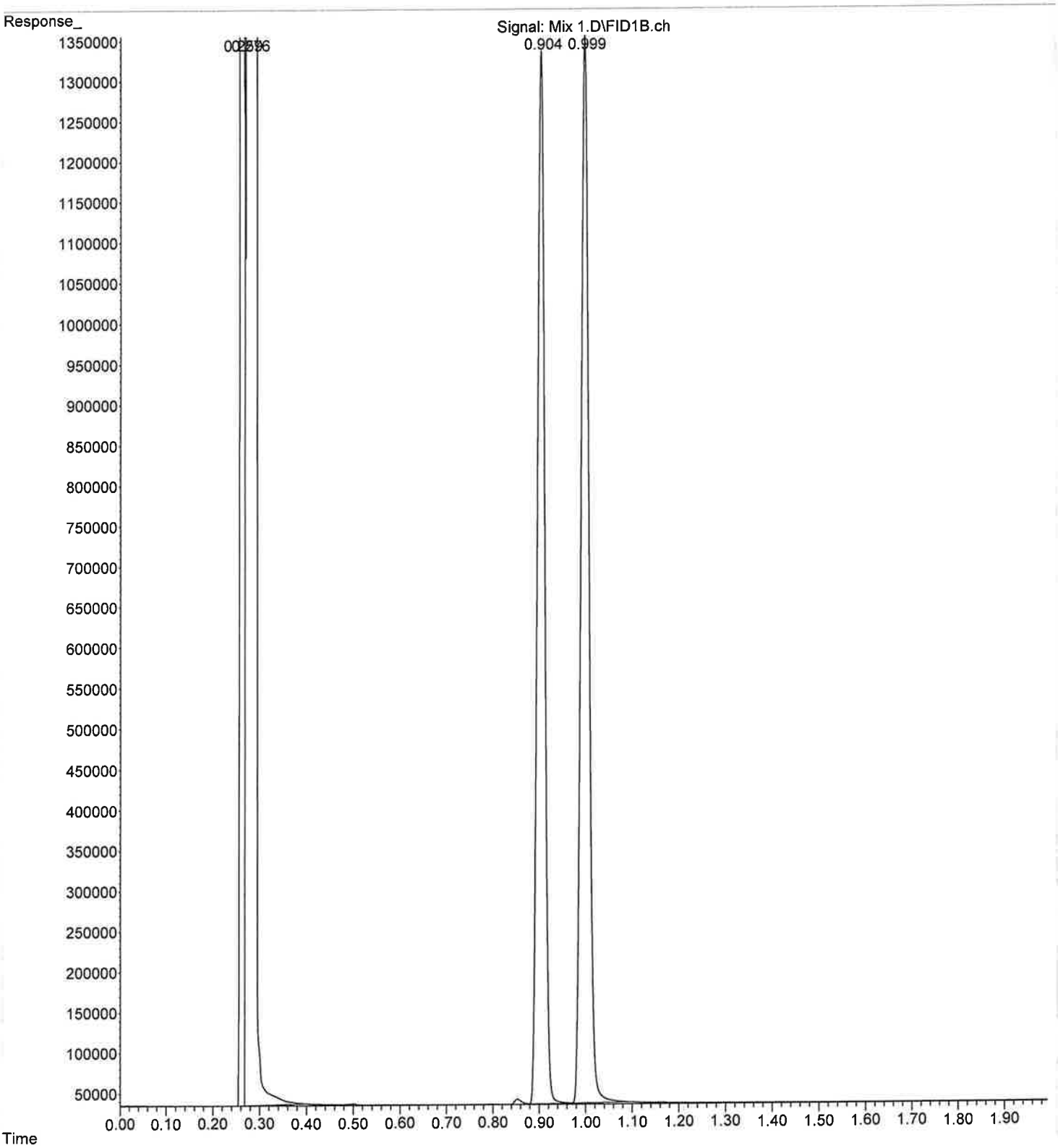
File :C:\msdchem\1\data\2022\BT\1-27-22\Mix 5.D
Operator : GJG
Acquired : 27 Jan 2022 16:25 using AcqMethod ASGC100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/27/22
BT



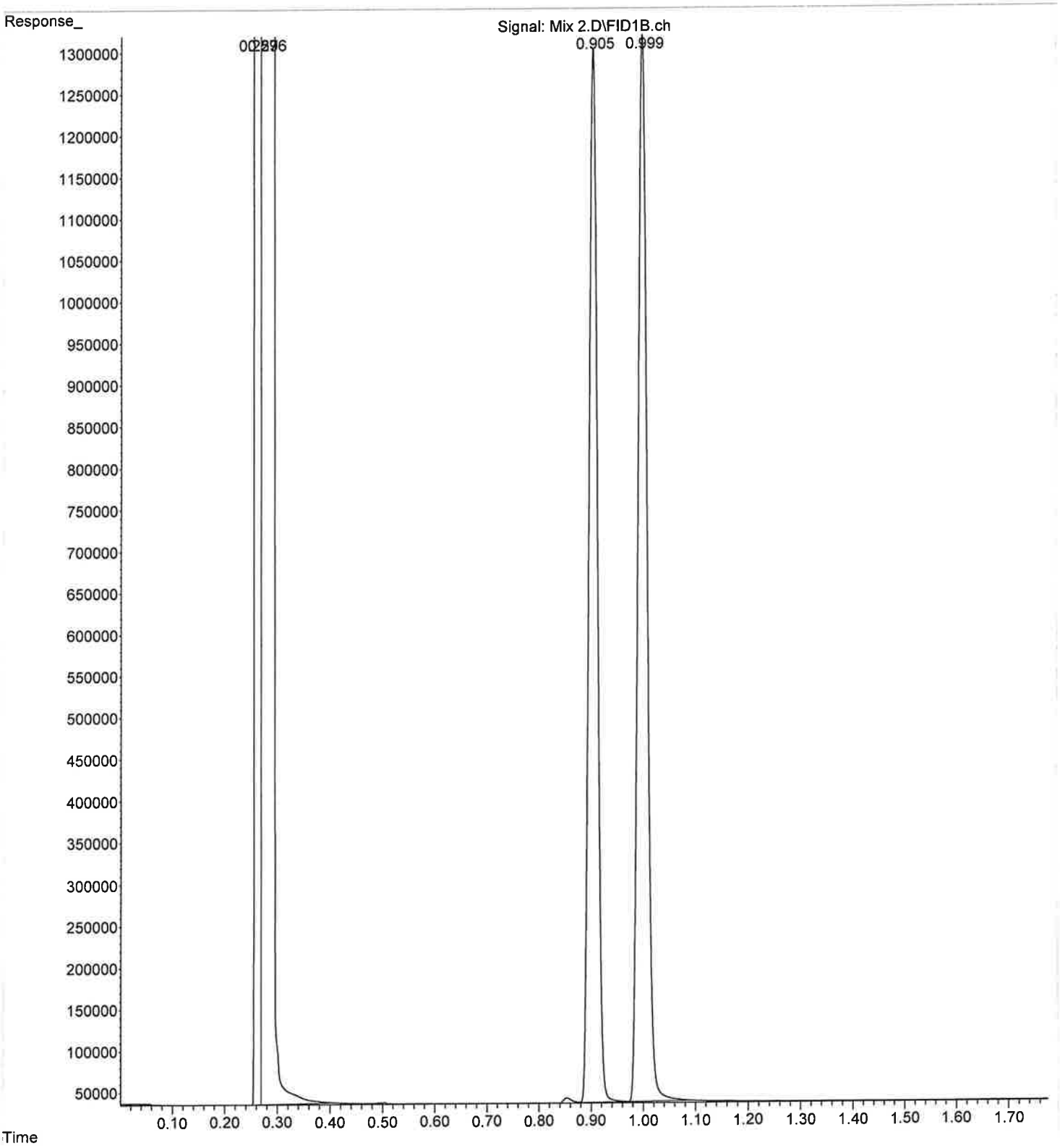
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 1.D
Operator :
Acquired : 27 Jan 2022 14:47 using AcqMethod ASGC100.M
Instrument : Kenny
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

1/27/22
BT



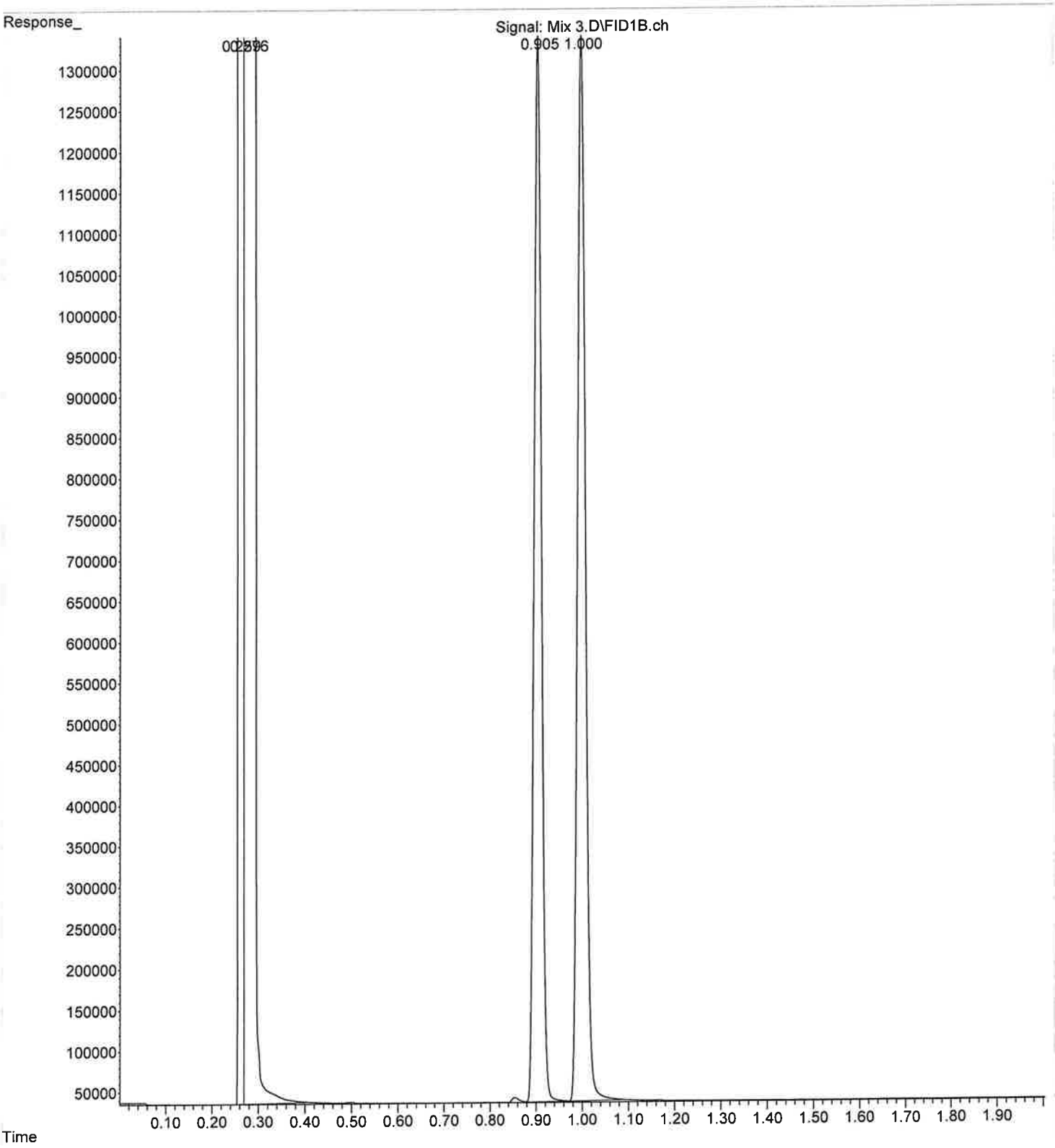
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 2.D
Operator :
Acquired : 27 Jan 2022 15:25 using AcqMethod ASGC100.M
Instrument : Kenny
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

1/27/22
BT



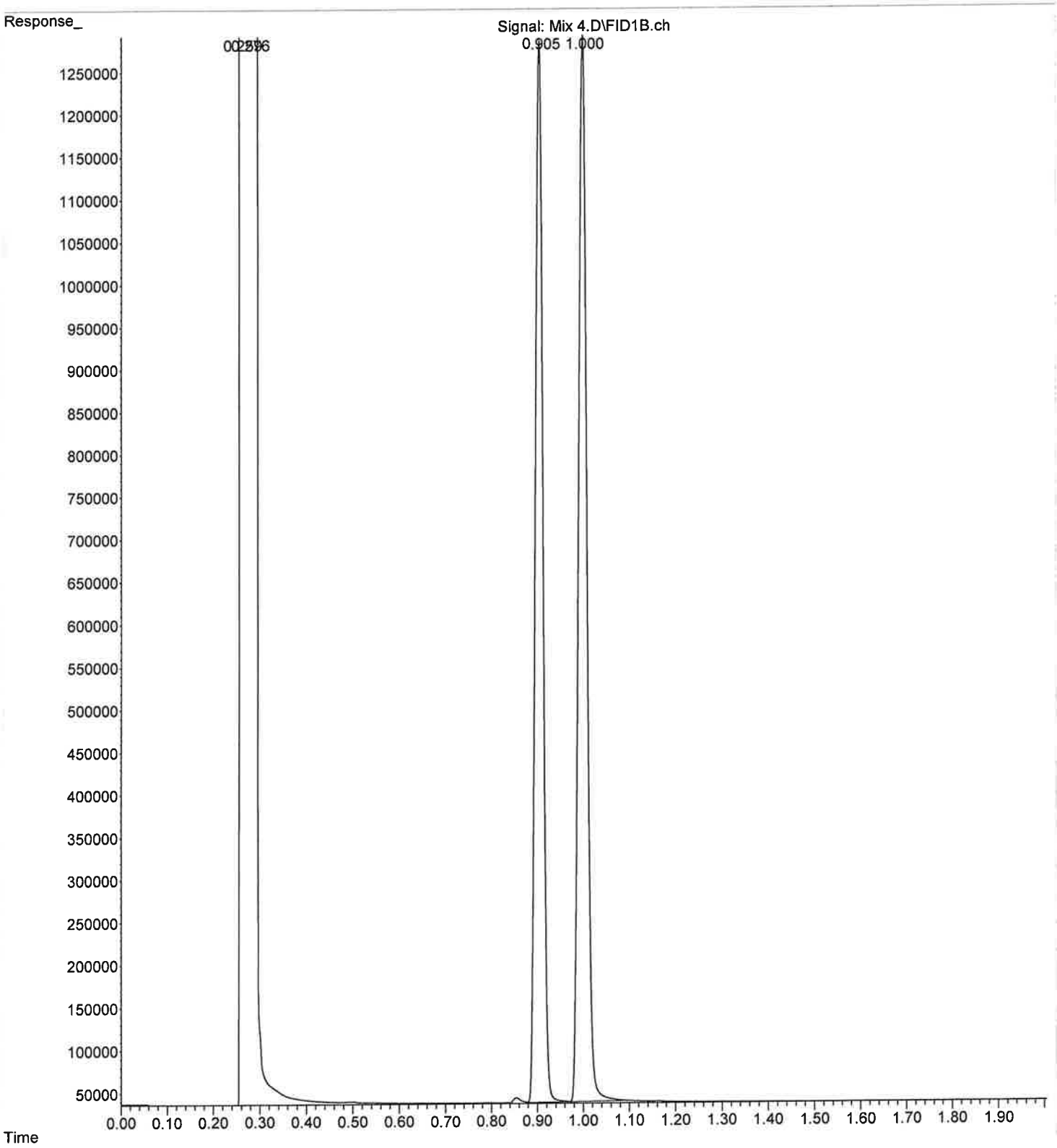
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 3.D
Operator :
Acquired : 27 Jan 2022 16:03 using AcqMethod ASGC100.M
Instrument : Kenny
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

1/27/22
BT



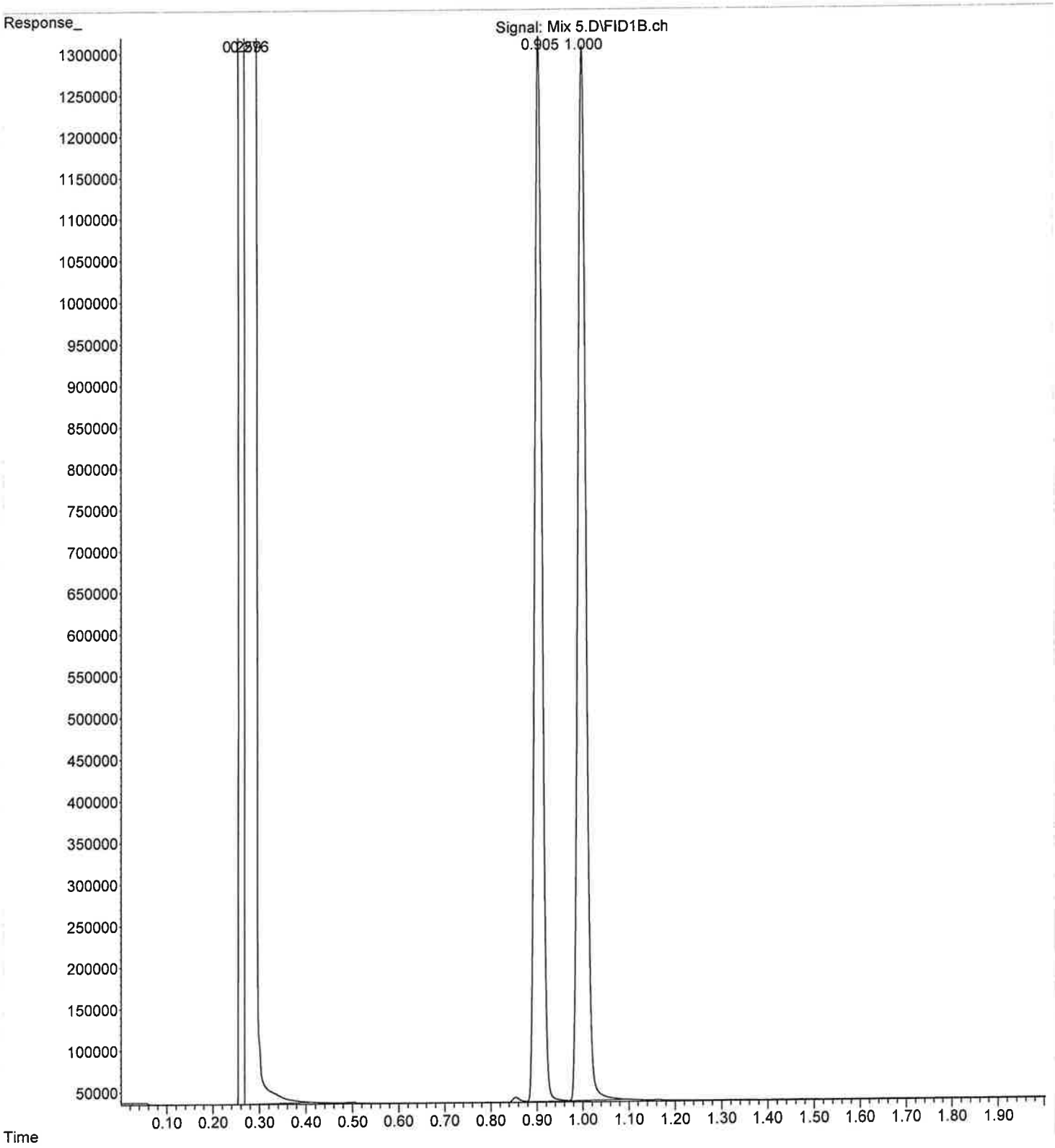
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 4.D
Operator :
Acquired : 27 Jan 2022 16:41 using AcqMethod ASGC100.M
Instrument : Kenny
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

1/27/22
BT



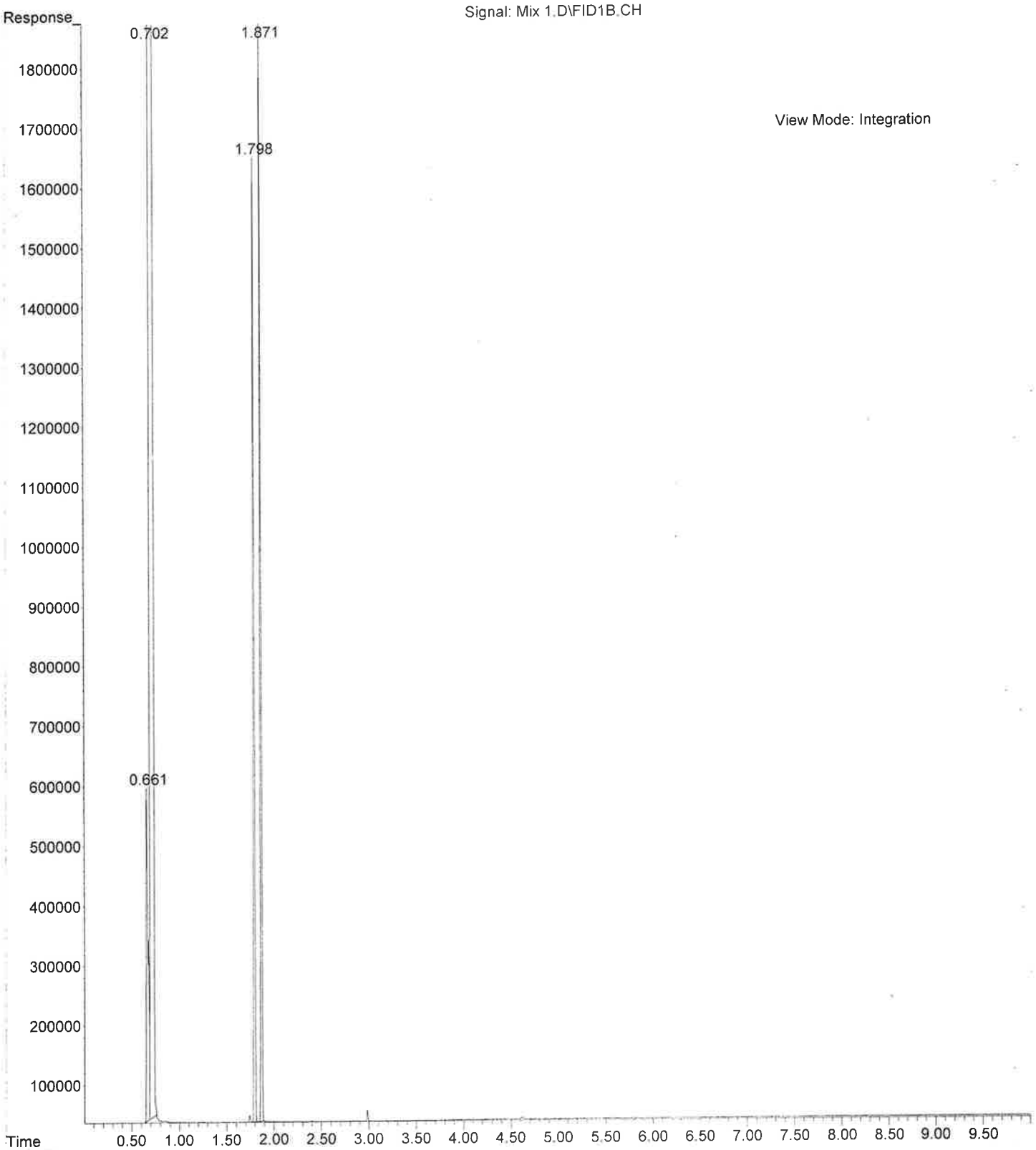
File :D:\MassHunter\GCMS\1\data\2022\BT\1-27-22\Mix 5.D
Operator :
Acquired : 27 Jan 2022 17:19 using AcqMethod ASGC100.M
Instrument : Kenny
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

1/27/22
BT



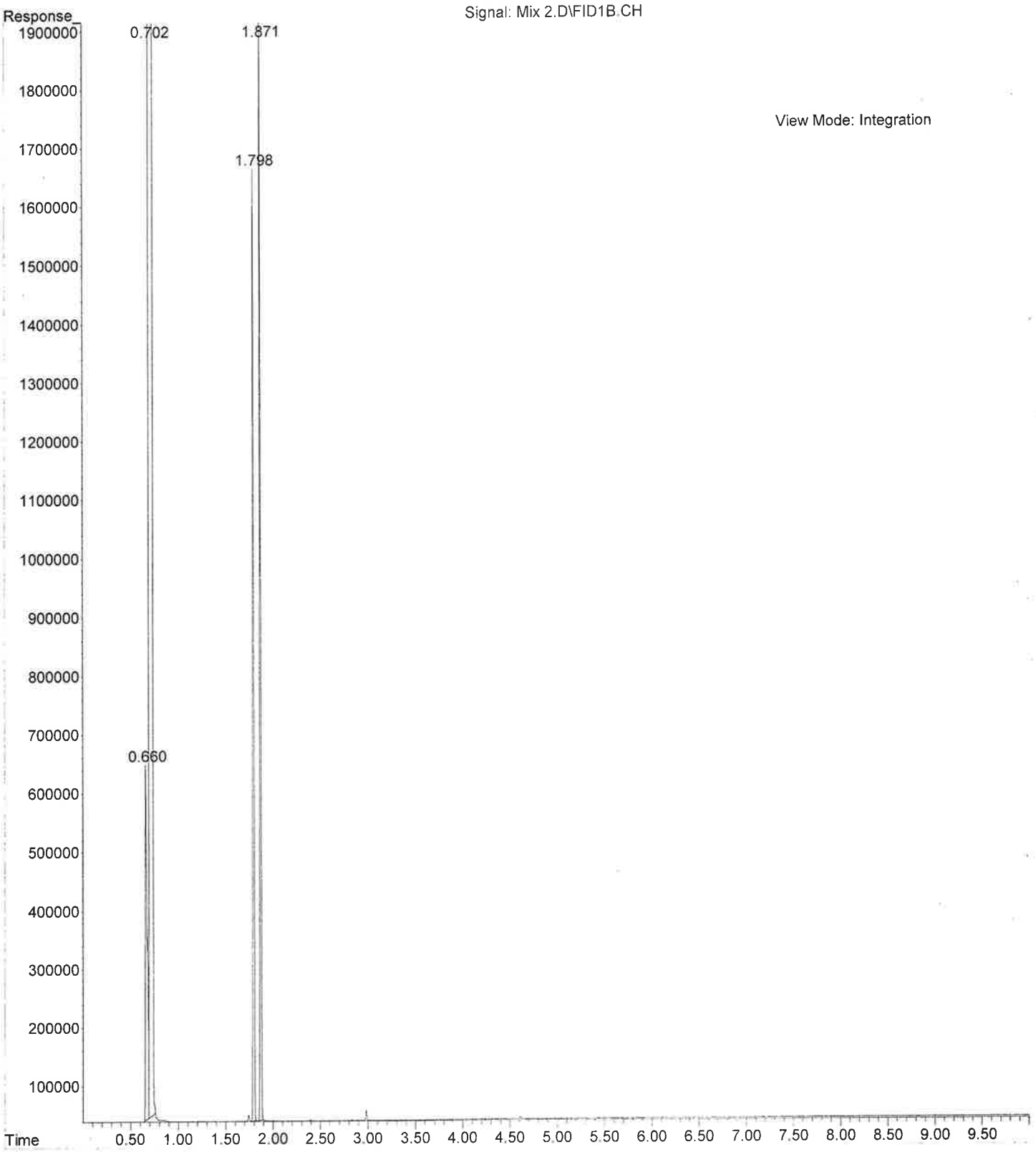
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 1.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 8:23 using AcqMethod ASGC100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/28/22
BT



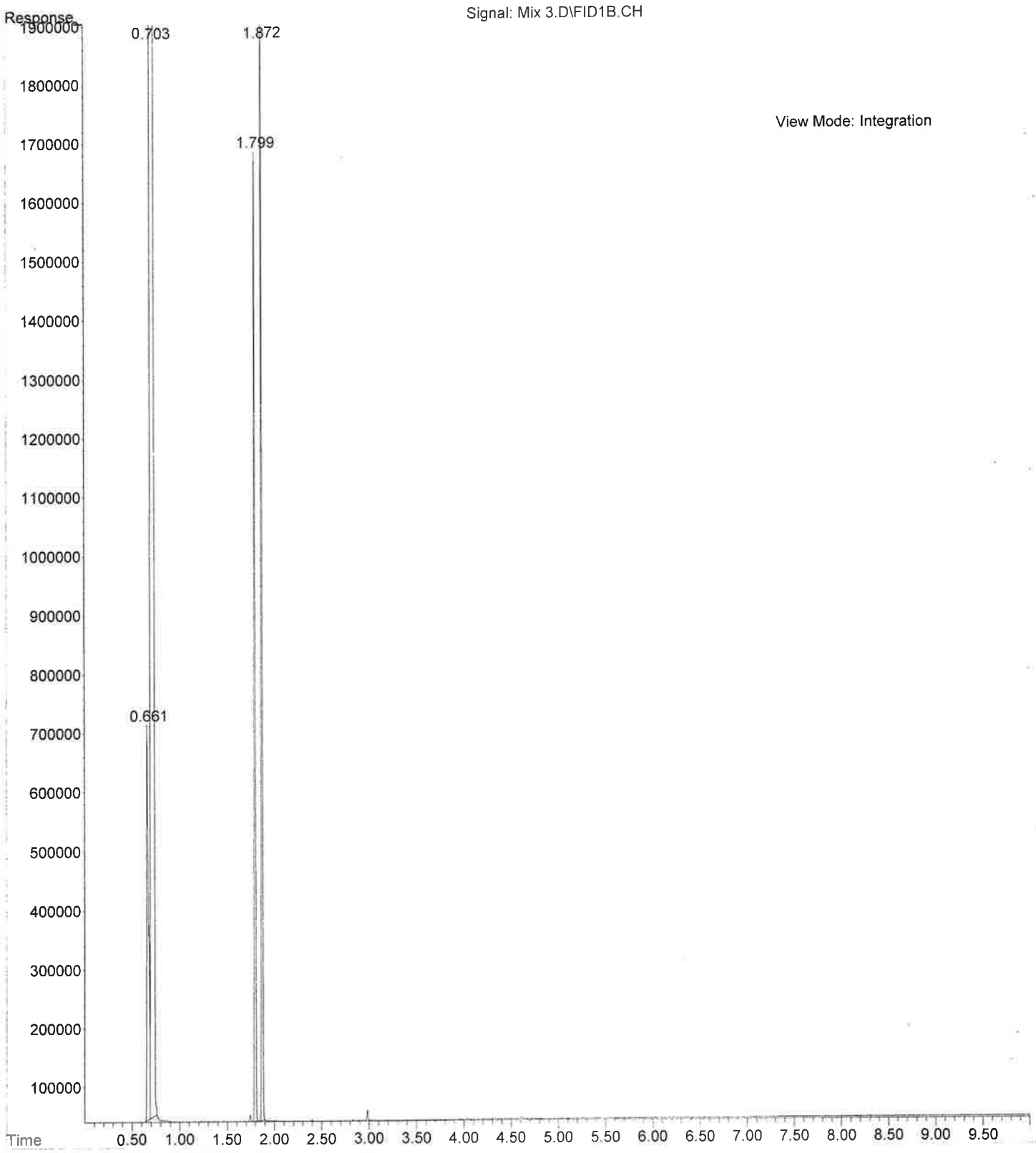
File :C:\msdchem\1\data\2022\BT\1-28-22\Mix 2.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 9:06 using AcqMethod ASGC100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/28/22
BT



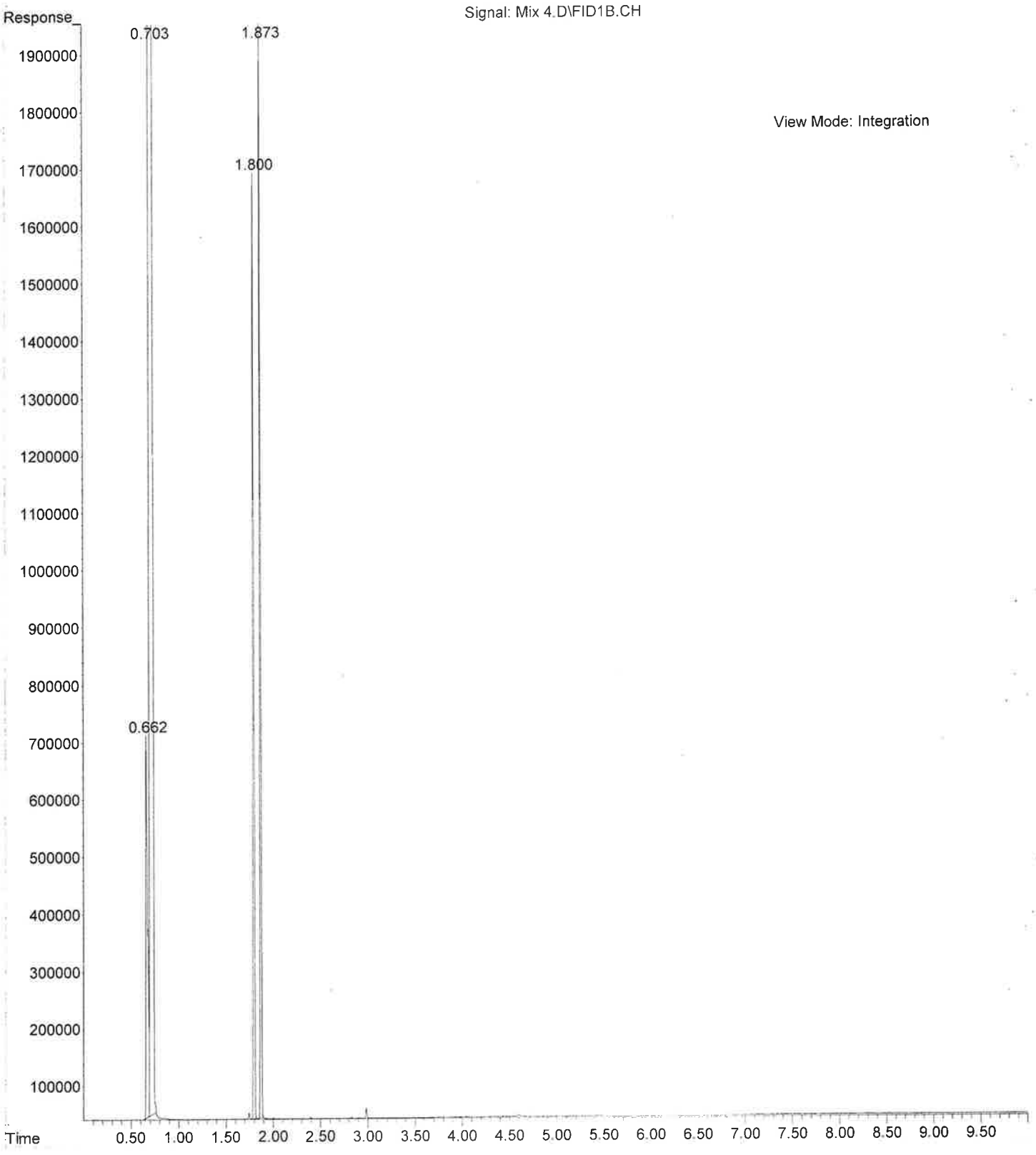
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 3.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 9:50 using AcqMethod ASGC100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/28/22
BT



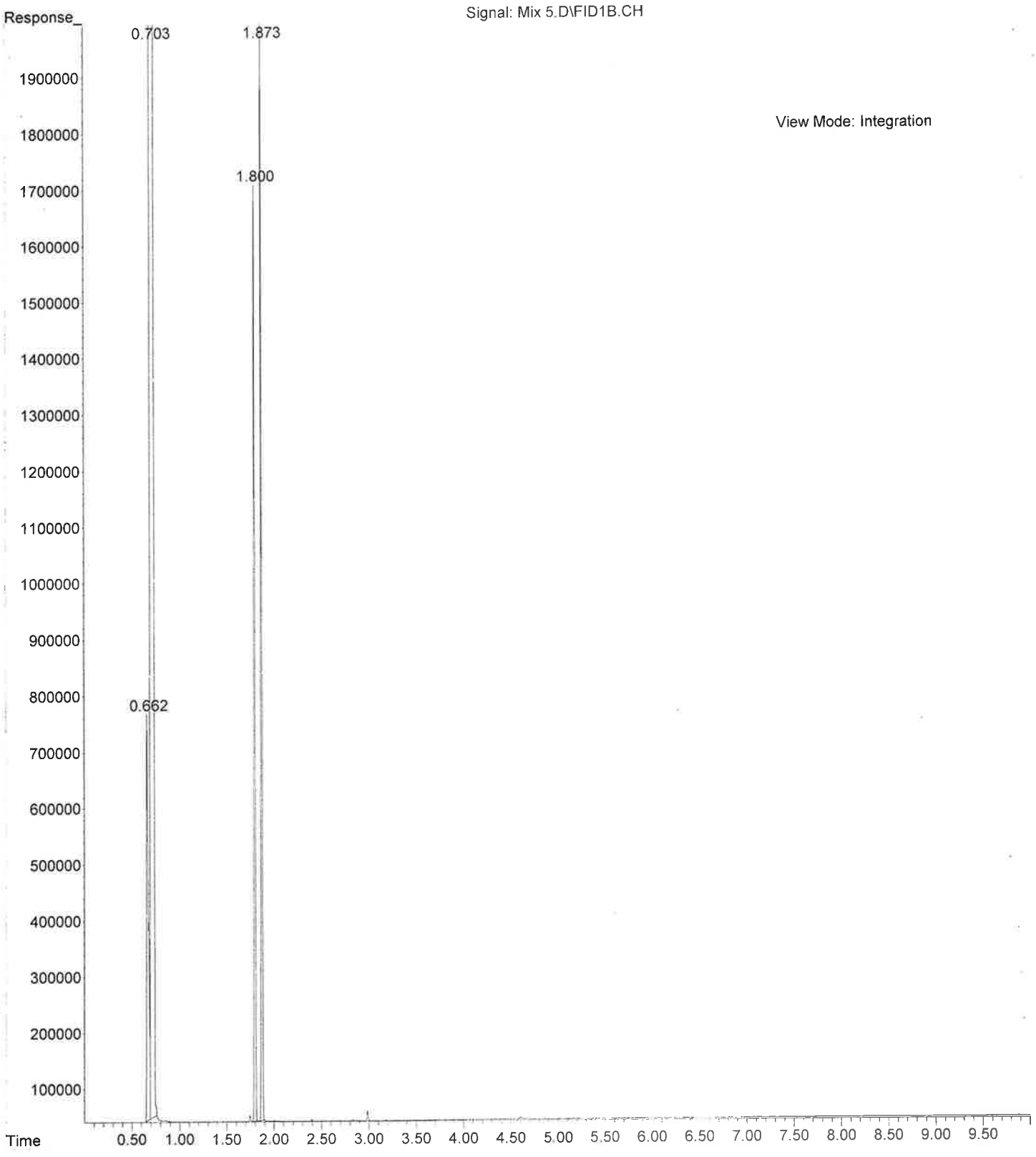
File :C:\msdchem\1\data\2022\BT\1-28-22\Mix 4.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 10:34 using AcqMethod ASGC100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/28/22
BT



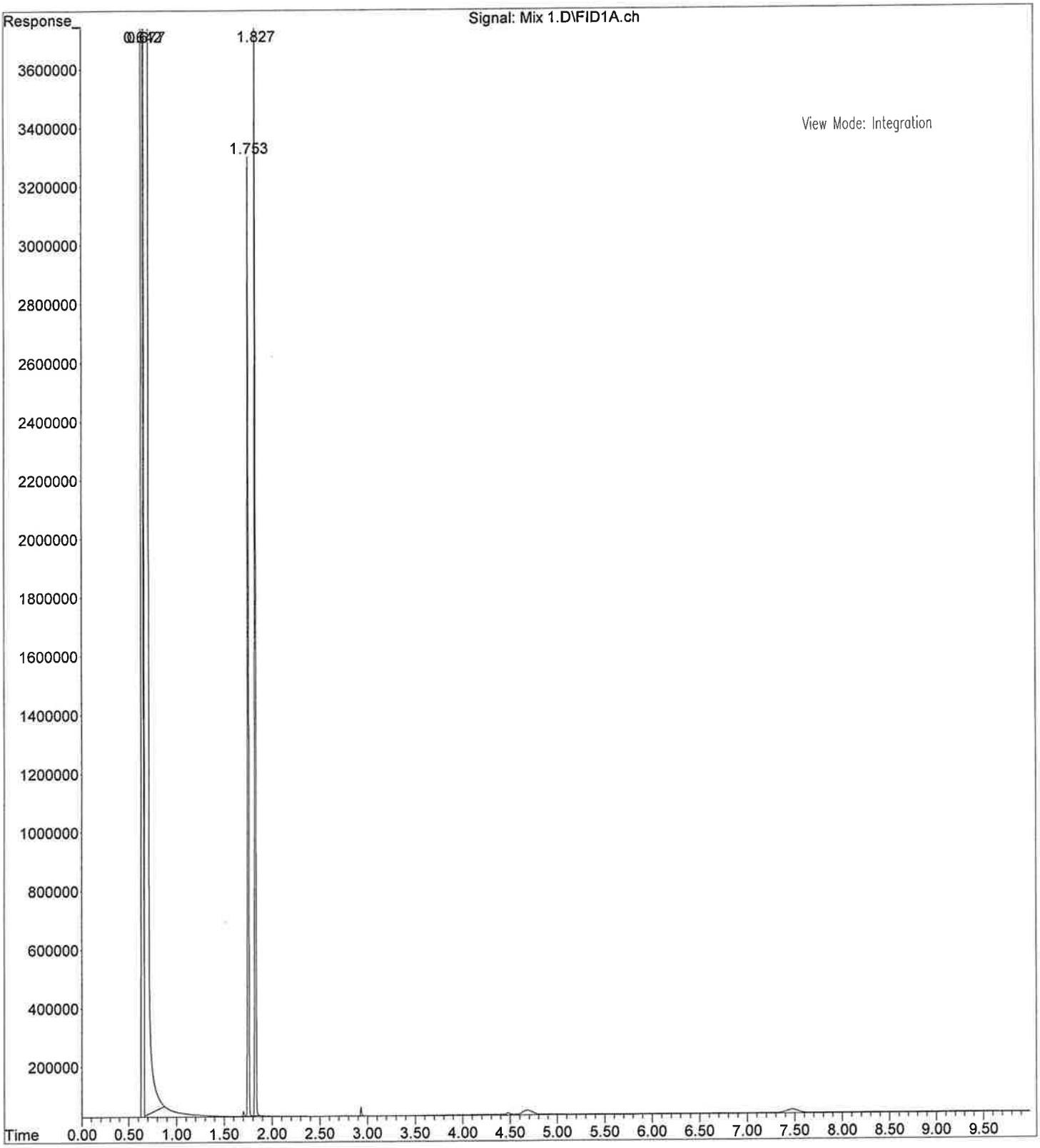
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 5.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 11:18 using AcqMethod ASGC100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 0

1/28/22
BT



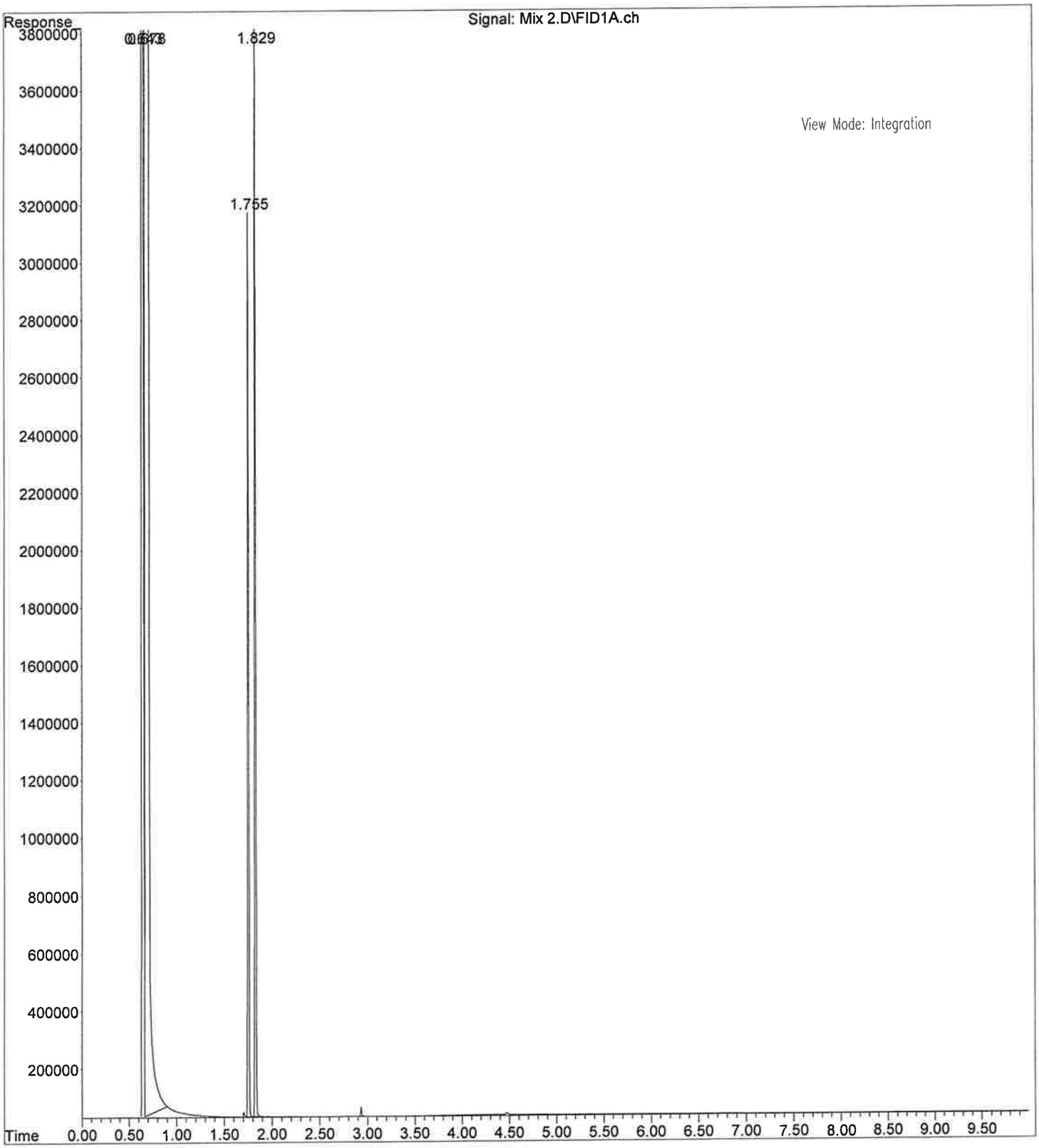
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 1.D
Operator : Brandi M. Fisher
Acquired : 28 Jan 2022 8:54 using AcqMethod ASGC100.M
Instrument : donna2
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 27

1/28/22
BT



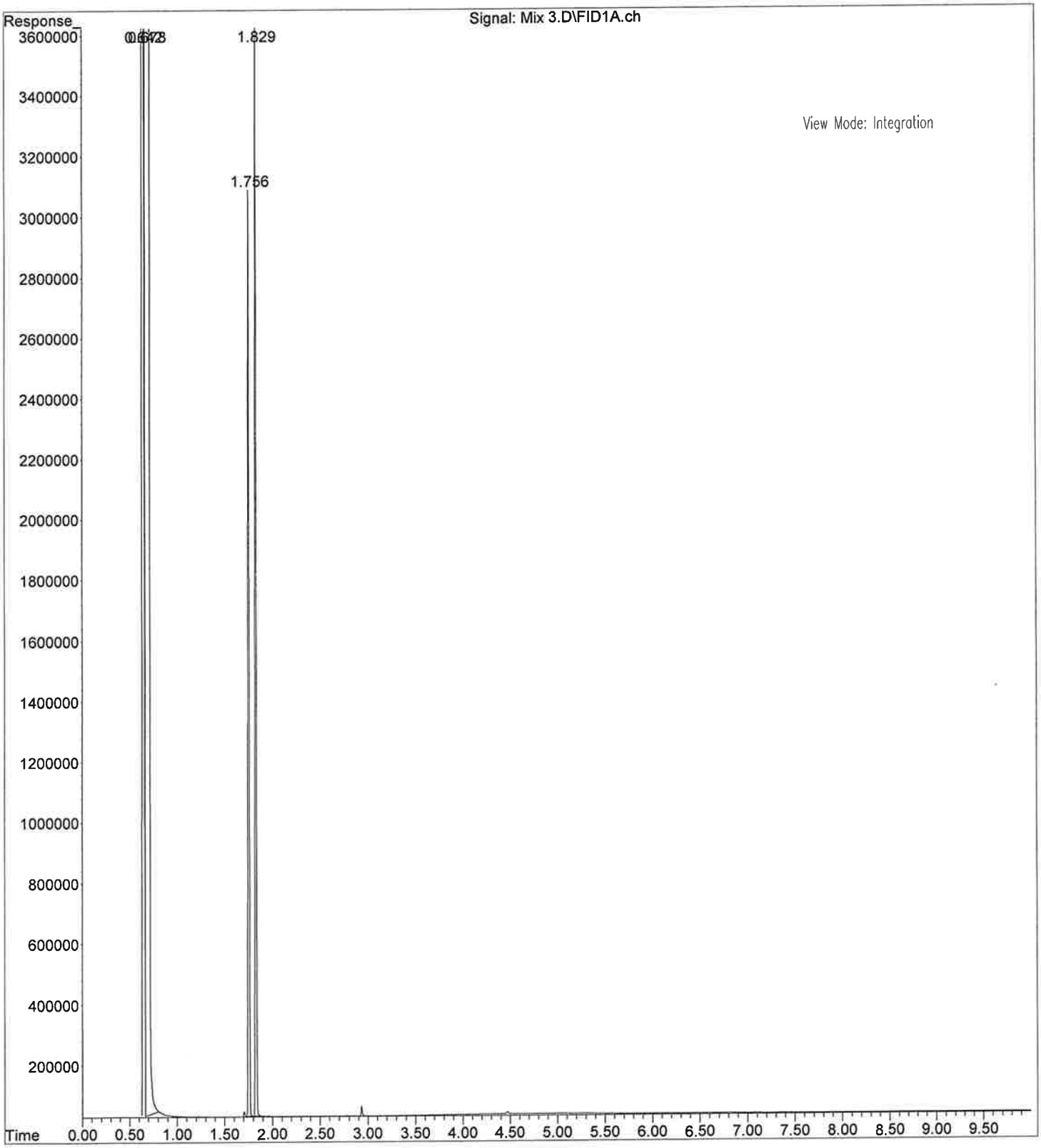
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 2.D
Operator : Brandi M. Fisher
Acquired : 28 Jan 2022 9:35 using AcqMethod ASGC100.M
Instrument : donna2
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 27

1/28/22
BT



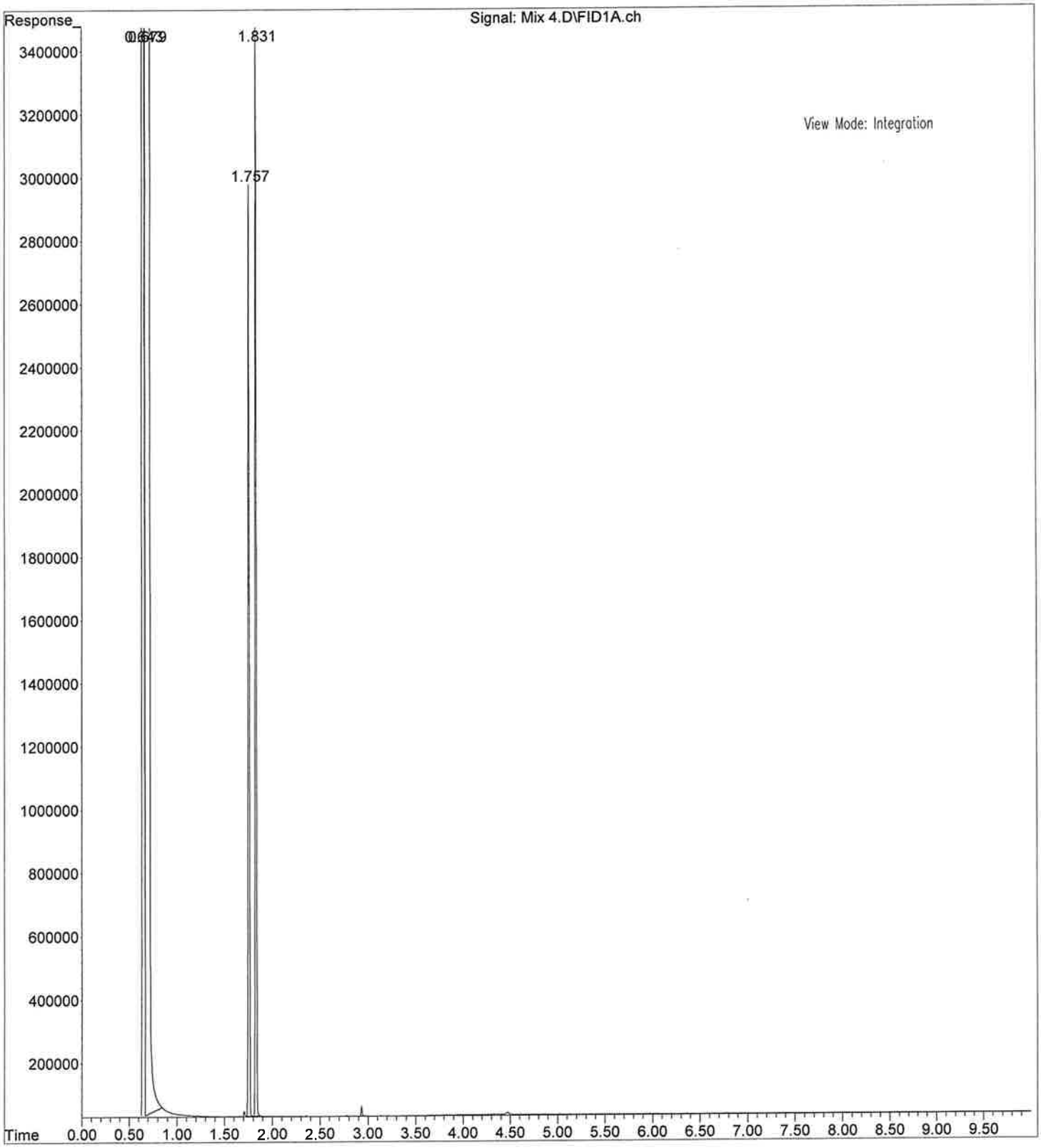
File :C:\msdchem\1\data\2022\BT\1-28-22\Mix 3.D
Operator : Brandi M. Fisher
Acquired : 28 Jan 2022 10:16 using AcqMethod ASGC100.M
Instrument : donna2
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 27

1/28/22
BT



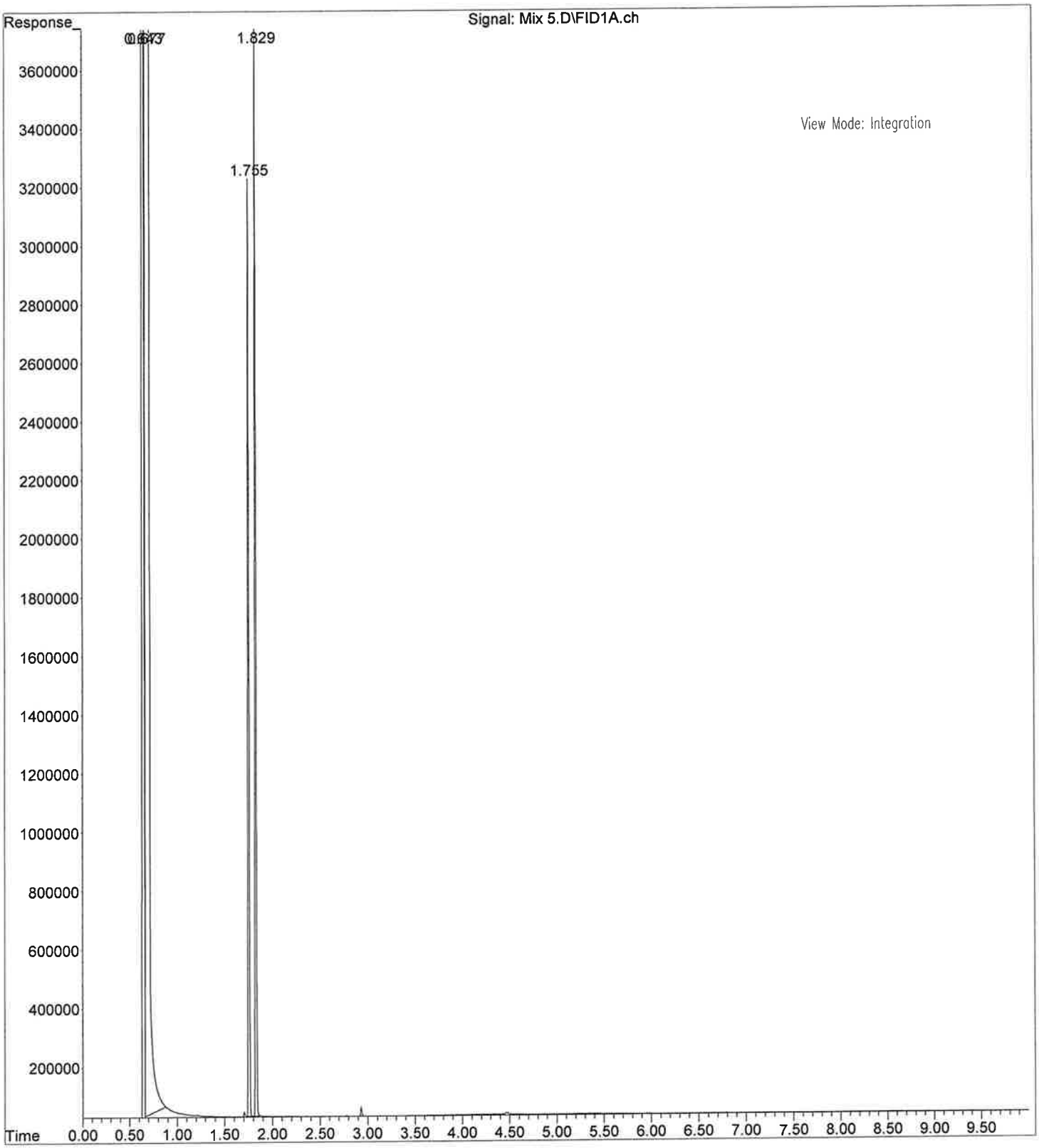
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 4.D
Operator : Brandi M. Fisher
Acquired : 28 Jan 2022 10:57 using AcqMethod ASGC100.M
Instrument : donna2
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 27

1/28/22
BT



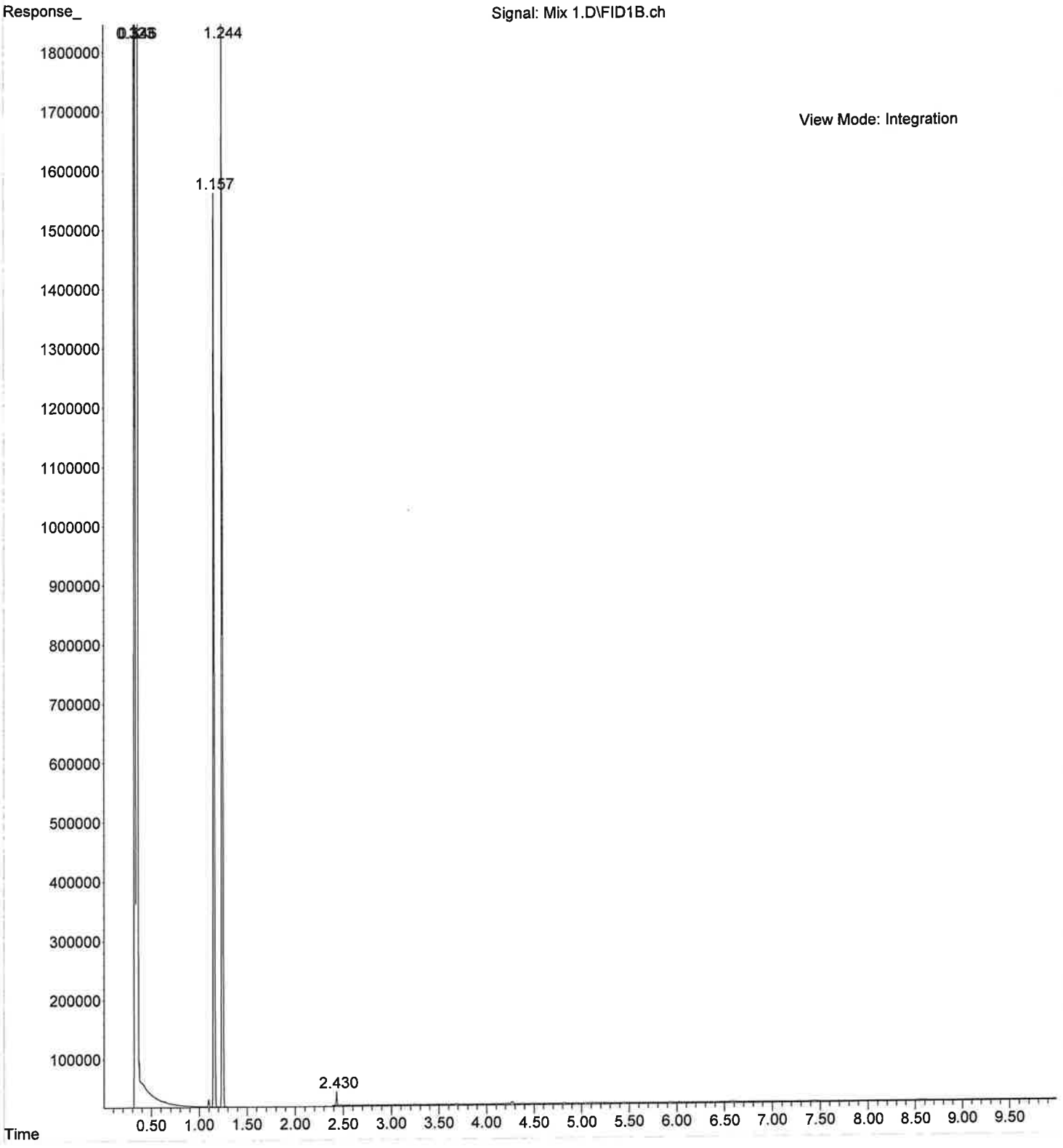
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 5.D
Operator : Brandi M. Fisher
Acquired : 28 Jan 2022 11:38 using AcqMethod ASGC100.M
Instrument : donna2
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 27

1/28/22
BT



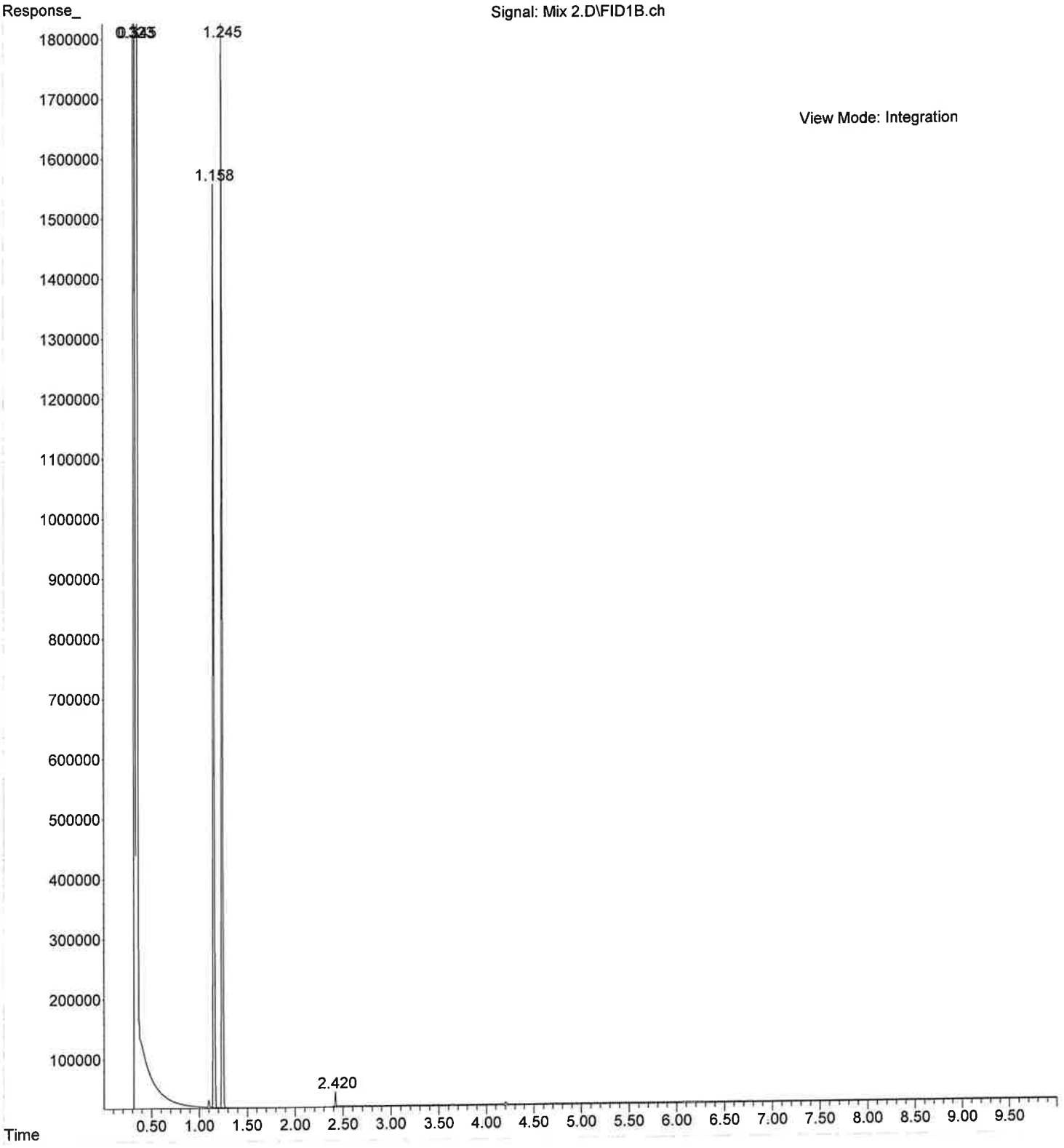
File :D:\MassHunter\GCMS\1\data\2022\BT\1-28-22\Mix 1.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 09:17 using AcqMethod ASGC100.M
Instrument : Quincy
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

1/28/22
BT



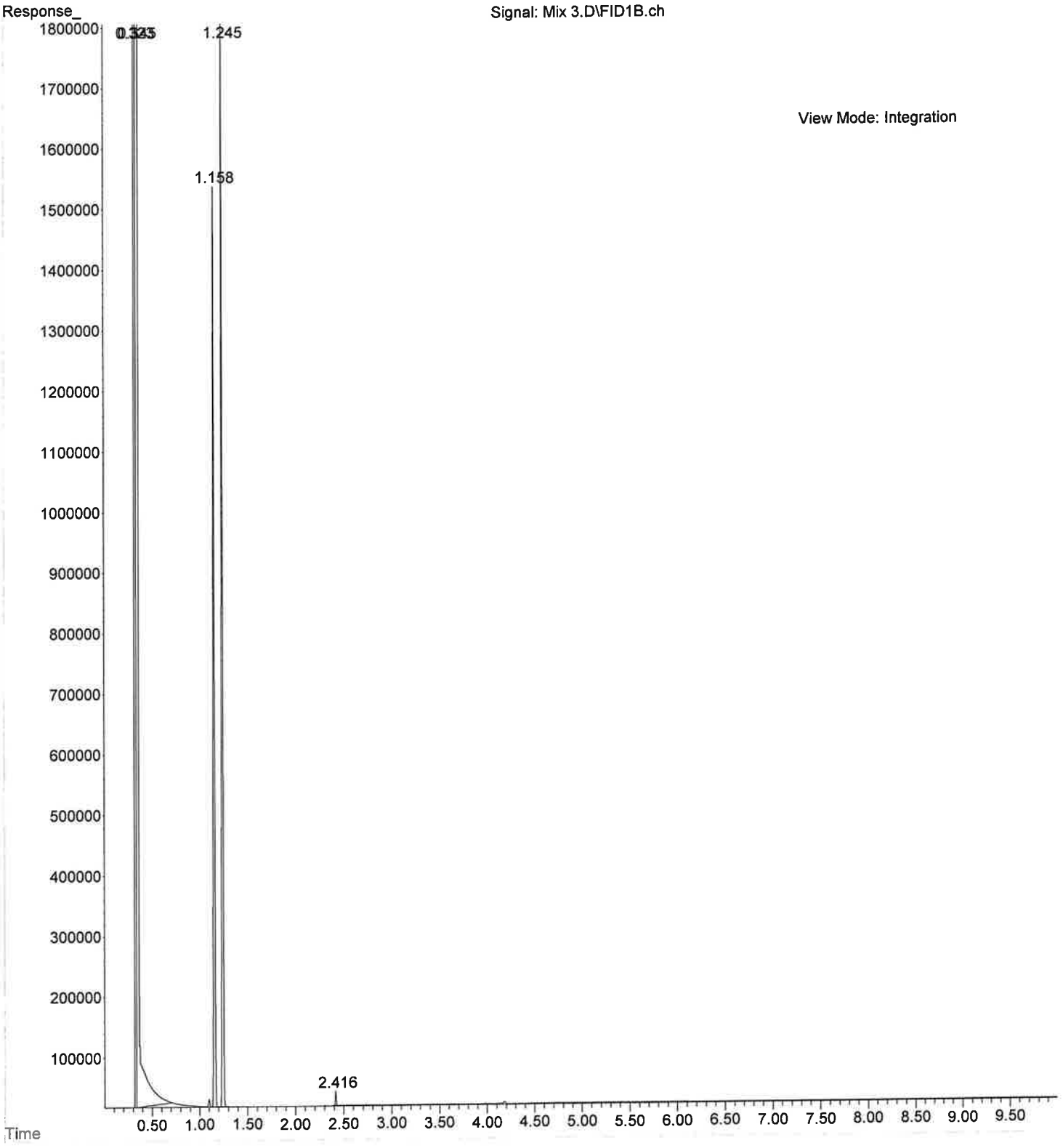
File :D:\MassHunter\GCMS\1\data\2022\BT\1-28-22\Mix 2.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 09:55 using AcqMethod ASGC100.M
Instrument : Quincy
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

1/28/22
BT



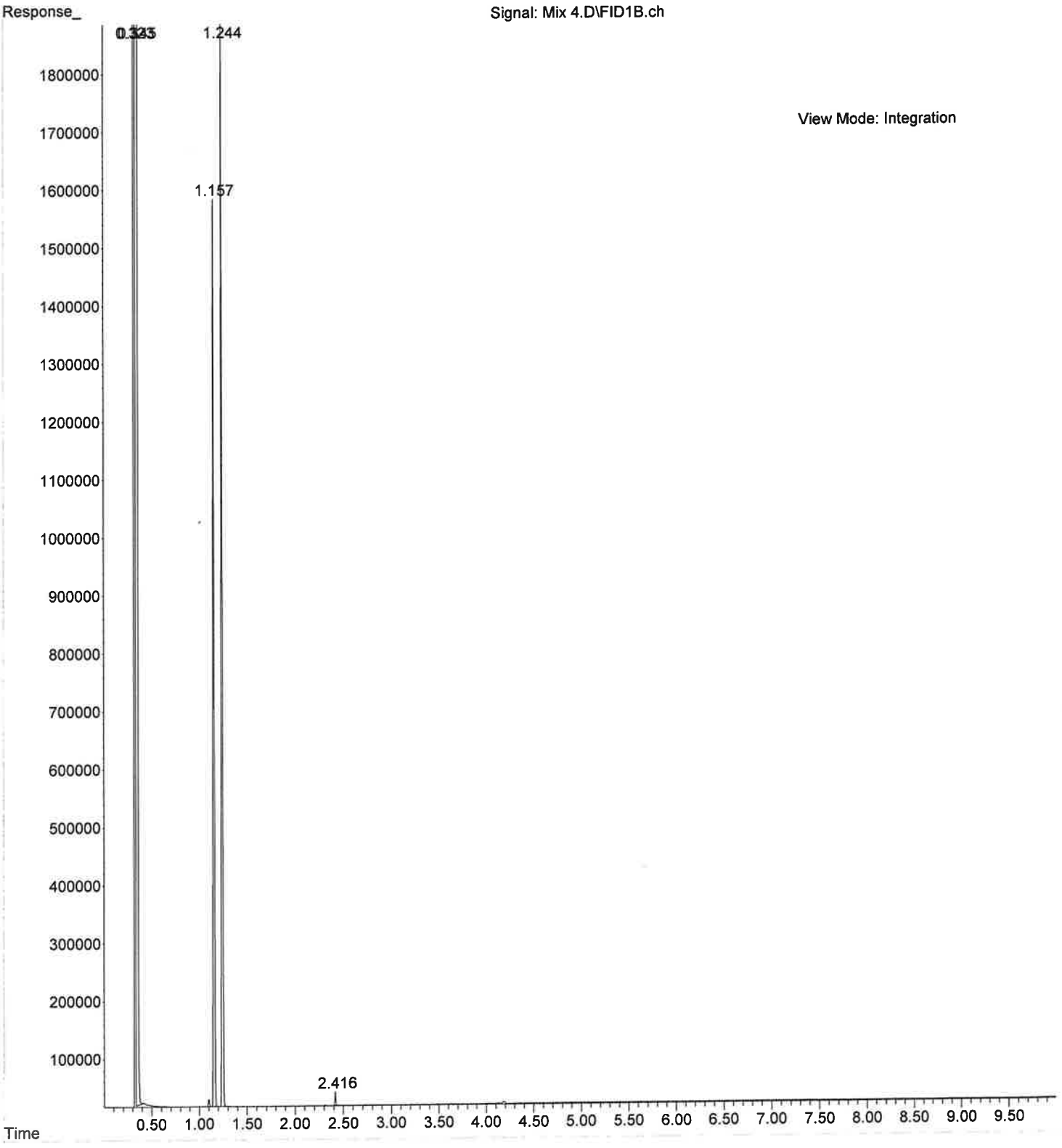
File :D:\MassHunter\GCMS\1\data\2022\BT\1-28-22\Mix 3.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 10:34 using AcqMethod ASGC100.M
Instrument : Quincy
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

1/28/22
BT



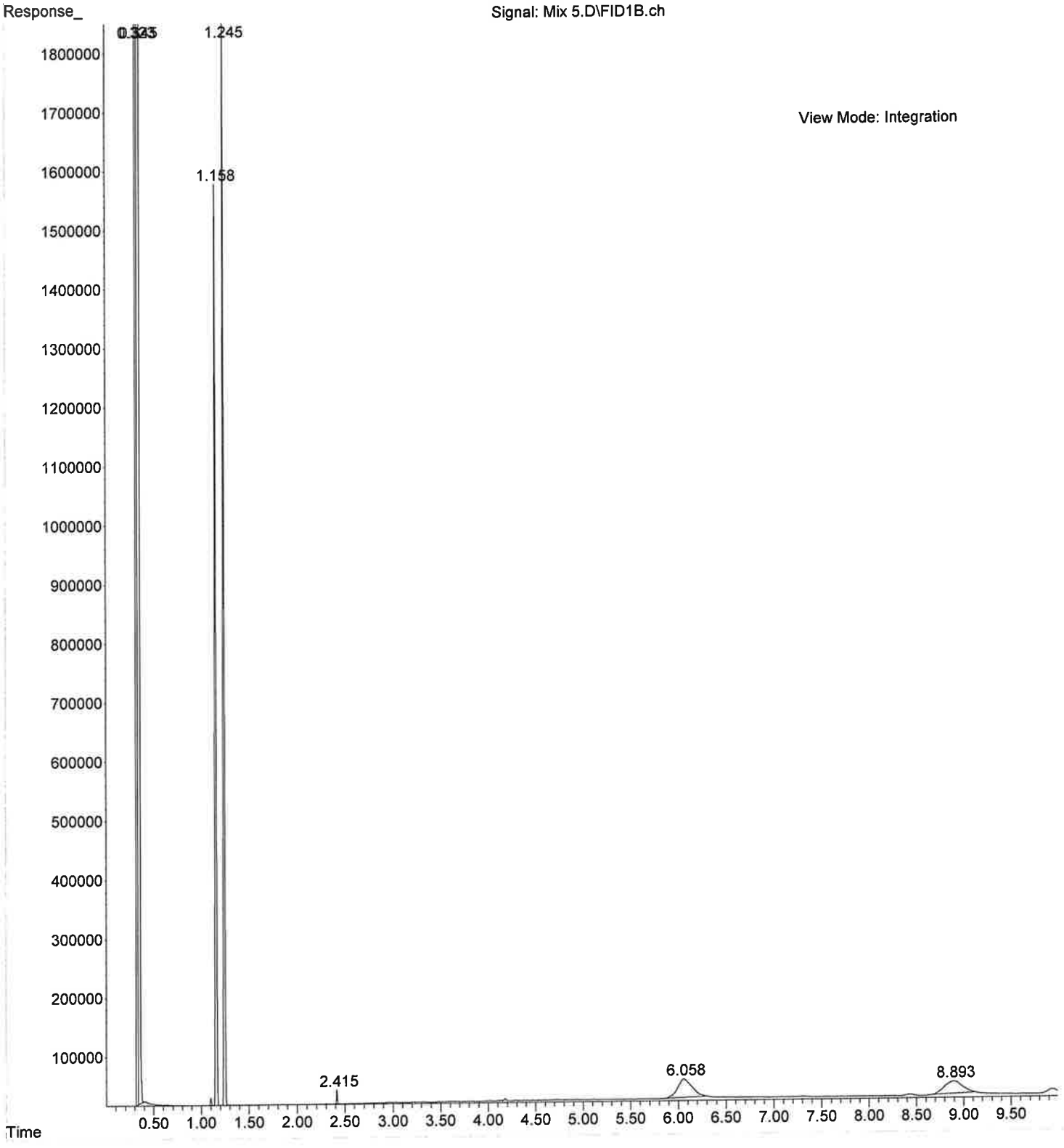
File :D:\MassHunter\GCMS\1\data\2022\BT\1-28-22\Mix 4.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 11:12 using AcqMethod ASGC100.M
Instrument : Quincy
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

1/28/22
BT



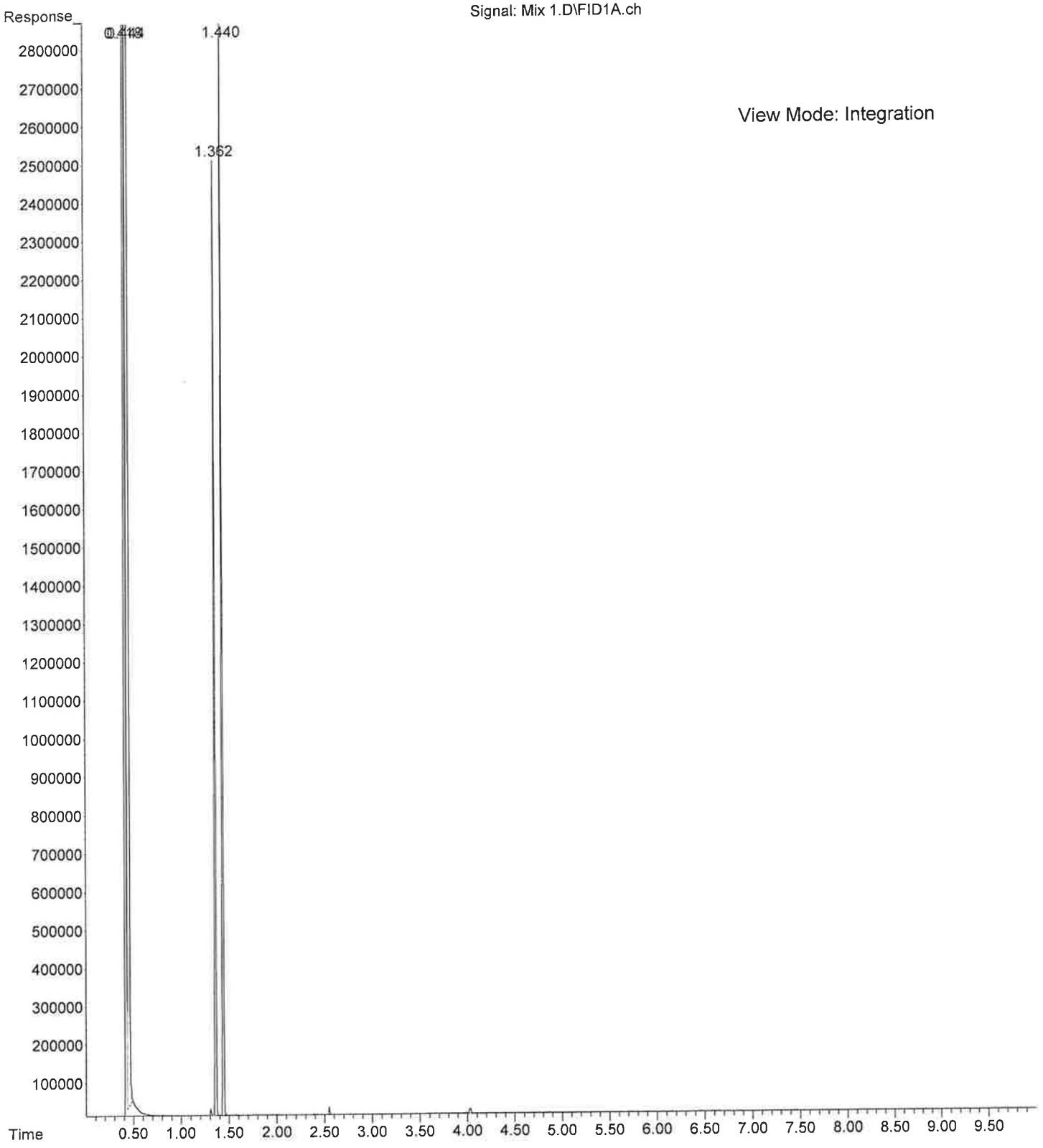
File :D:\MassHunter\GCMS\1\data\2022\BT\1-28-22\Mix 5.D
Operator : TBI Analyst
Acquired : 28 Jan 2022 11:51 using AcqMethod ASGC100.M
Instrument : Quincy
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

1/28/22
BT



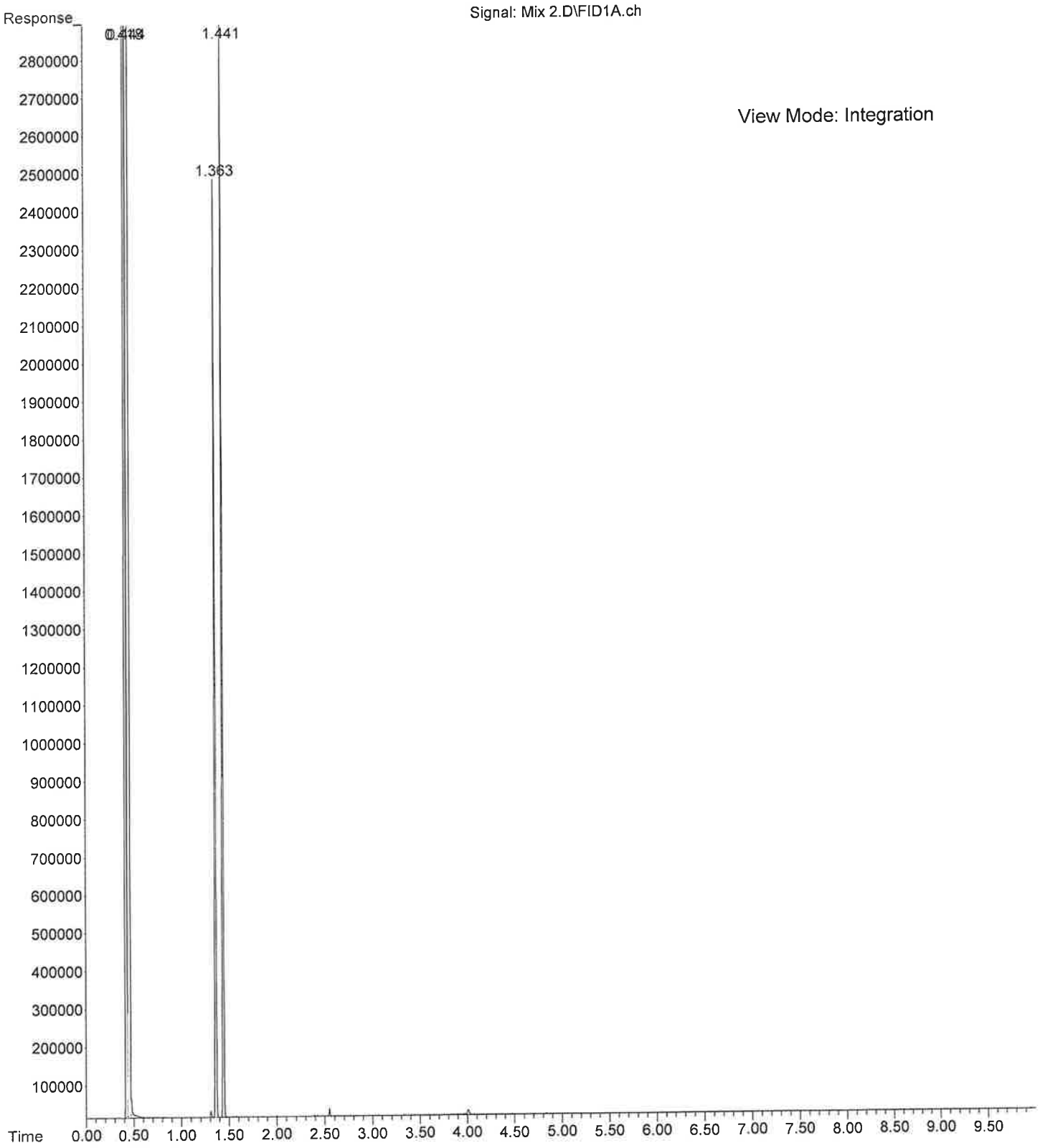
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 1.D
Operator : BTT
Acquired : 30 Jan 2022 13:46 using AcqMethod ASGC100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 52

1/31/22
BT



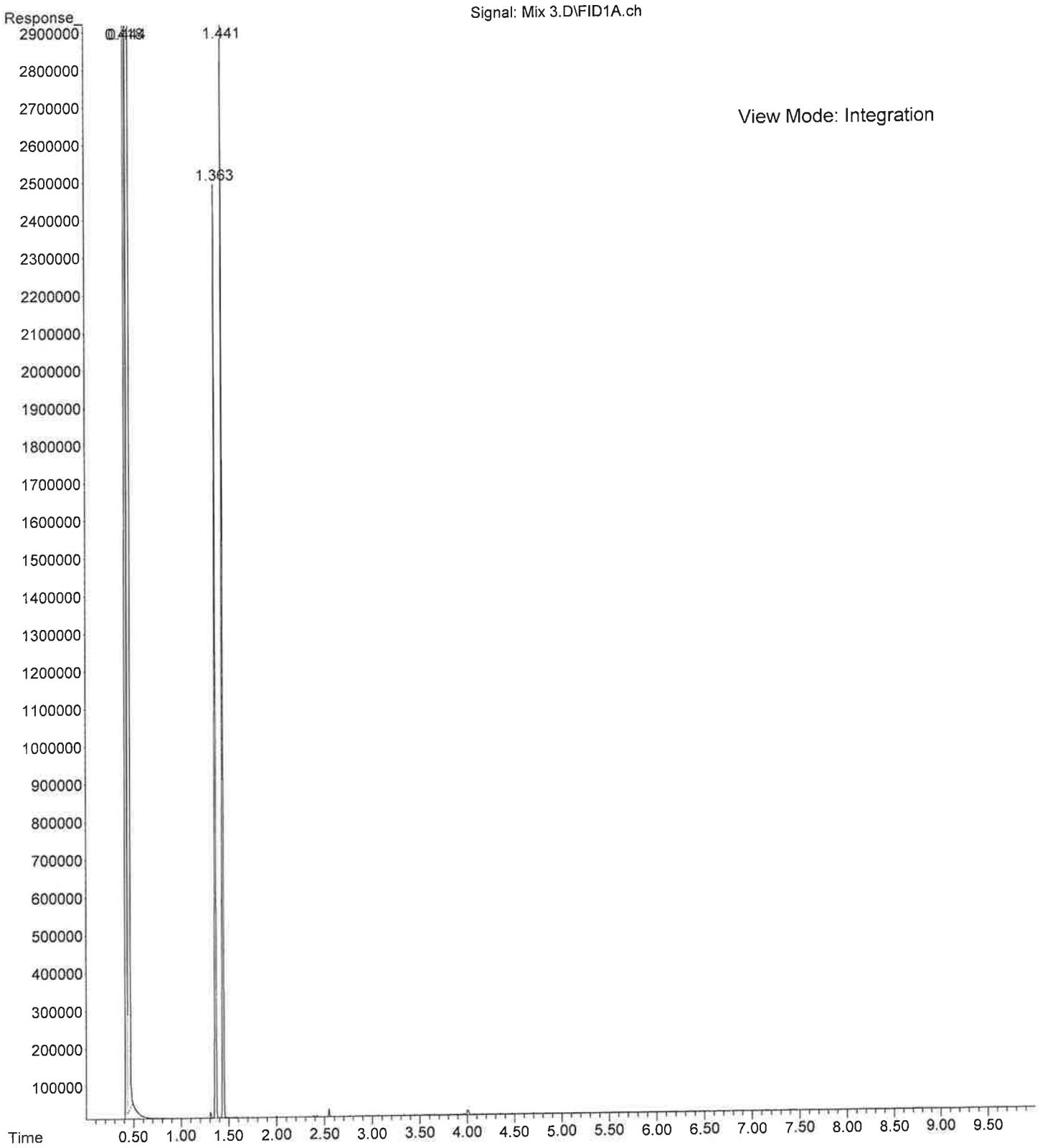
File :C:\msdchem\1\data\2022\BT\1-28-22\Mix 2.D
Operator : BTT
Acquired : 30 Jan 2022 14:25 using AcqMethod ASGC100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 52

1/31/22
BT



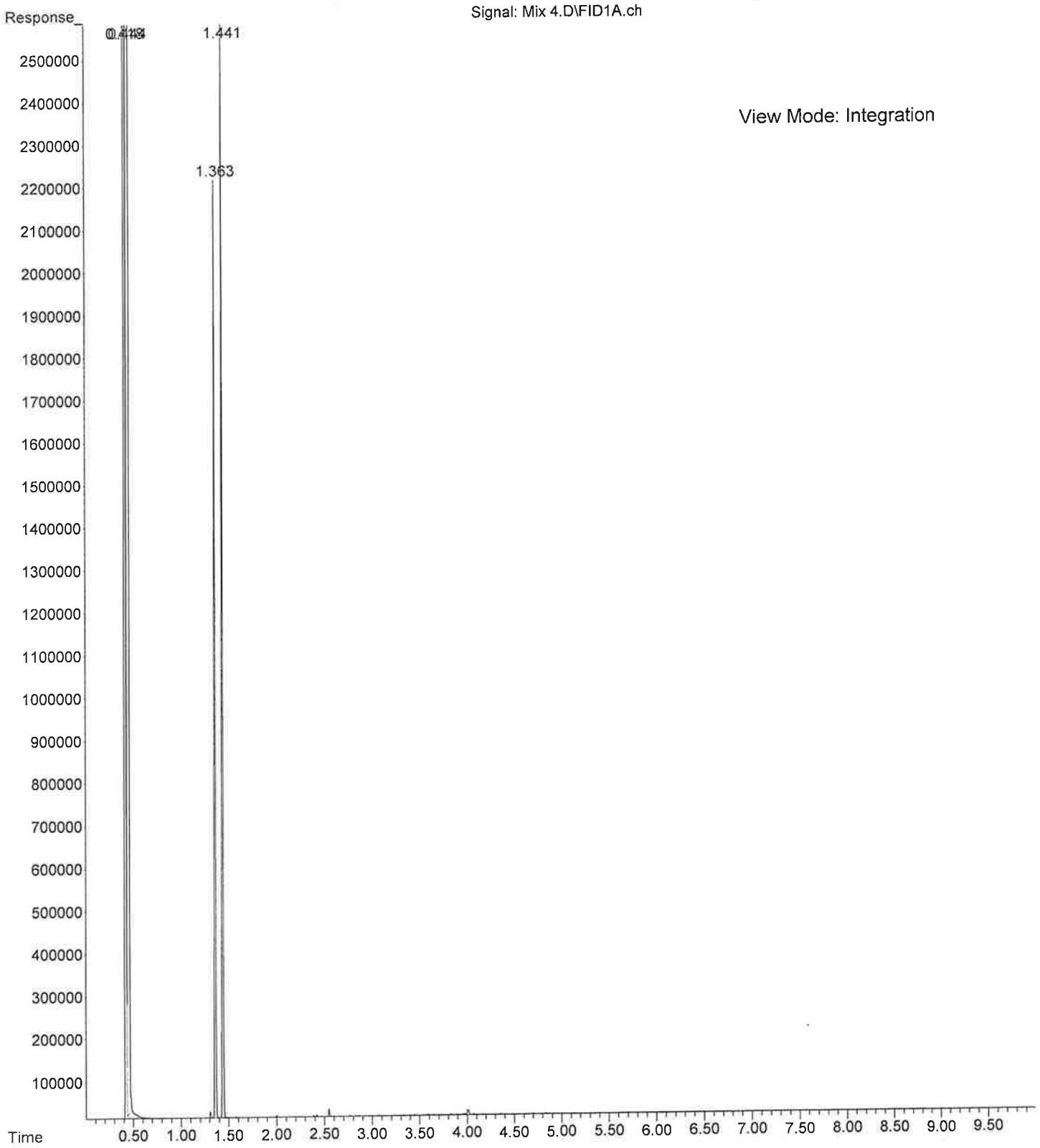
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 3.D
Operator : BTT
Acquired : 30 Jan 2022 15:03 using AcqMethod ASGC100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 52

1/31/22
BT



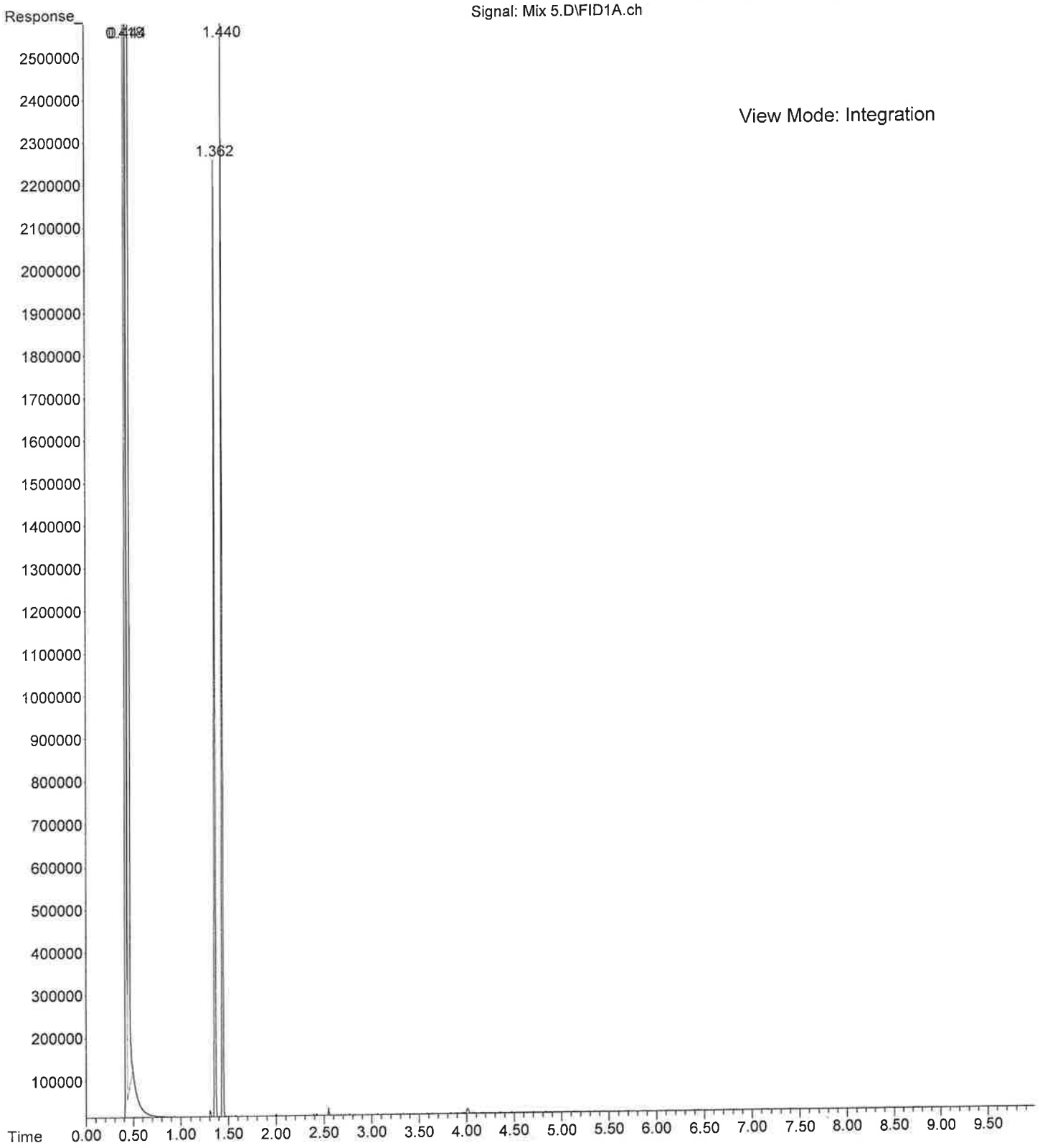
File :C:\msdchem\1\data\2022\BT\1-28-22\Mix 4.D
Operator : BTT
Acquired : 30 Jan 2022 15:42 using AcqMethod ASGC100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 52

1/31/22
BT



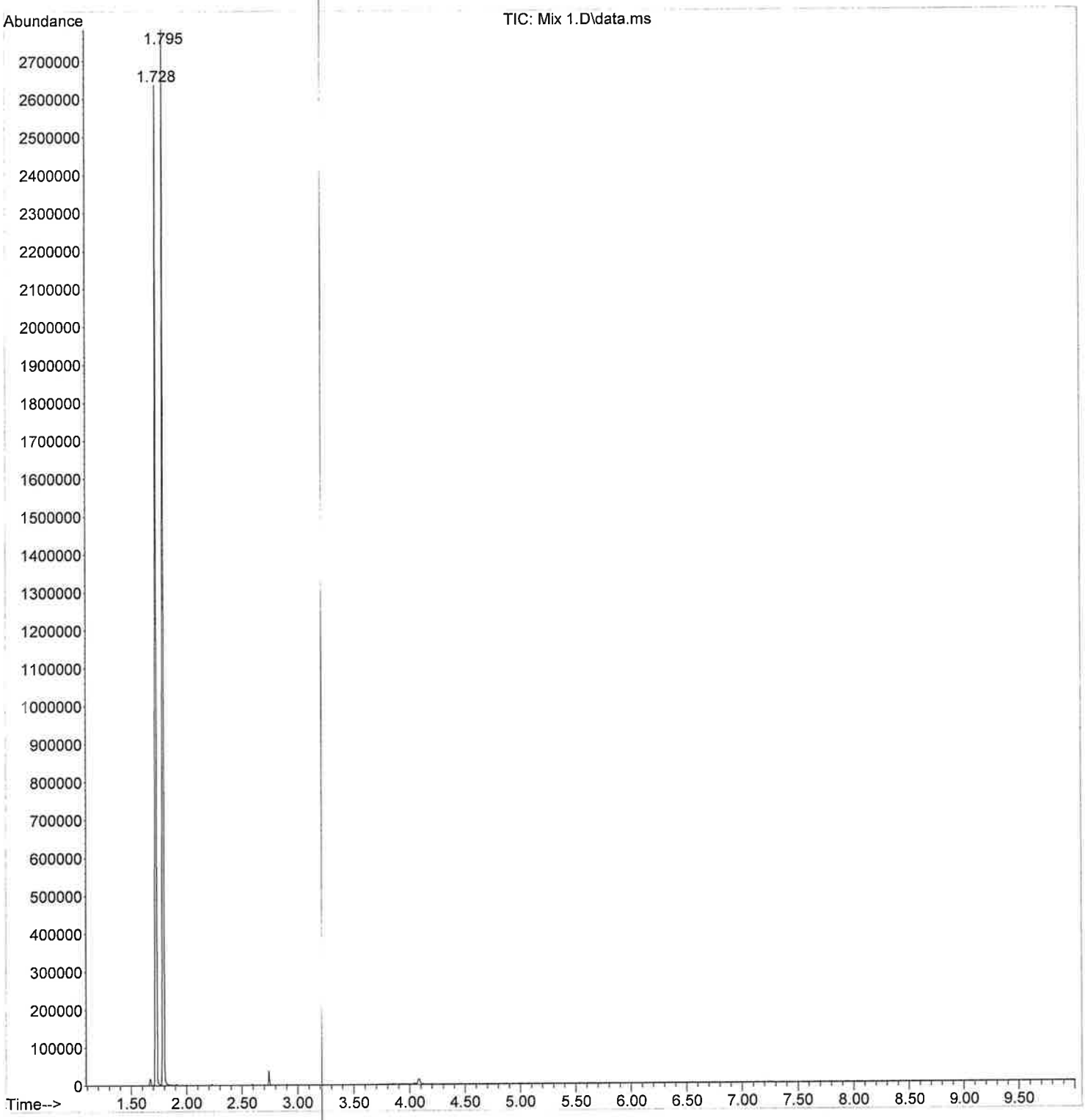
File : C:\msdchem\1\data\2022\BT\1-28-22\Mix 5.D
Operator : BTT
Acquired : 30 Jan 2022 16:21 using AcqMethod ASGC100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 52

1/31/22
BT



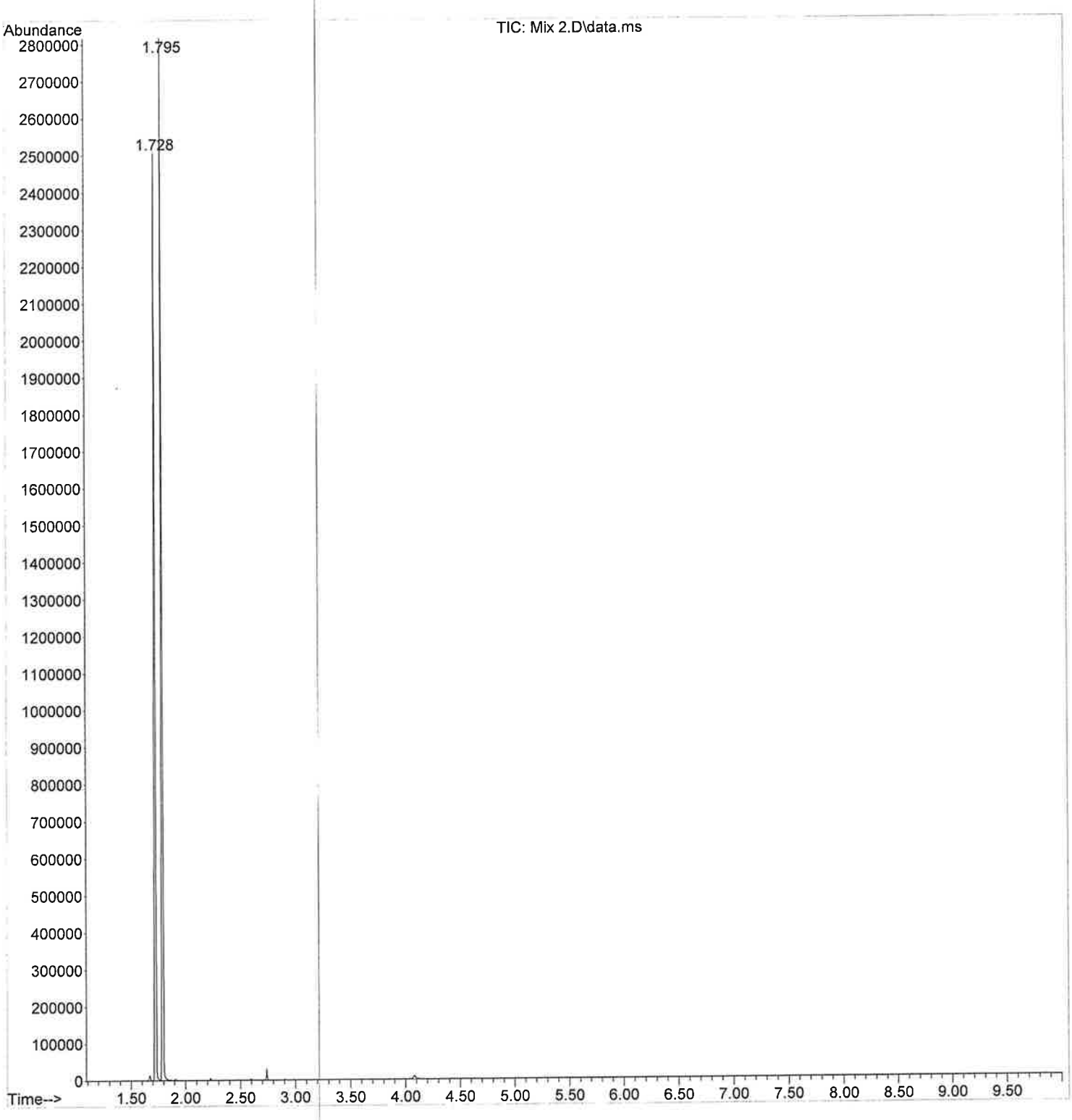
File :C:\msdchem\1\DATA\2022\BT\Jan\1-31-22\Mix 1.D
Operator : TBI Analyst
Acquired : 31 Jan 2022 10:06 using AcqMethod ASMSDRUGS100.M
Instrument : Gumbo
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

1/31/22
BT



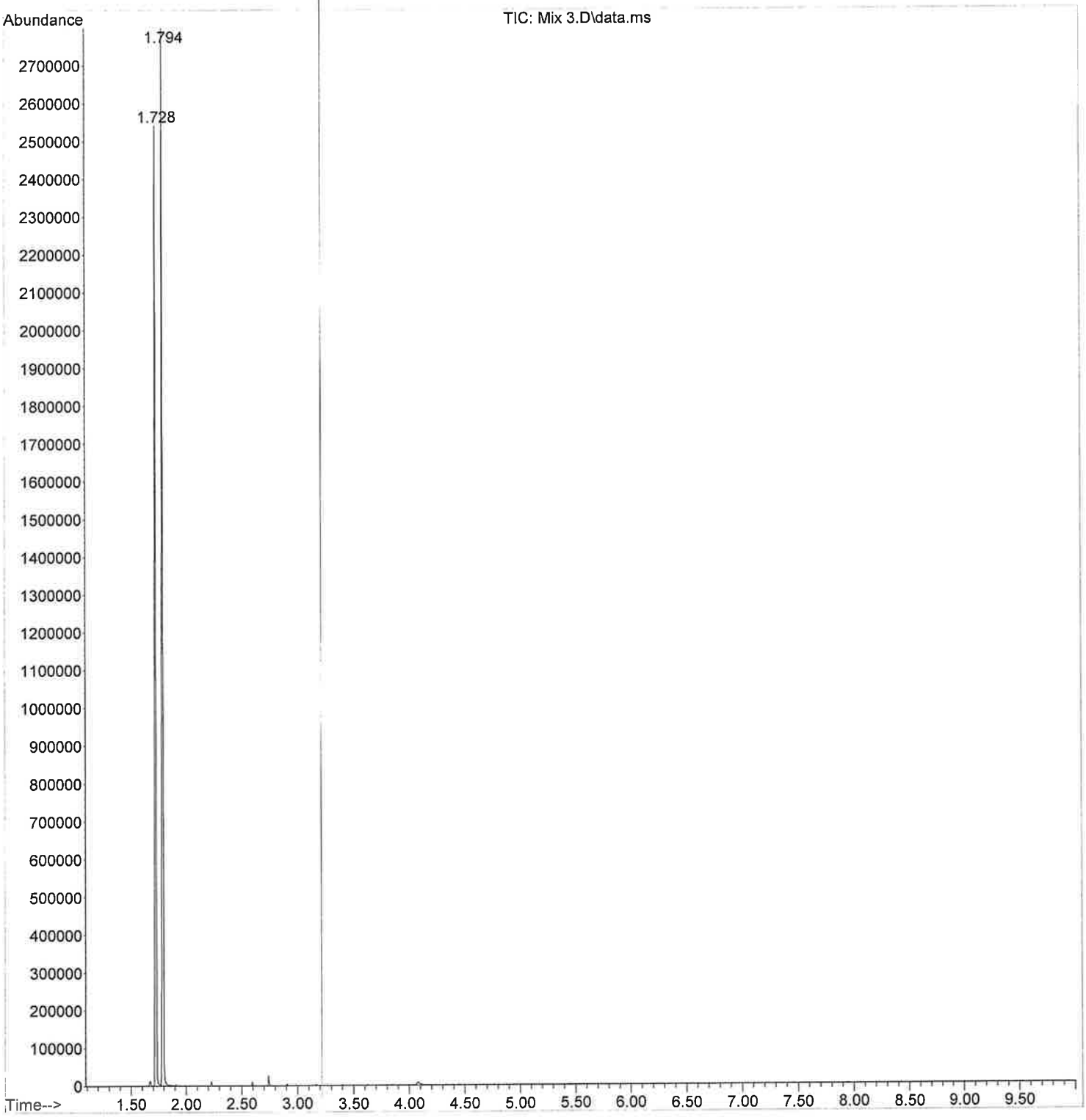
File :C:\msdchem\1\DATA\2022\BT\Jan\1-31-22\Mix 2.D
Operator : TBI Analyst
Acquired : 31 Jan 2022 10:49 using AcqMethod ASMSDRUGS100.M
Instrument : Gumbo
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

1/31/22
BT



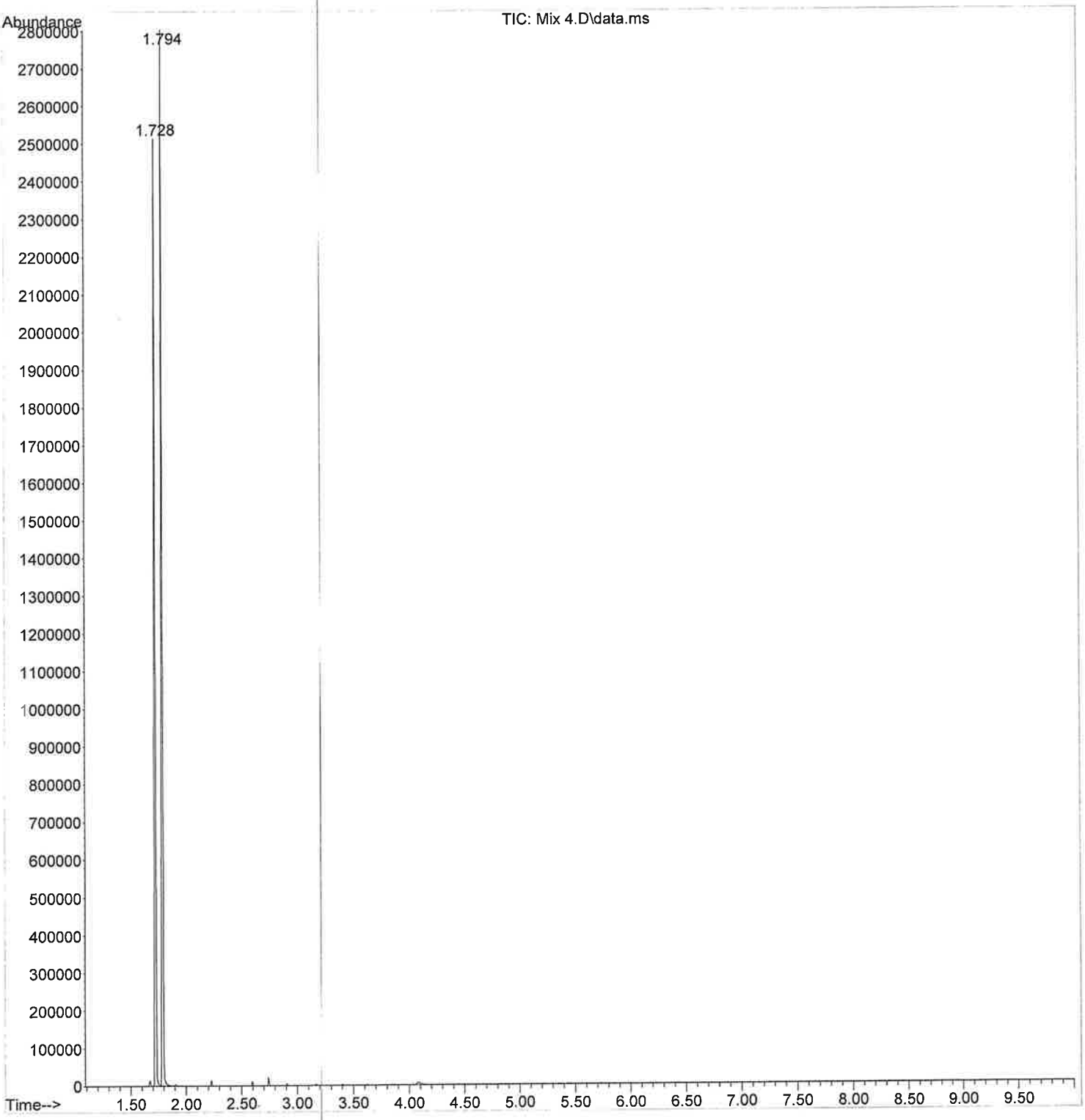
File :C:\msdchem\1\DATA\2022\BT\Jan\1-31-22\Mix 3.D
Operator : TBI Analyst
Acquired : 31 Jan 2022 11:32 using AcqMethod ASMSDRUGS100.M
Instrument : Gumbo
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

1/31/22
BT



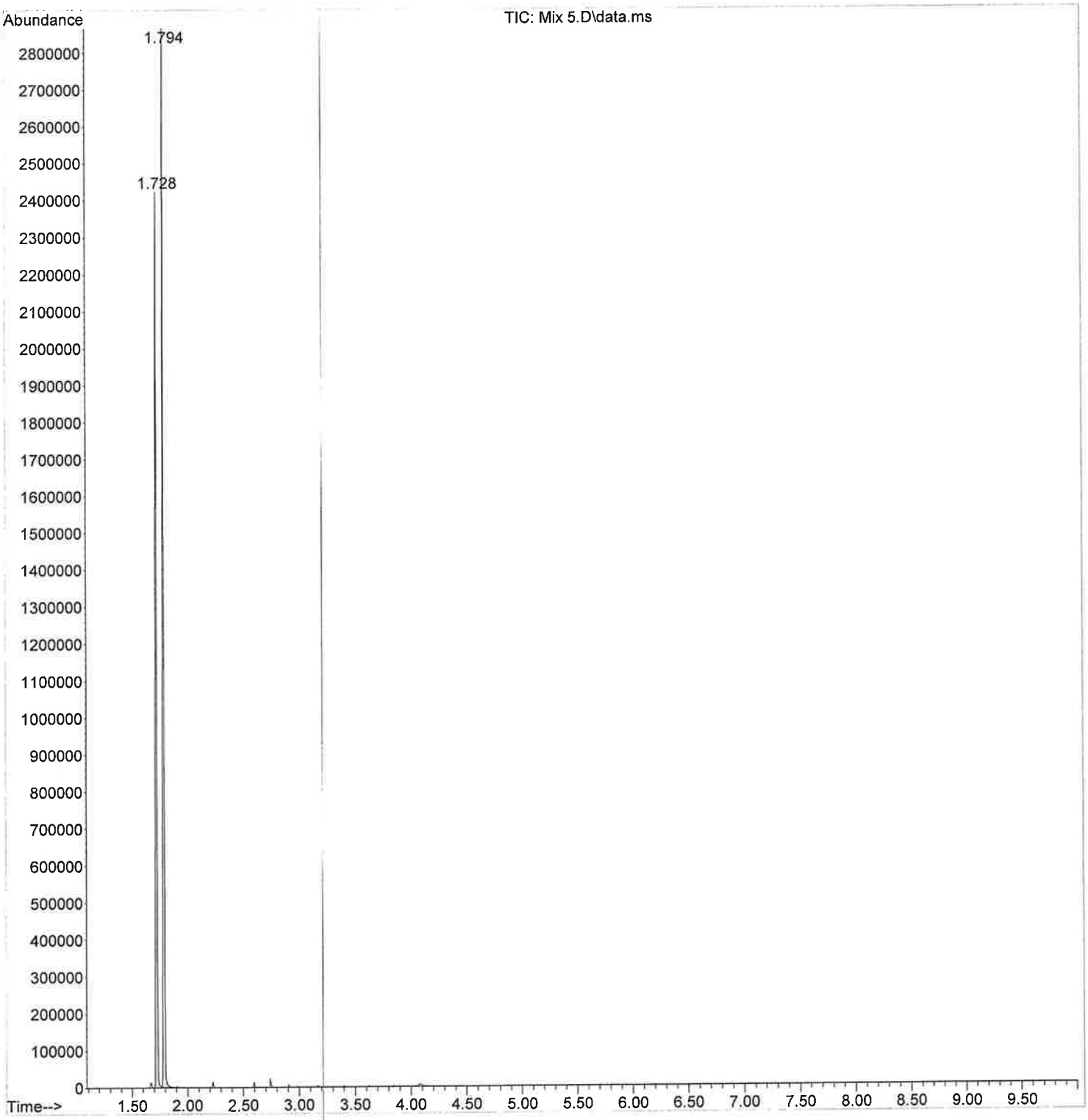
File :C:\msdchem\1\DATA\2022\BT\Jan\1-31-22\Mix 4.D
Operator : TBI Analyst
Acquired : 31 Jan 2022 12:15 using AcqMethod ASMSDRUGS100.M
Instrument : Gumbo
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

1/31/22
BT



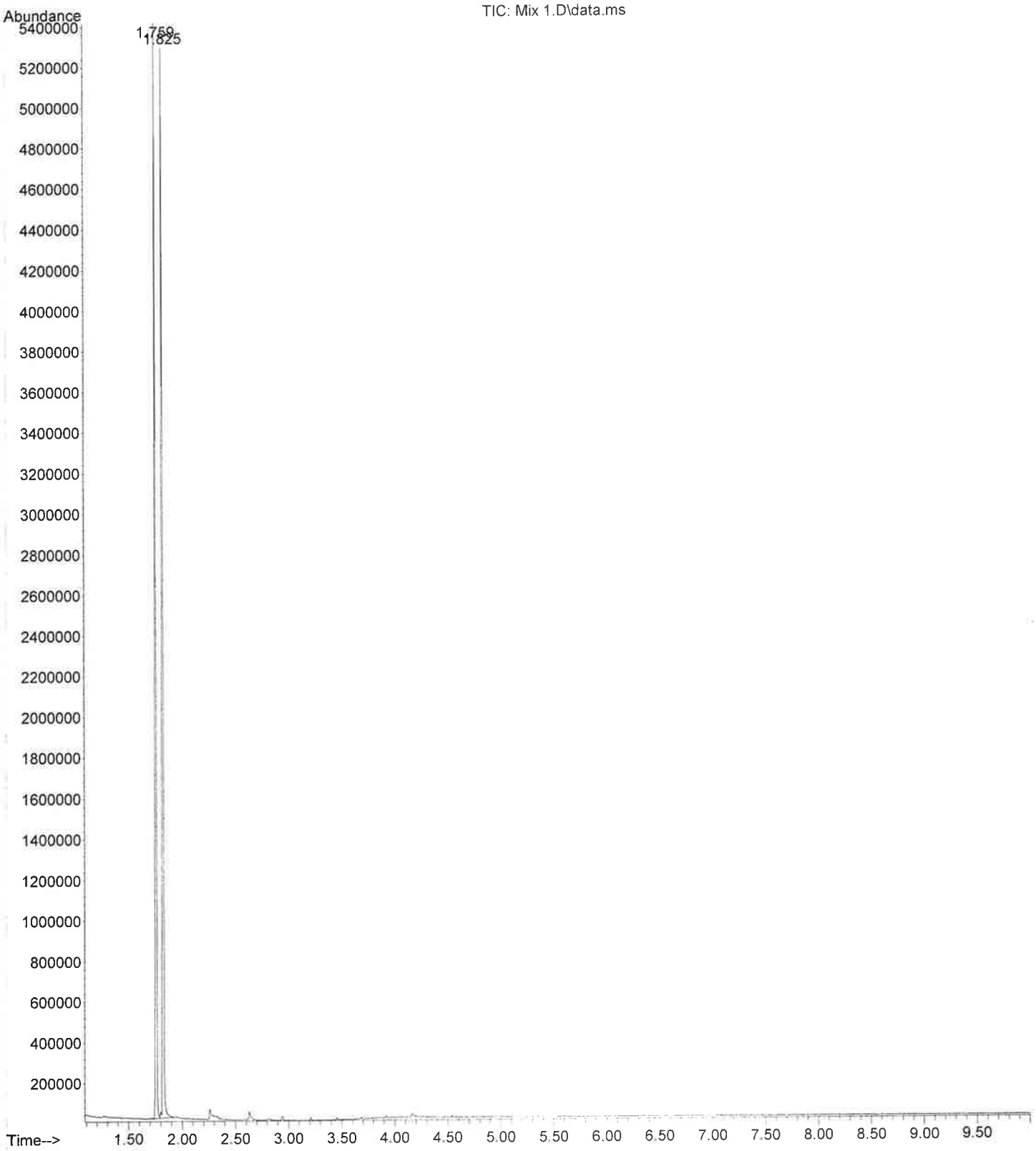
File :C:\msdchem\1\DATA\2022\BT\Jan\1-31-22\Mix 5.D
Operator : TBI Analyst
Acquired : 31 Jan 2022 12:58 using AcqMethod ASMSDRUGS100.M
Instrument : Gumbo
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

1/31/22
BT



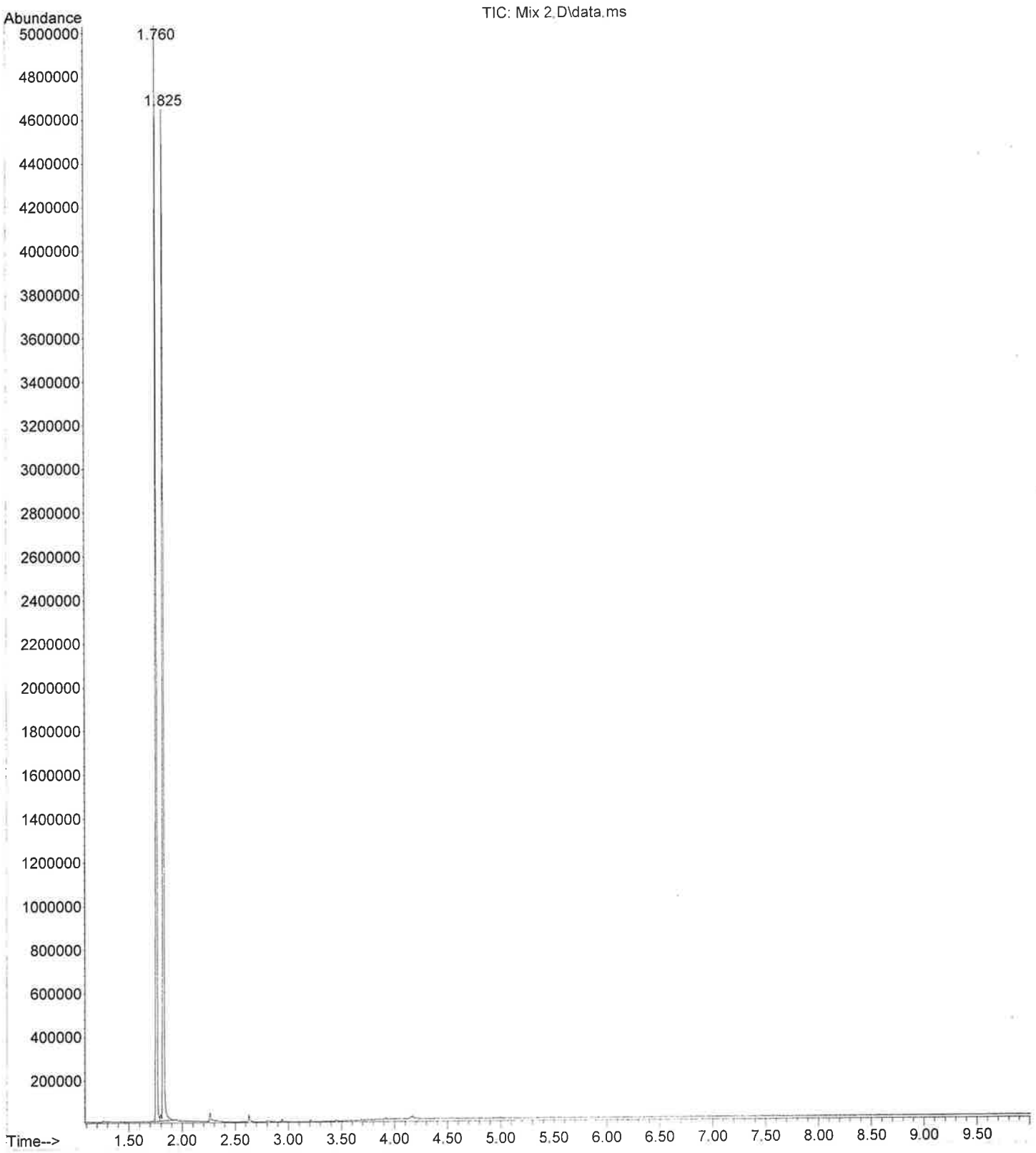
File : C:\msdchem\1\data\2022\JAS\1-28-22\Mix 1.D
Operator :
Acquired : 31 Jan 2022 10:05 using AcqMethod ASMSDRUGS100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

1/31/22
BT



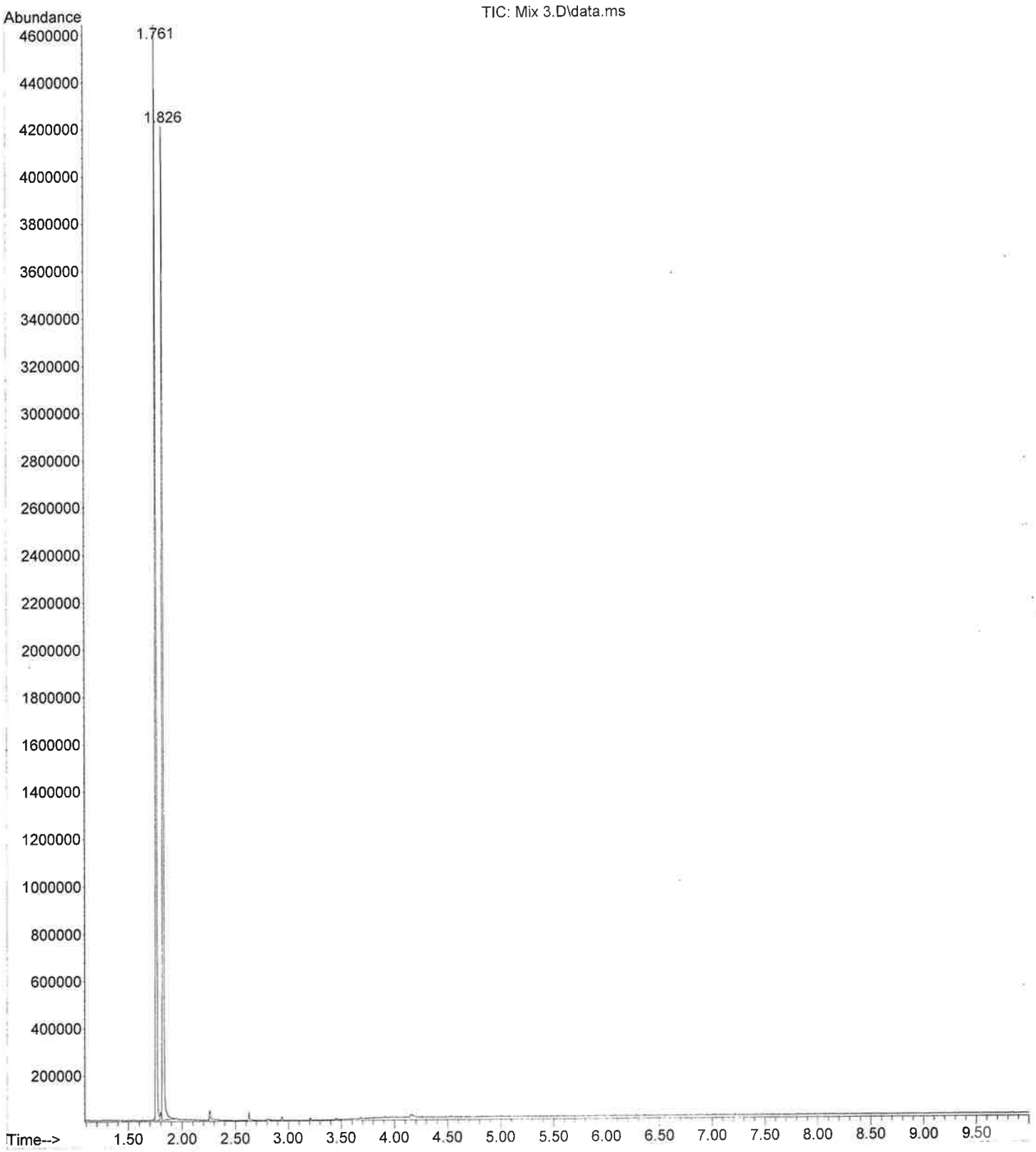
File : C:\msdchem\1\data\2022\JAS\1-28-22\Mix 2.D
Operator :
Acquired : 31 Jan 2022 10:48 using AcqMethod ASMSDRUGS100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

1/31/22
BT



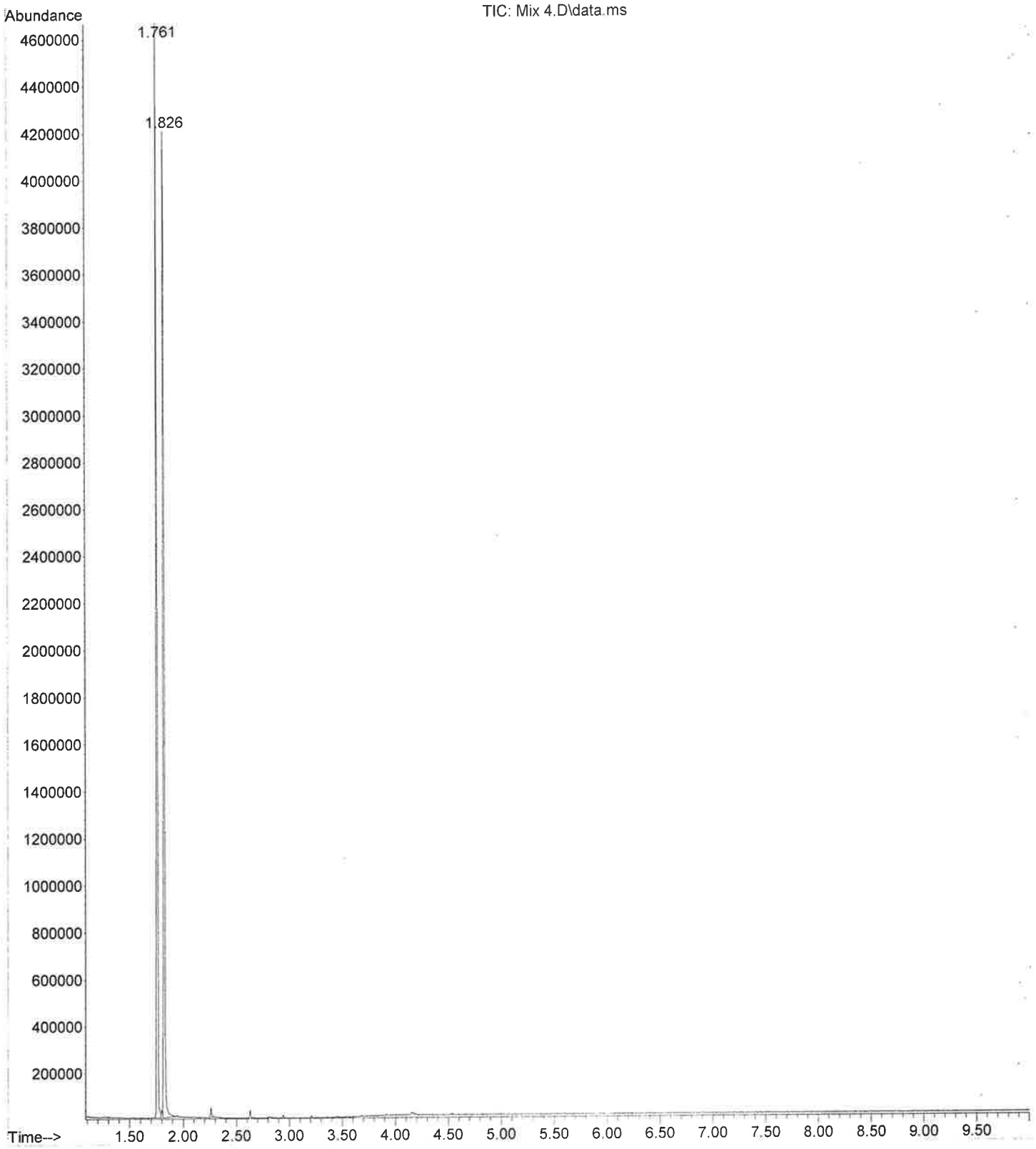
File : C:\msdchem\1\data\2022\JAS\1-28-22\Mix 3.D
Operator :
Acquired : 31 Jan 2022 11:31 using AcqMethod ASMSDRUGS100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

1/31/22 BT



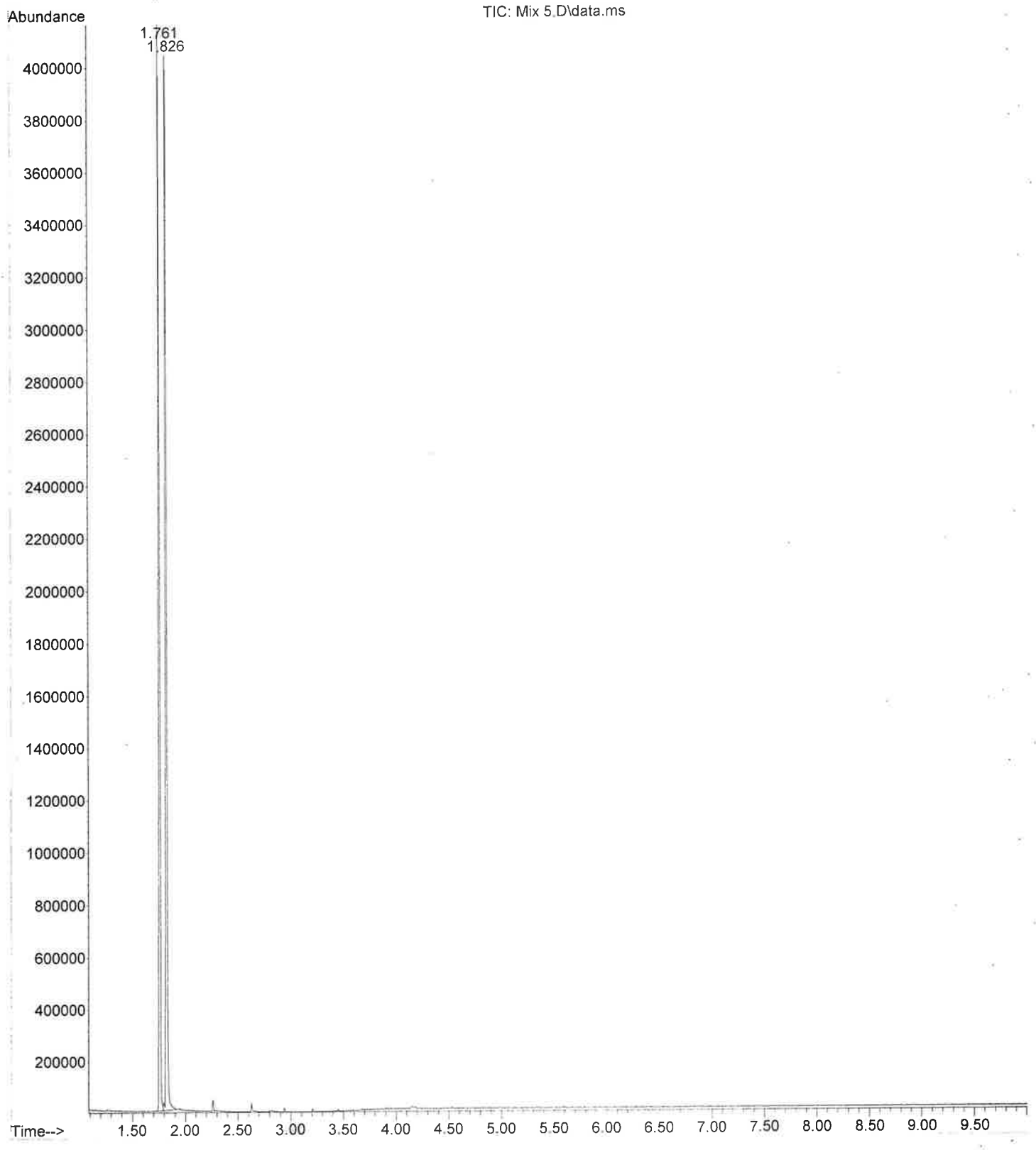
File : C:\msdchem\1\data\2022\JAS\1-28-22\Mix 4.D
Operator :
Acquired : 31 Jan 2022 12:15 using AcqMethod ASMSDRUGS100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

1/31/22
BT



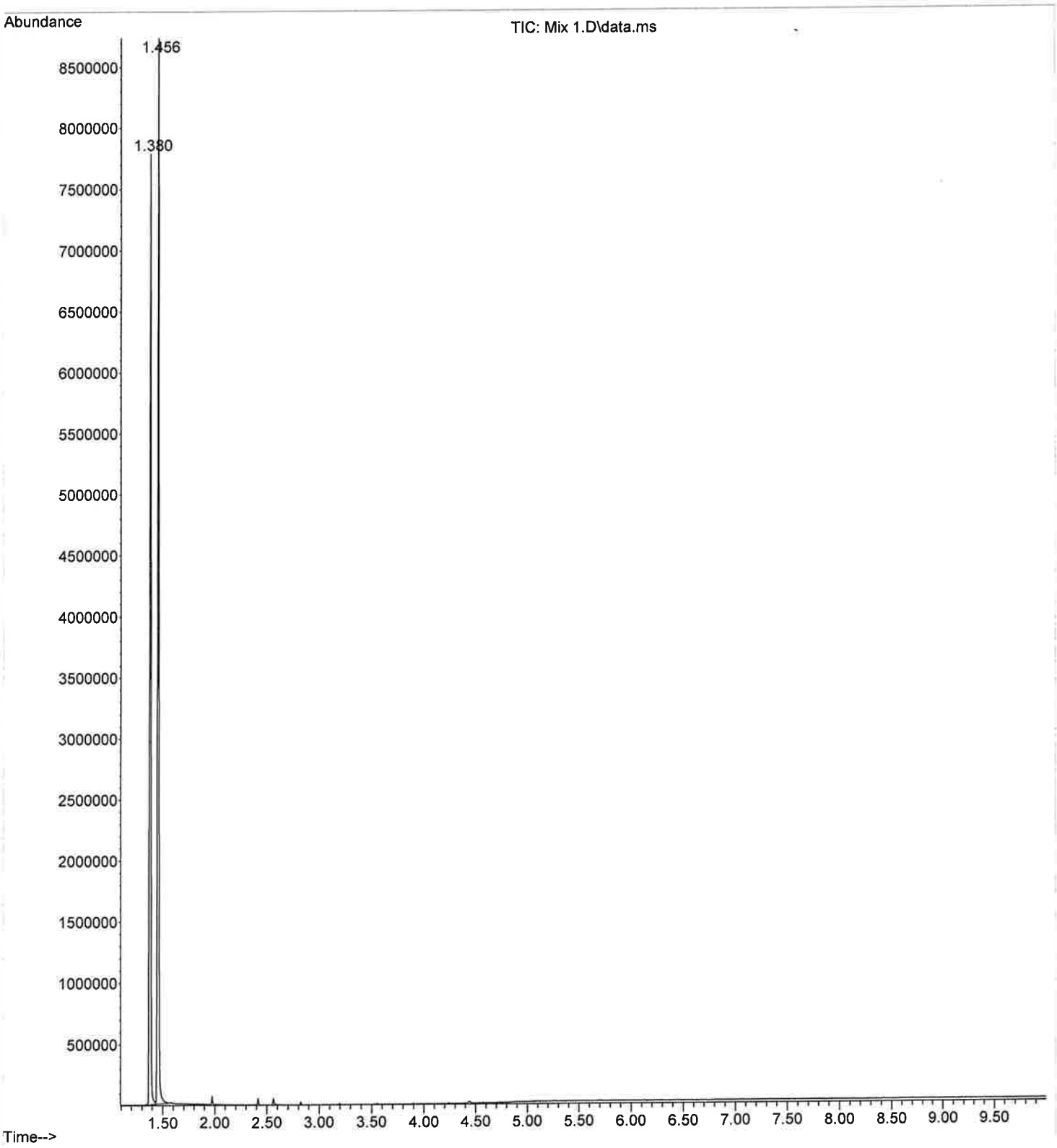
1/31/22
BT

File : C:\msdchem\1\data\2022\JAS\1-28-22\Mix 5.D
Operator :
Acquired : 31 Jan 2022 12:56 using AcqMethod ASMSDRUGS100.M
Instrument : JAVA
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25



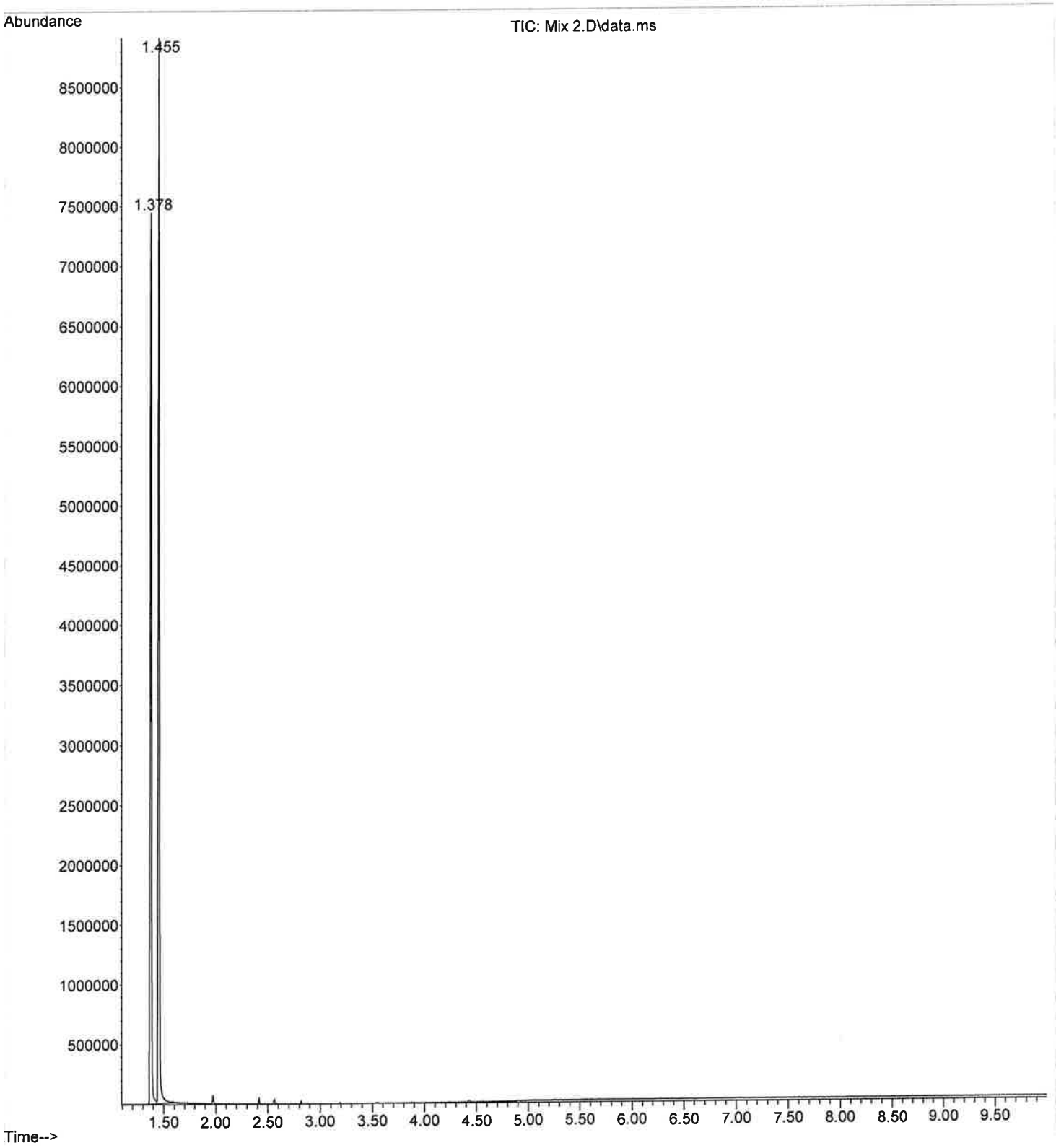
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 1.D
Operator :
Acquired : 31 Jan 2022 13:58 using AcqMethod ASMSDRUGS100.M
Instrument : Kenny
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

2/1/22
BT



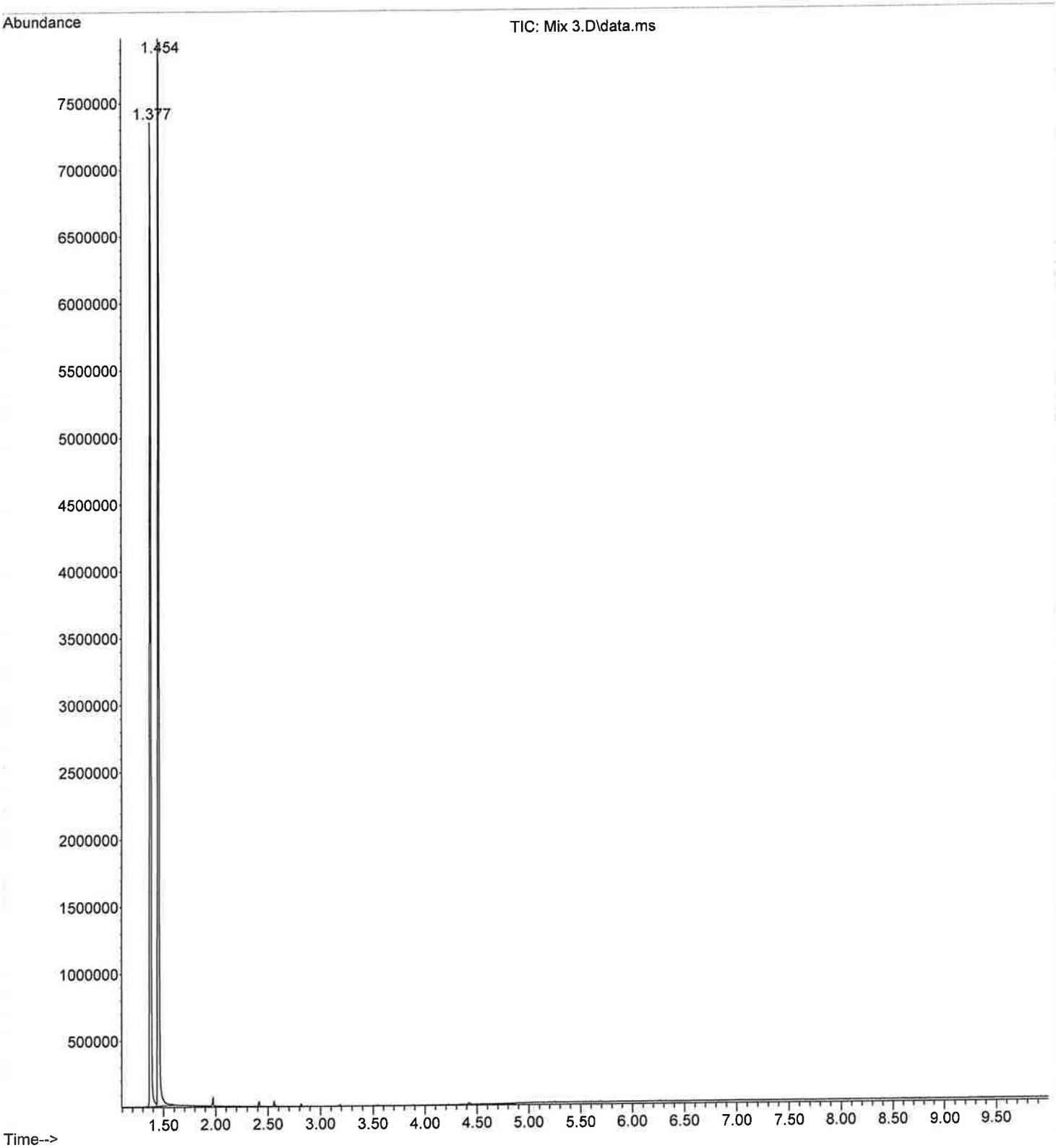
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 2.D
Operator :
Acquired : 31 Jan 2022 14:36 using AcqMethod ASMSDRUGS100.M
Instrument : Kenny
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

2/1/22
BT



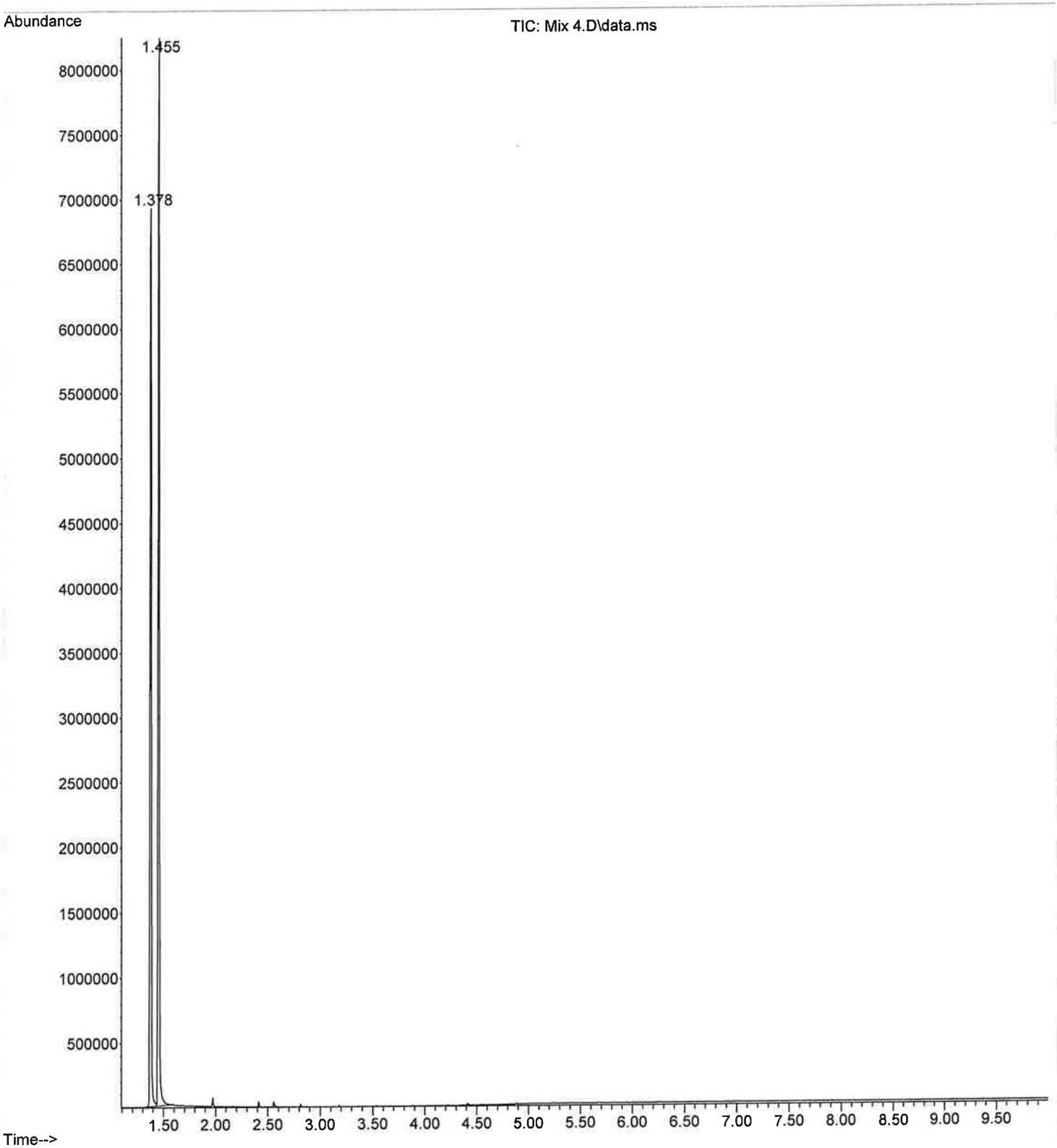
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 3.D
Operator :
Acquired : 31 Jan 2022 15:14 using AcqMethod ASMSDRUGS100.M
Instrument : Kenny
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

2/1/22
BT



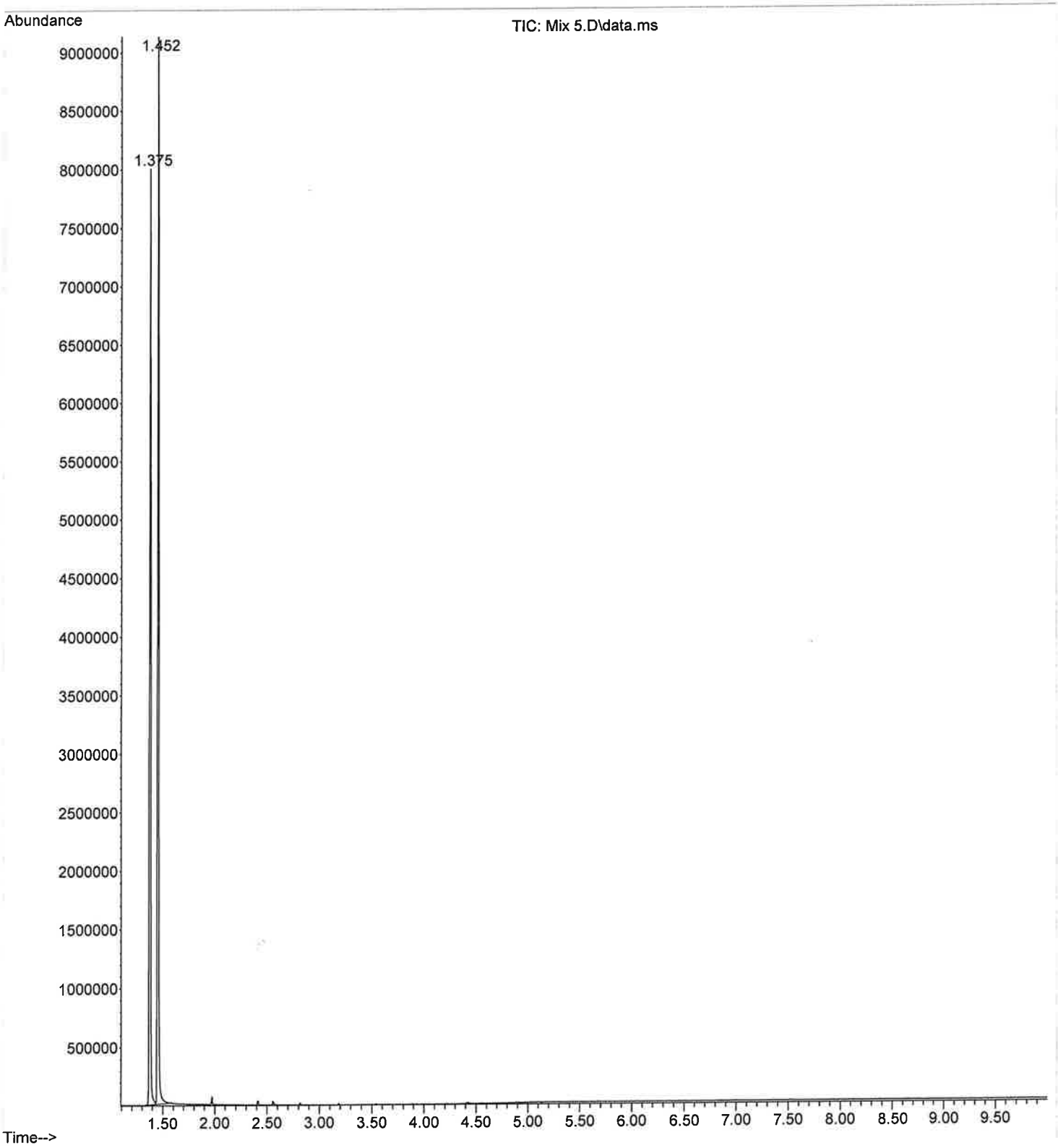
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 4.D
Operator :
Acquired : 31 Jan 2022 15:52 using AcqMethod ASMSDRUGS100.M
Instrument : Kenny
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

2/1/22
BT



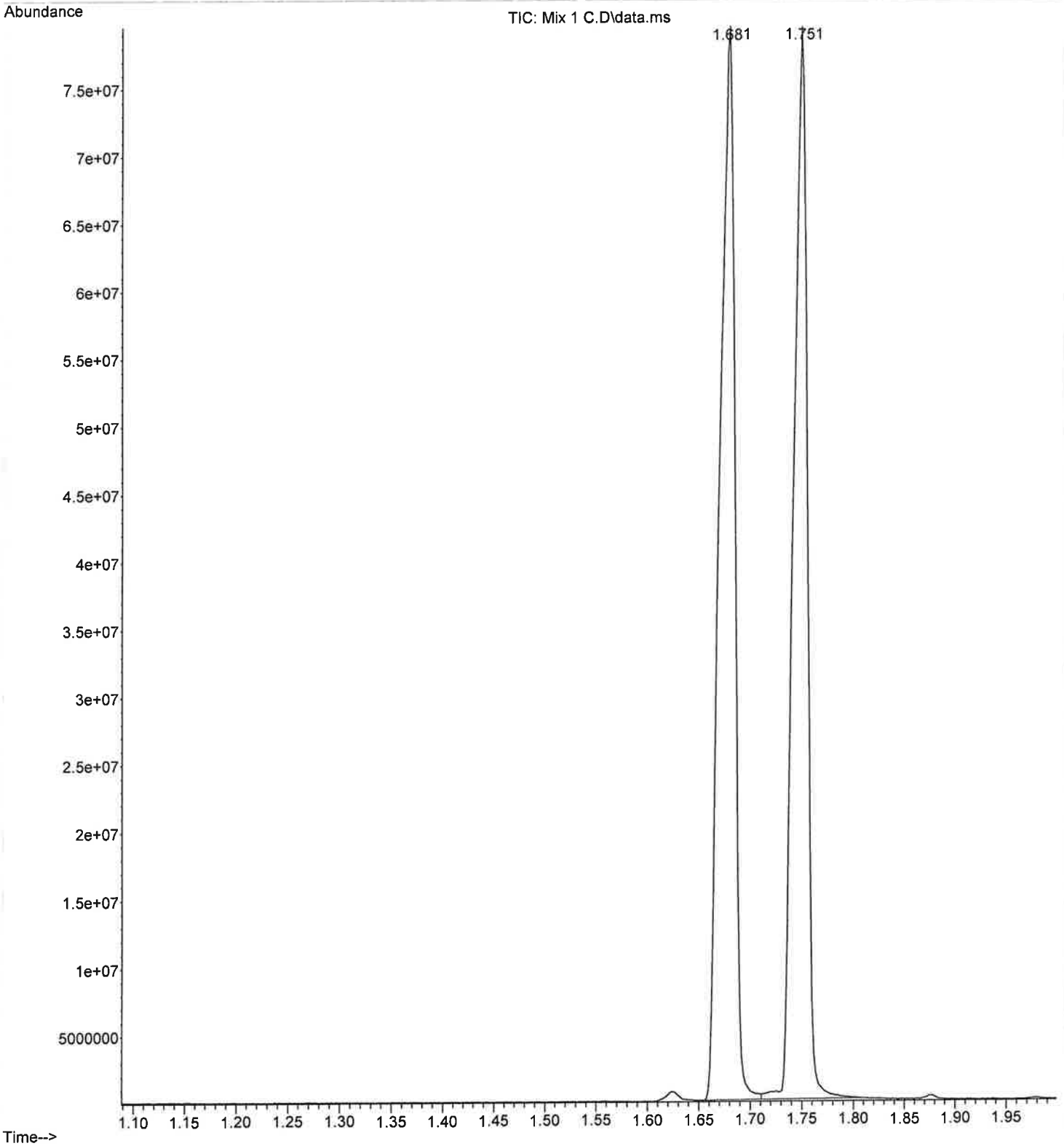
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 5.D
Operator :
Acquired : 31 Jan 2022 16:30 using AcqMethod ASMSDRUGS100.M
Instrument : Kenny
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 142

2/1/22
BT



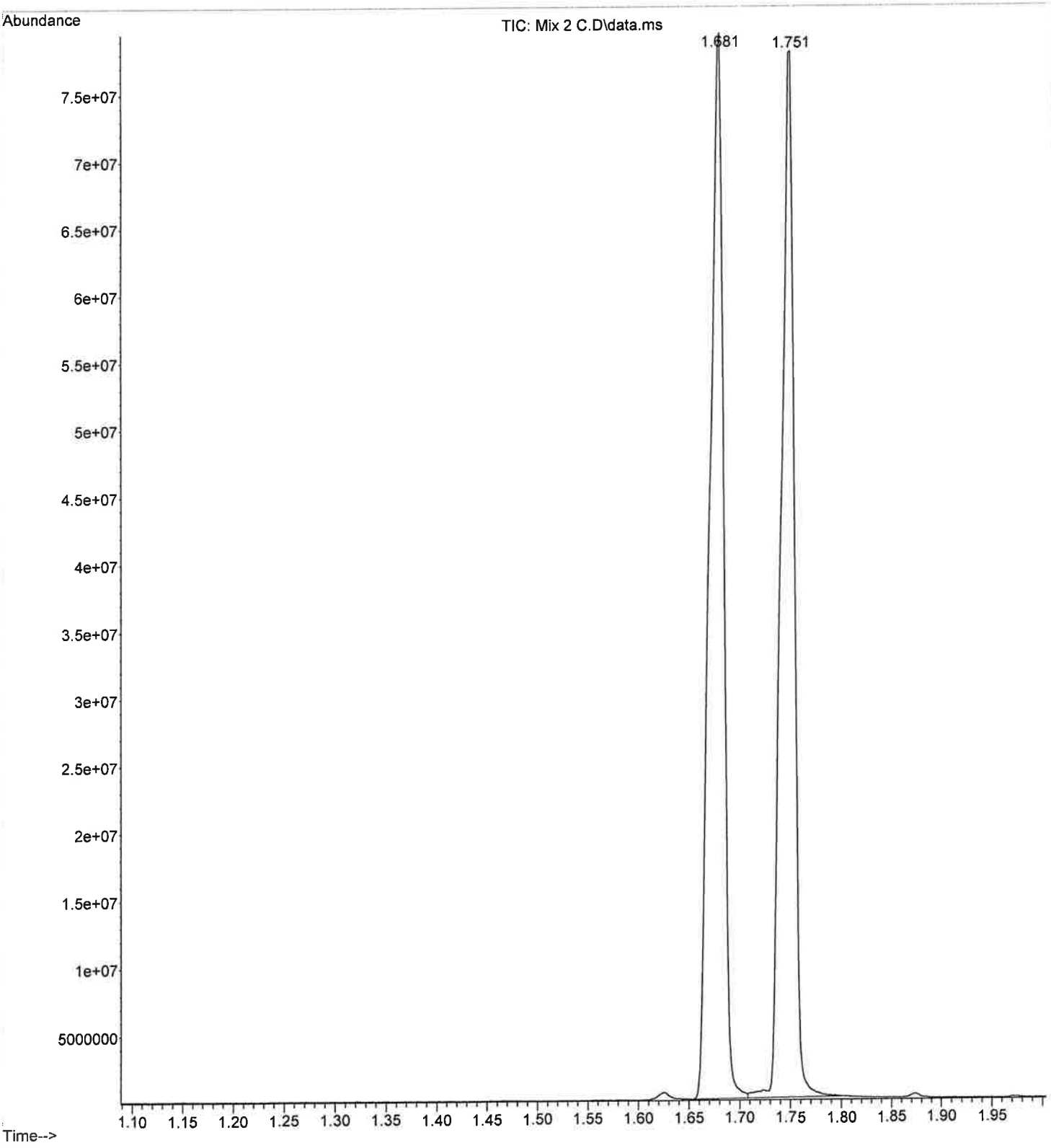
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 1 C.D
Operator :
Acquired : 31 Jan 2022 13:58 using AcqMethod ASMSDRUGS100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 102

2/1/22
BT



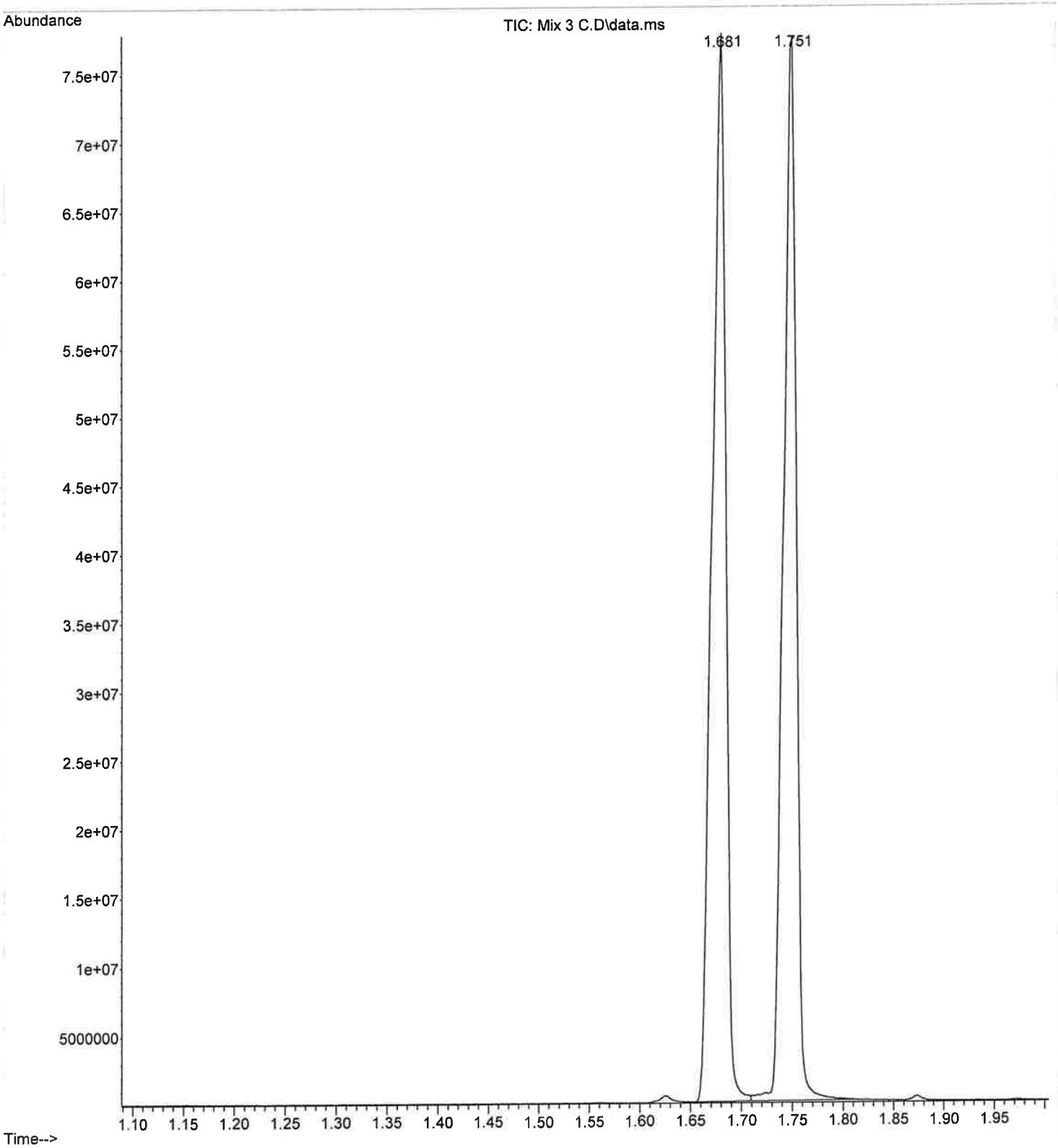
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 2 C.D
Operator :
Acquired : 31 Jan 2022 14:39 using AcqMethod ASMSDRUGS100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 102

2/1/22
BT



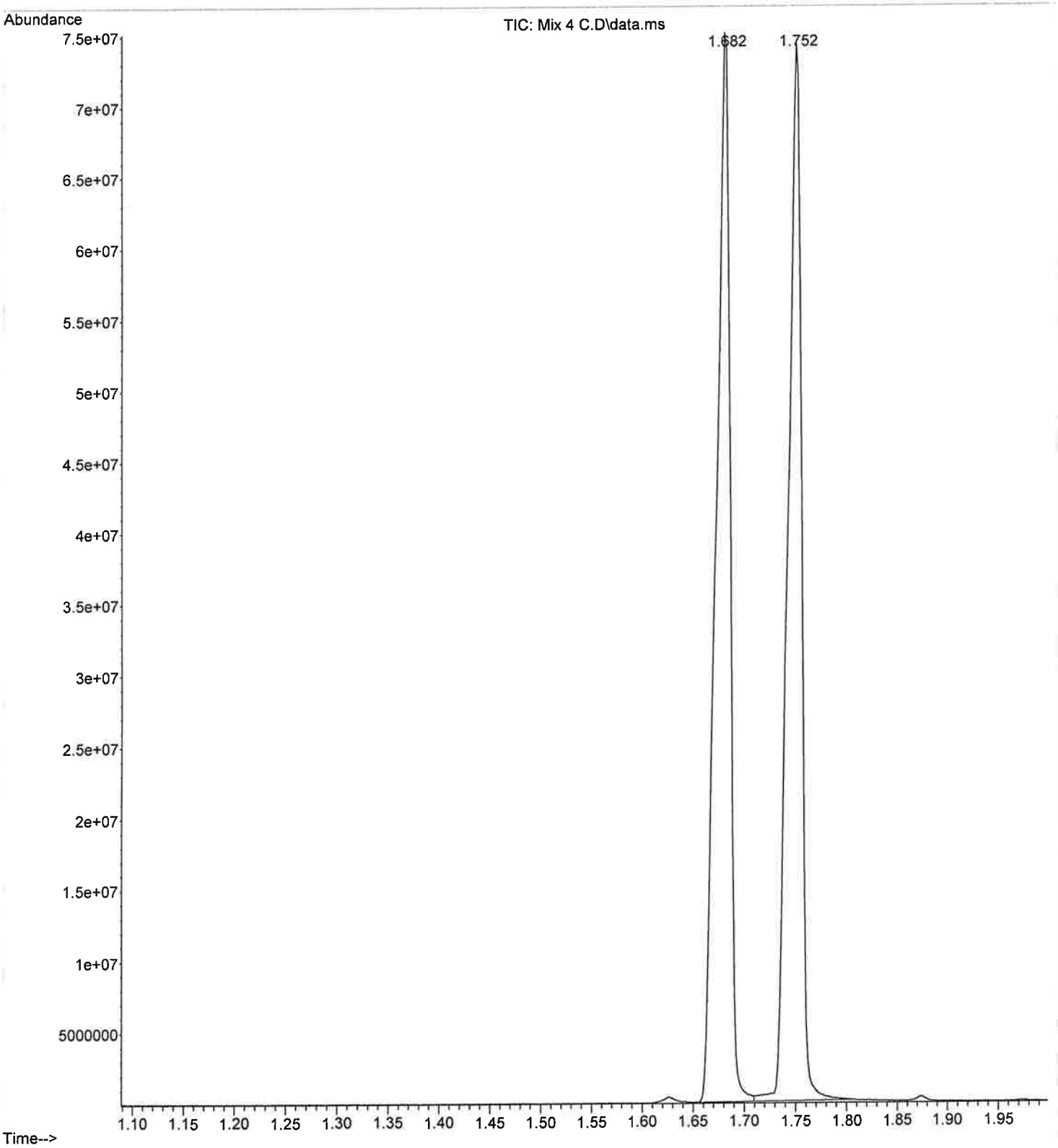
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 3 C.D
Operator :
Acquired : 31 Jan 2022 15:21 using AcqMethod ASMSDRUGS100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 102

2/1/22
BT



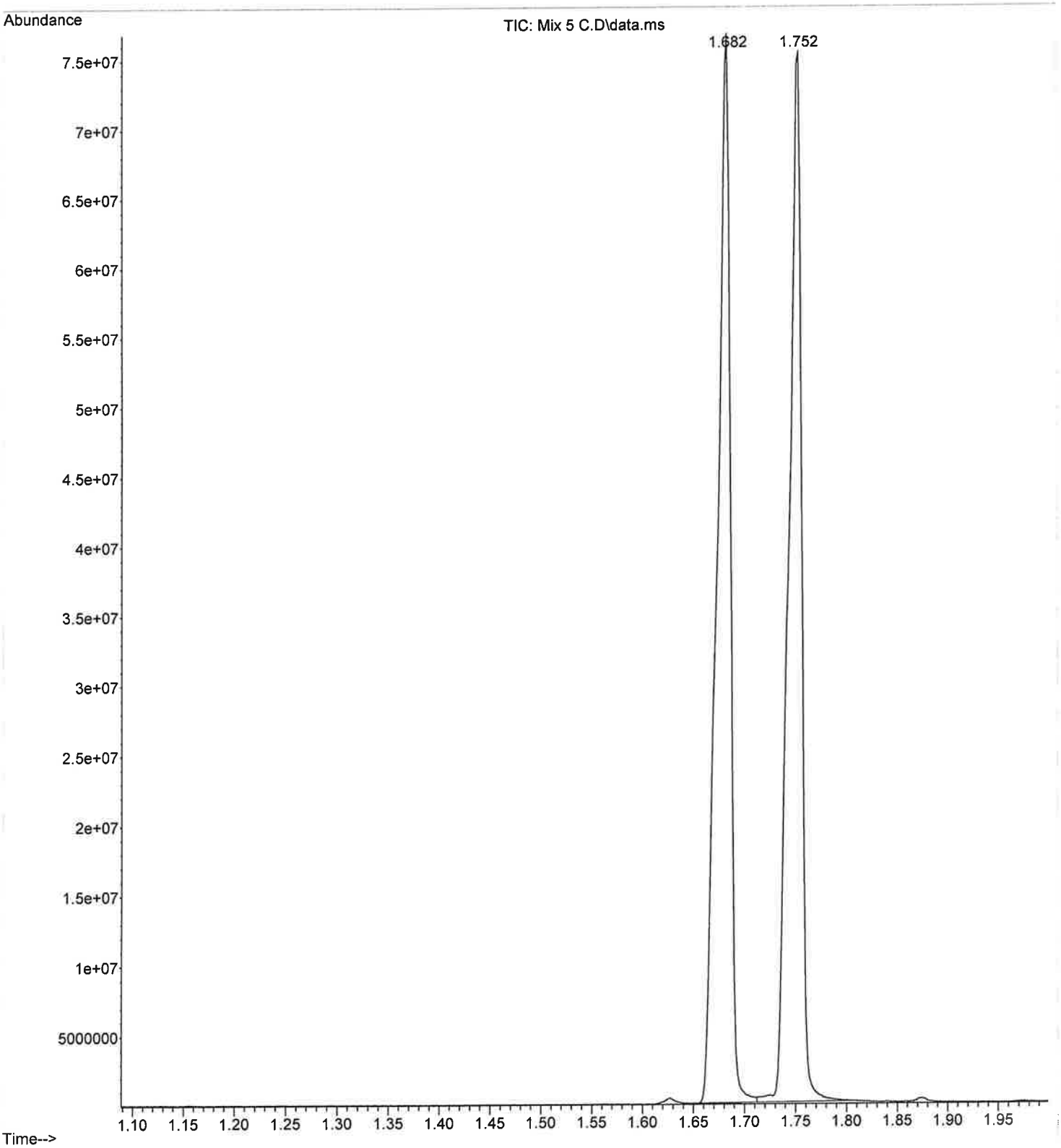
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 4 C.D
Operator :
Acquired : 31 Jan 2022 16:03 using AcqMethod ASMSDRUGS100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 102

2/1/22
BT



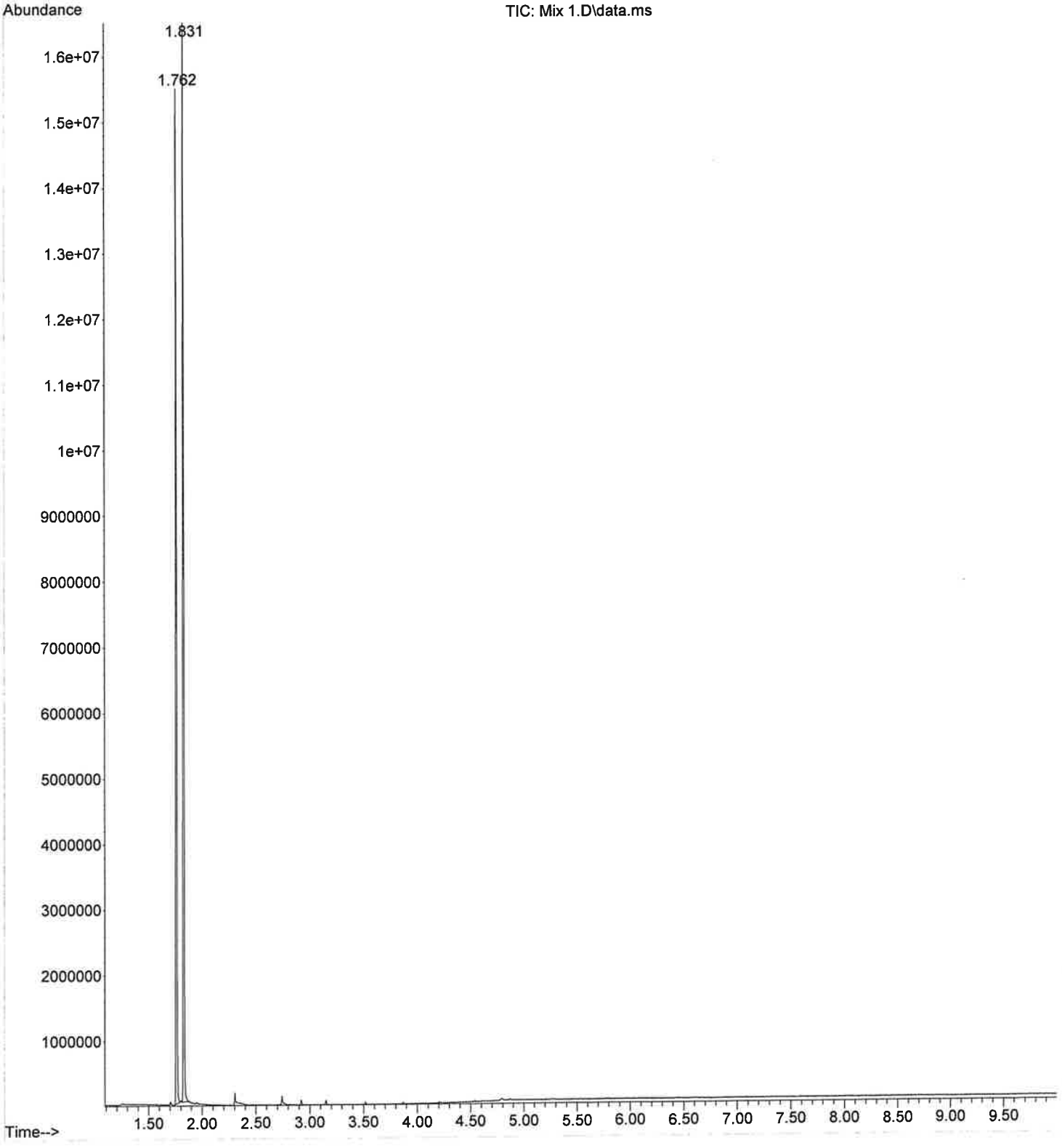
File :D:\MassHunter\GCMS\1\data\2022\BT\1-31-22\Mix 5 C.D
Operator :
Acquired : 31 Jan 2022 16:44 using AcqMethod ASMSDRUGS100.M
Instrument : Heisenberg
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 102

2/1/22
BT



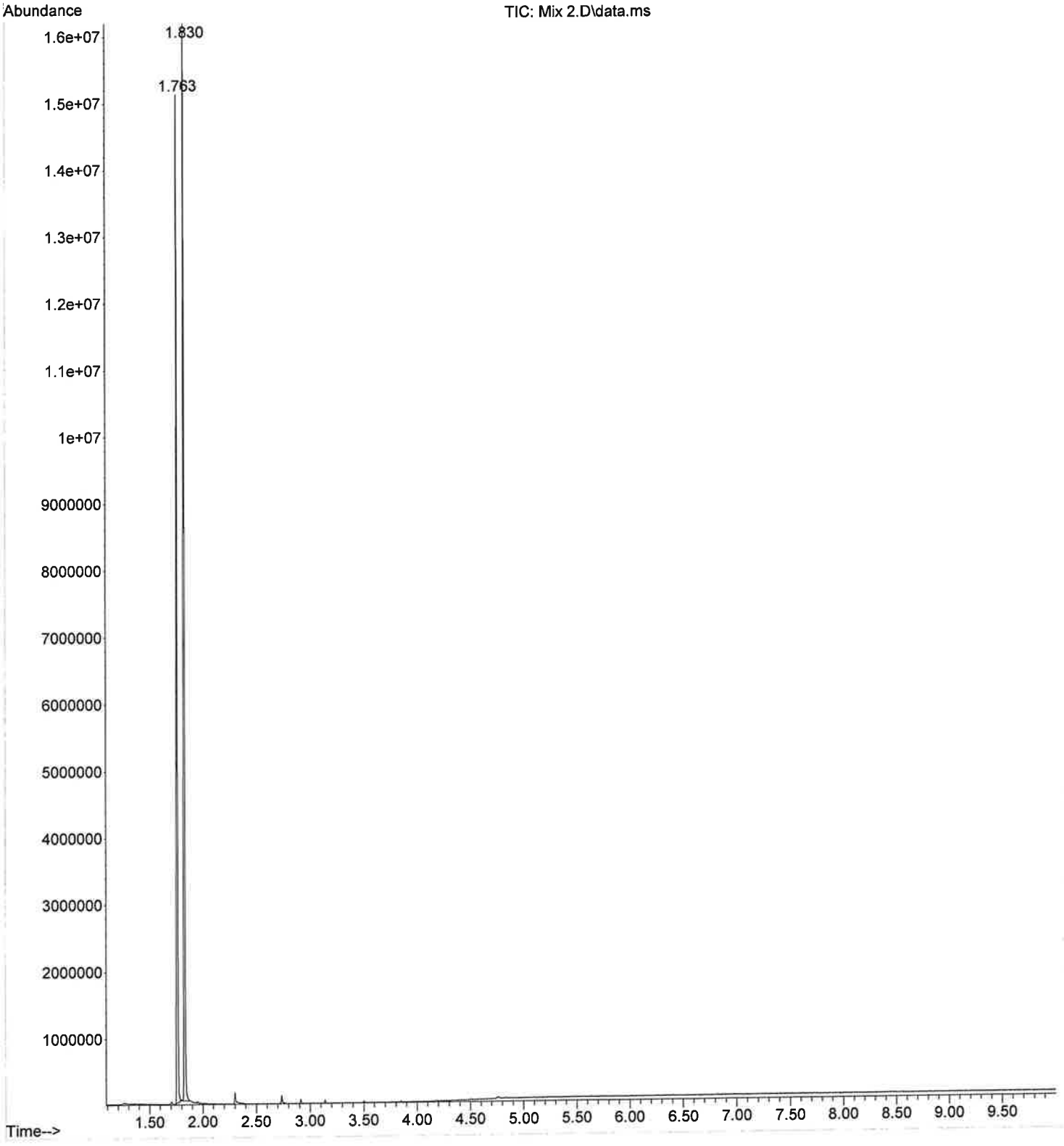
File :D:\MassHunter\GCMS\1\data\2022\BT\2-1-22\Mix 1.D
Operator :
Acquired : 01 Feb 2022 08:20 using AcqMethod ASMSDRUGS100.M
Instrument : Quincy
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

2/1/22
BT



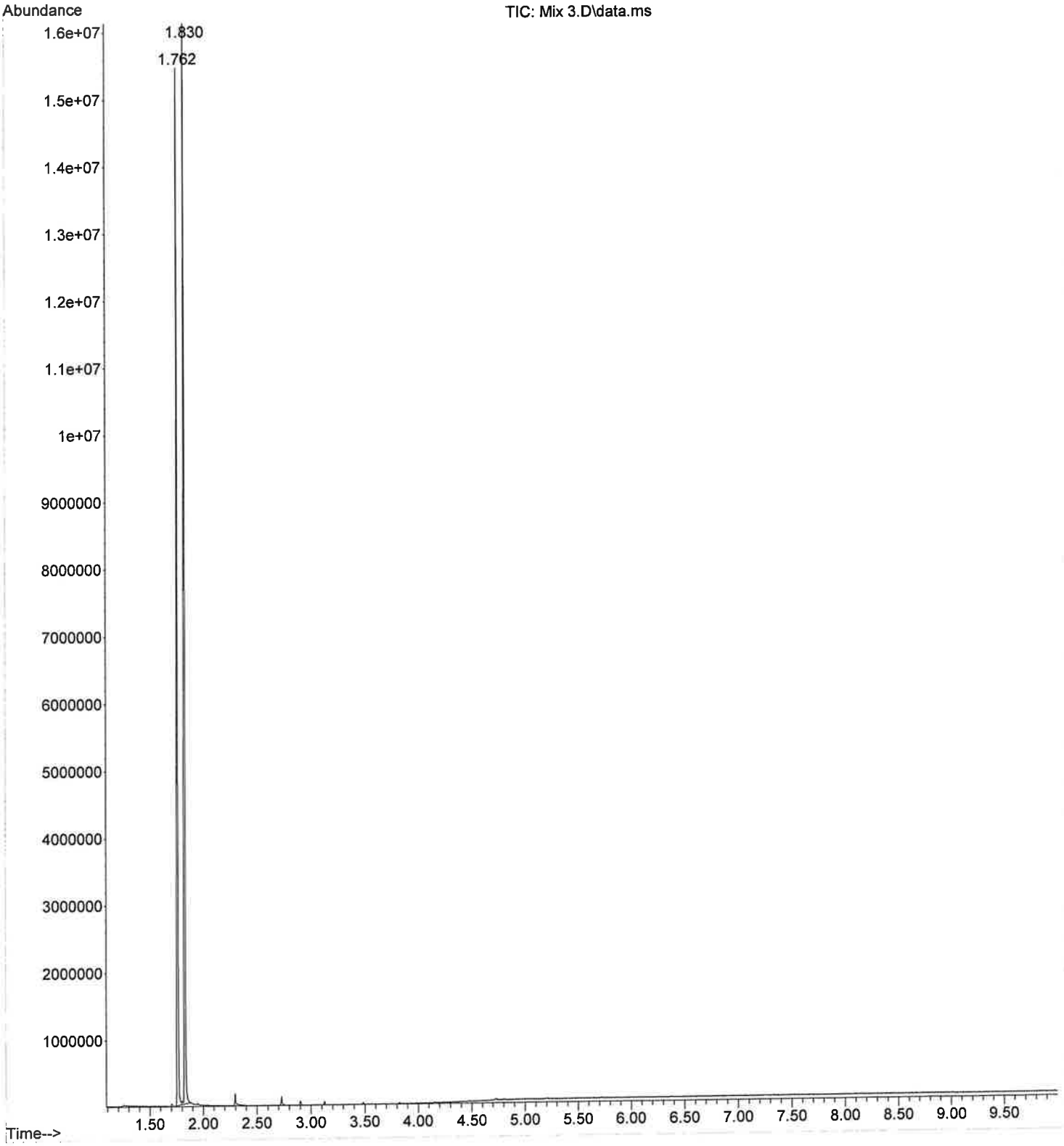
File :D:\MassHunter\GCMS\1\data\2022\BT\2-1-22\Mix 2.D
Operator :
Acquired : 01 Feb 2022 08:59 using AcqMethod ASMSDRUGS100.M
Instrument : Quincy
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

2/1/22
BT



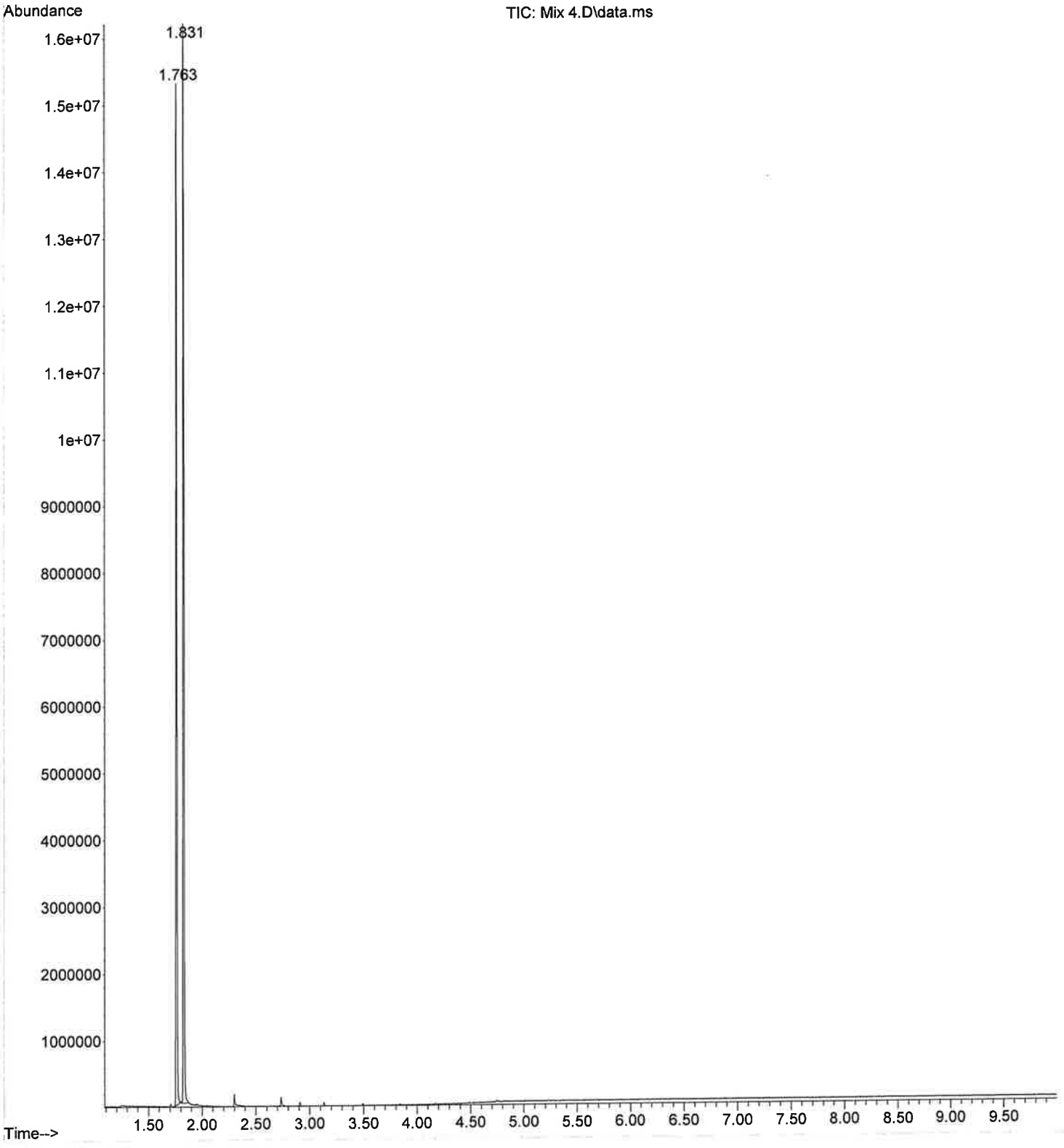
File :D:\MassHunter\GCMS\1\data\2022\BT\2-1-22\Mix 3.D
Operator :
Acquired : 01 Feb 2022 09:38 using AcqMethod ASMSDRUGS100.M
Instrument : Quincy
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

2/1/22
BT



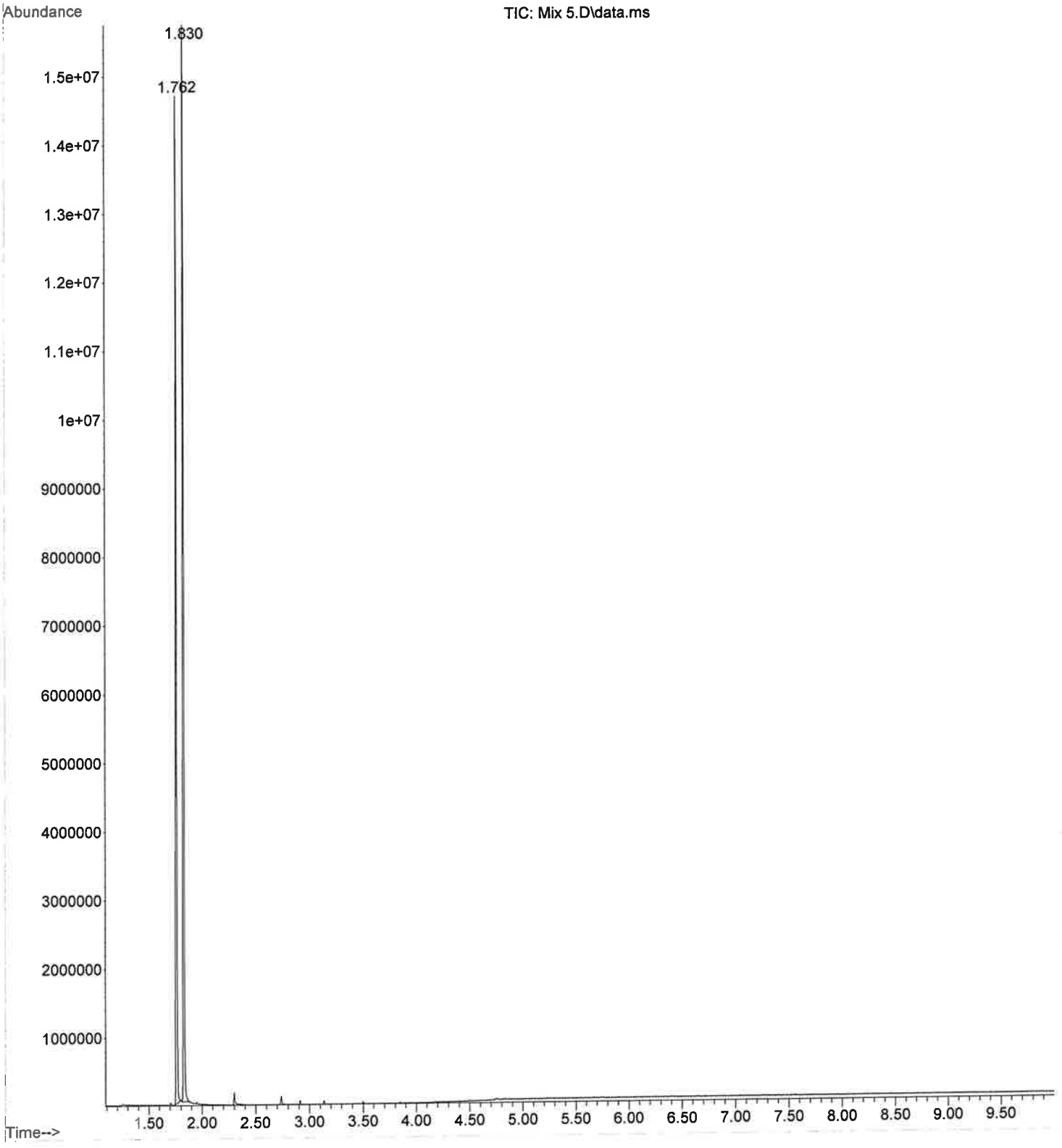
File :D:\MassHunter\GCMS\1\data\2022\BT\2-1-22\Mix 4.D
Operator :
Acquired : 01 Feb 2022 10:17 using AcqMethod ASMSDRUGS100.M
Instrument : Quincy
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

2/1/22
BT



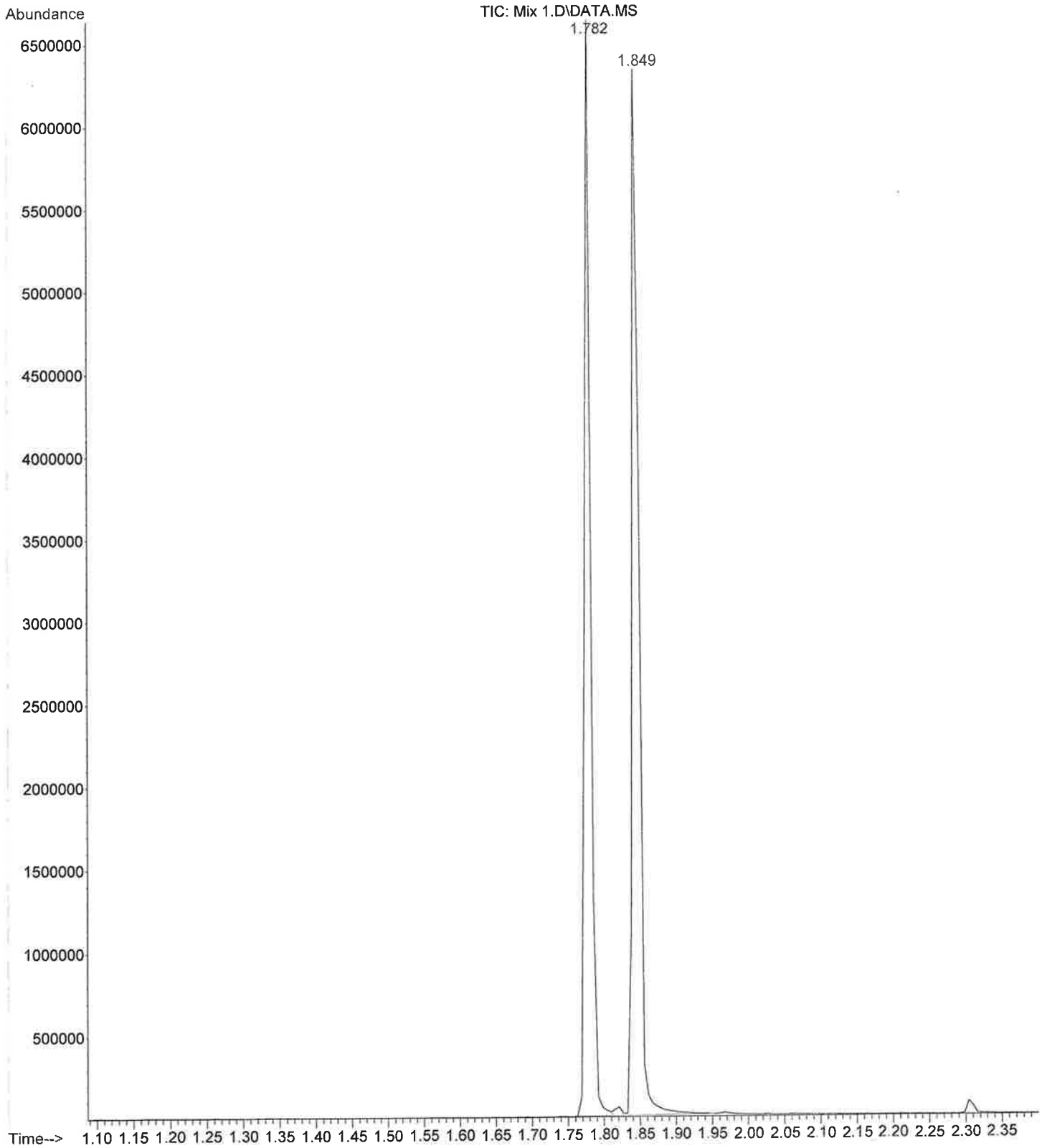
File :D:\MassHunter\GCMS\1\data\2022\BT\2-1-22\Mix 5.D
Operator :
Acquired : 01 Feb 2022 10:56 using AcqMethod ASMSDRUGS100.M
Instrument : Quincy
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 42

2/1/22
BT



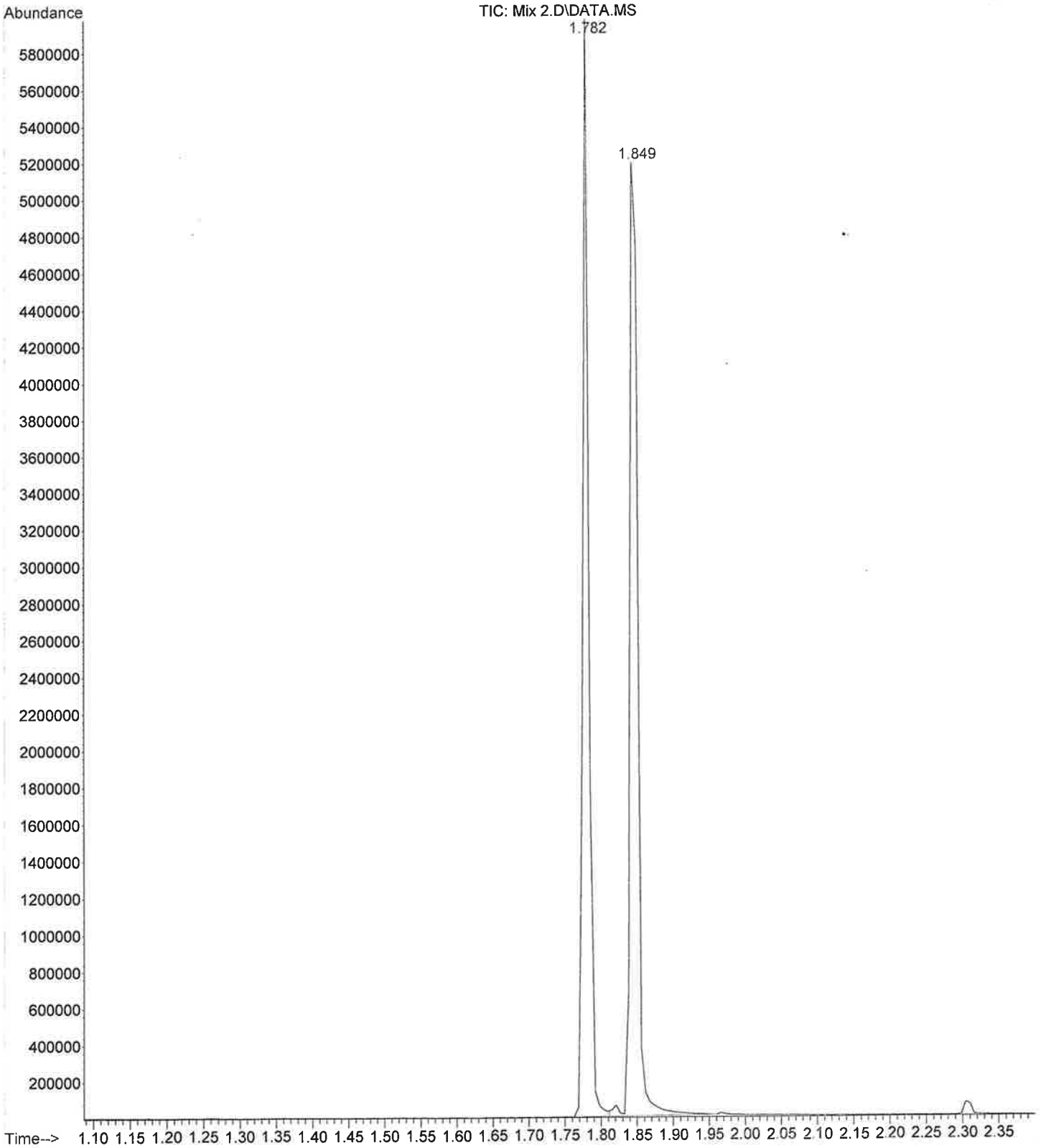
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 1.D
Operator :
Acquired : 1 Feb 2022 9:37 using AcqMethod ASMSDRUGS100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



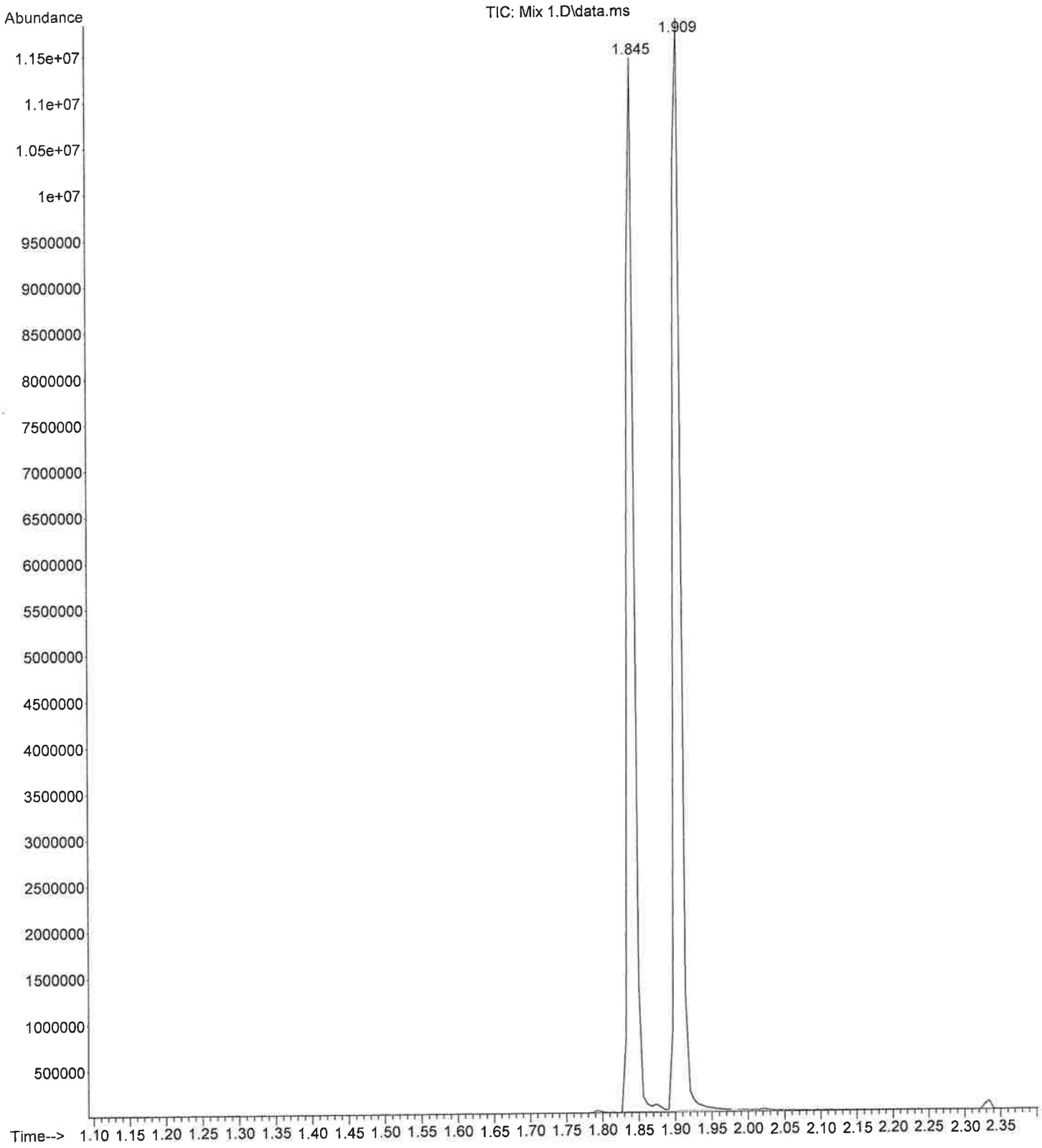
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 2.D
Operator :
Acquired : 1 Feb 2022 10:21 using AcqMethod ASMSDRUGS100.M
Instrument : Graceland
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



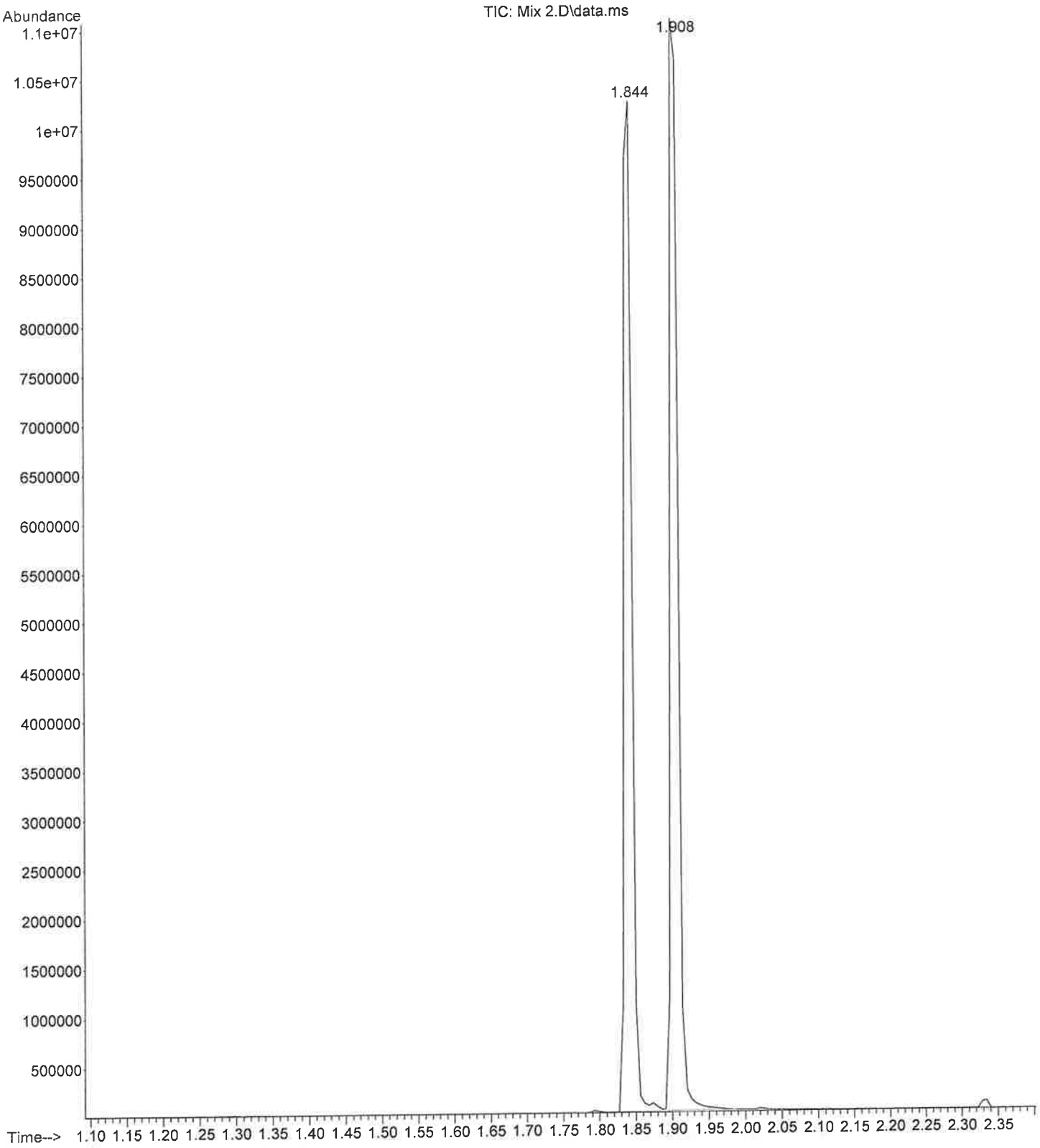
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 1.D
Operator :
Acquired : 1 Feb 2022 12:58 using AcqMethod ASMSDRUGS100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



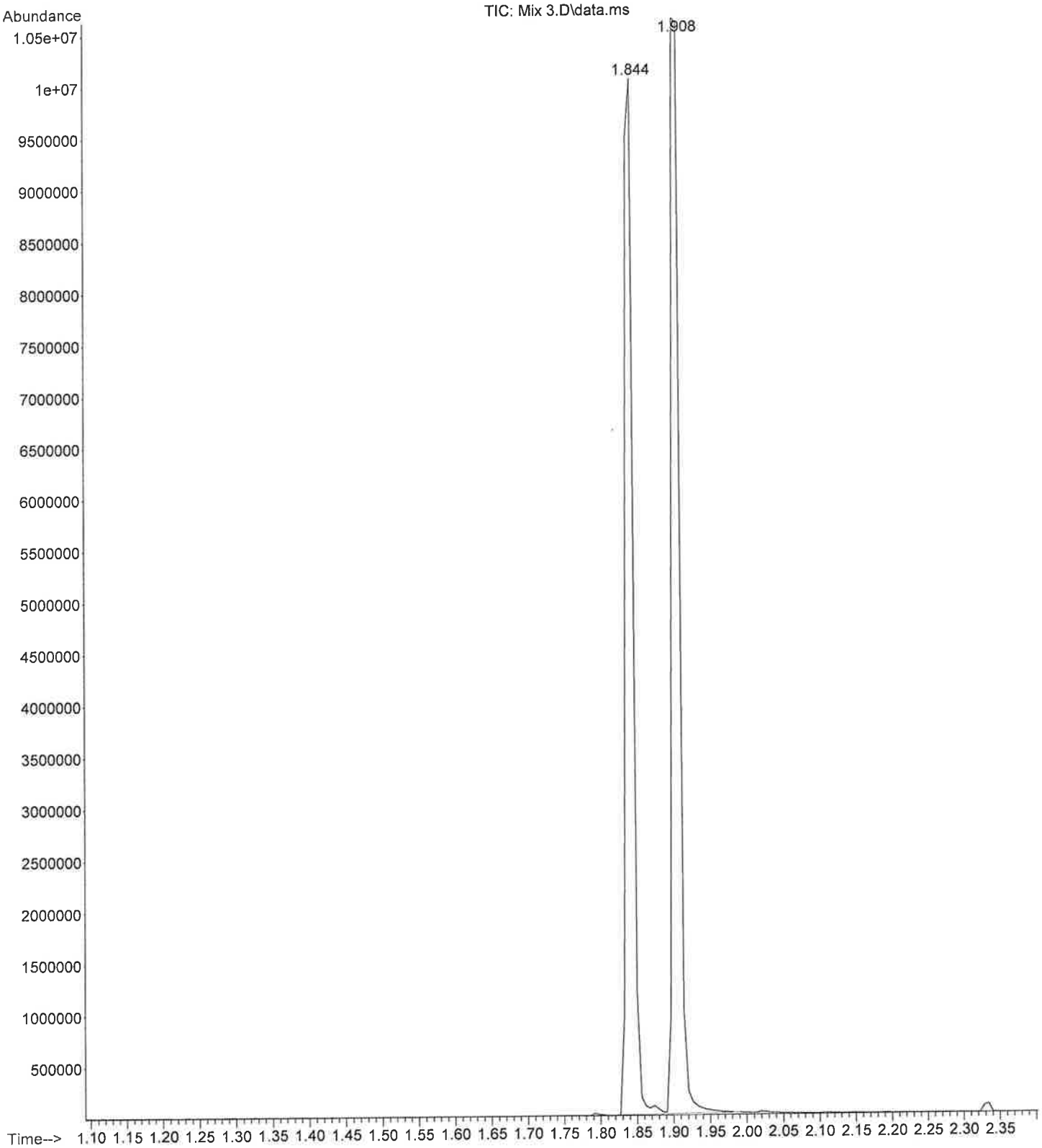
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 2.D
Operator :
Acquired : 1 Feb 2022 13:36 using AcqMethod ASMSDRUGS100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



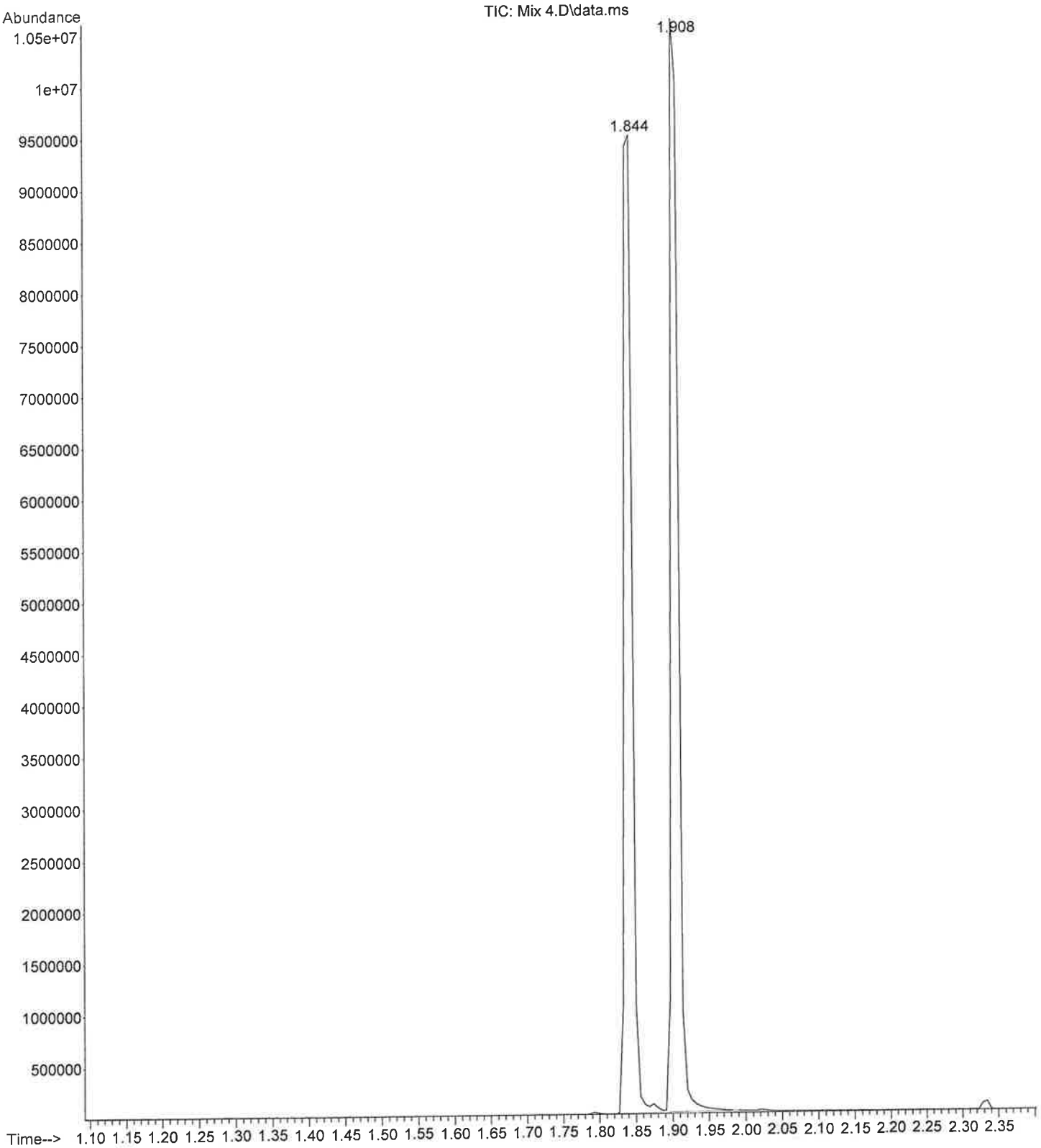
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 3.D
Operator :
Acquired : 1 Feb 2022 14:14 using AcqMethod ASMSDRUGS100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



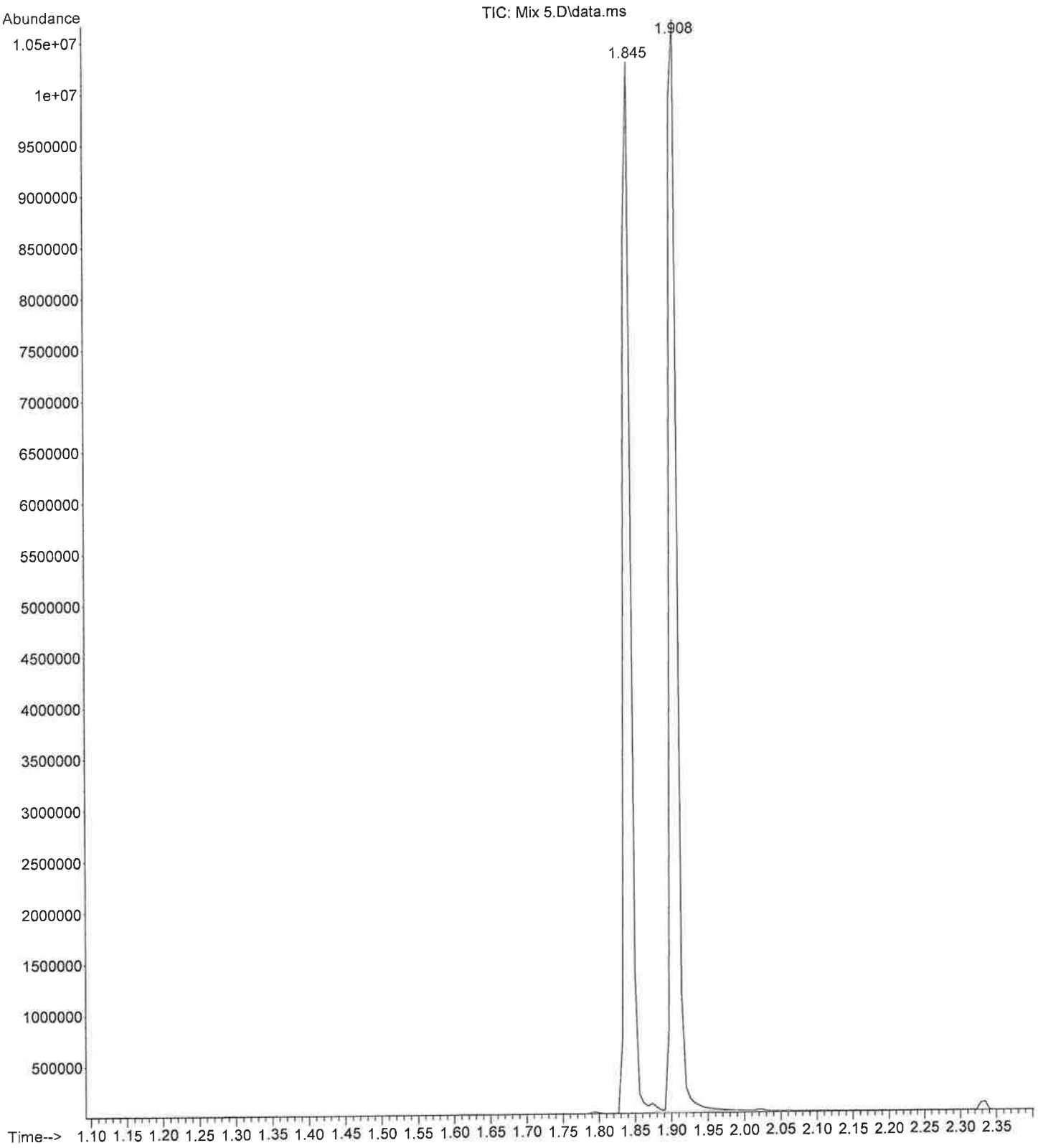
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 4.D
Operator :
Acquired : 1 Feb 2022 14:52 using AcqMethod ASMSDRUGS100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



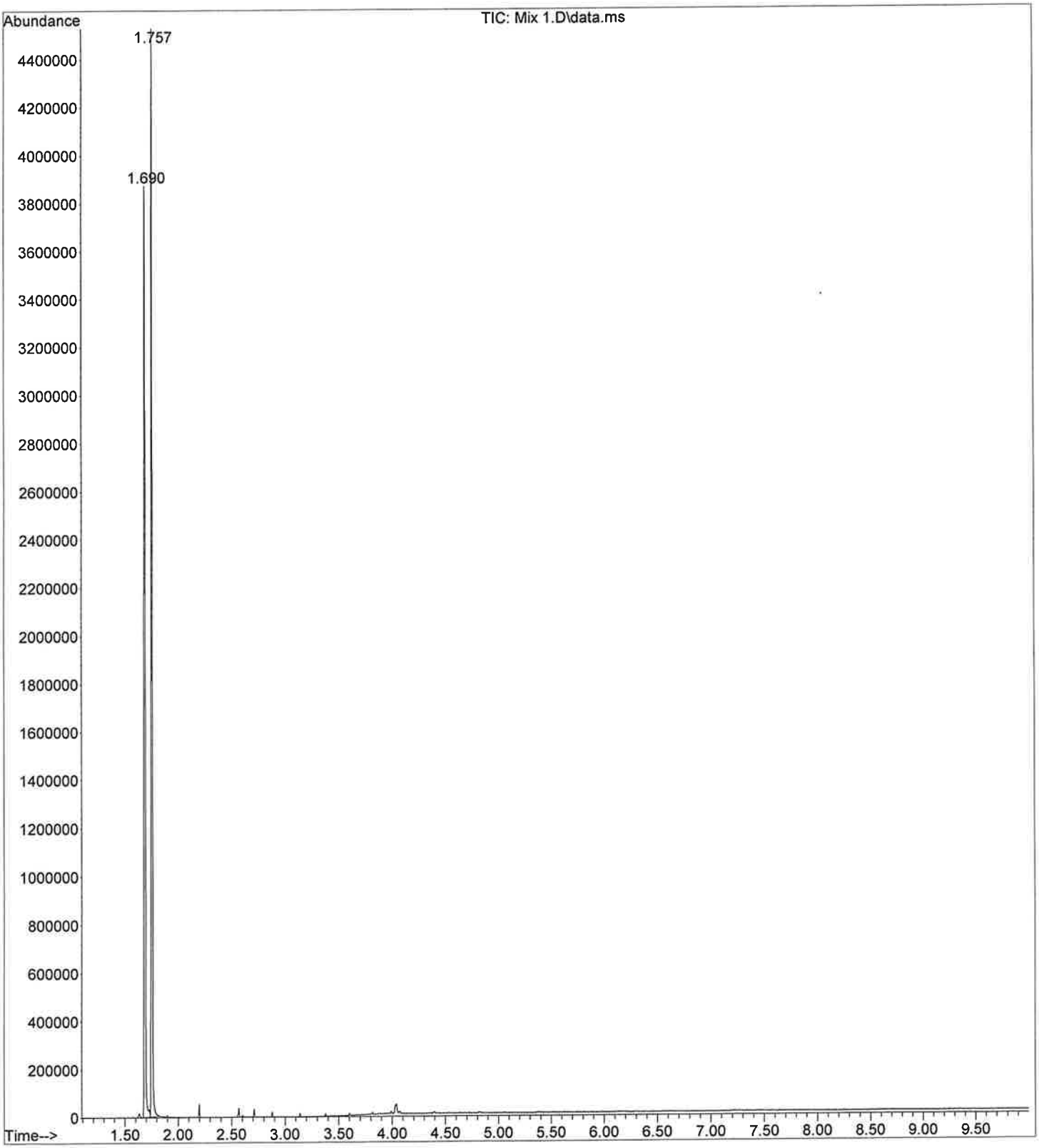
File :C:\msdchem\1\data\2022\BT\2-1-22\Mix 5.D
Operator :
Acquired : 1 Feb 2022 15:31 using AcqMethod ASMSDRUGS100.M
Instrument : Eggroll
Sample Name: Sample
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 2

2/1/22
BT



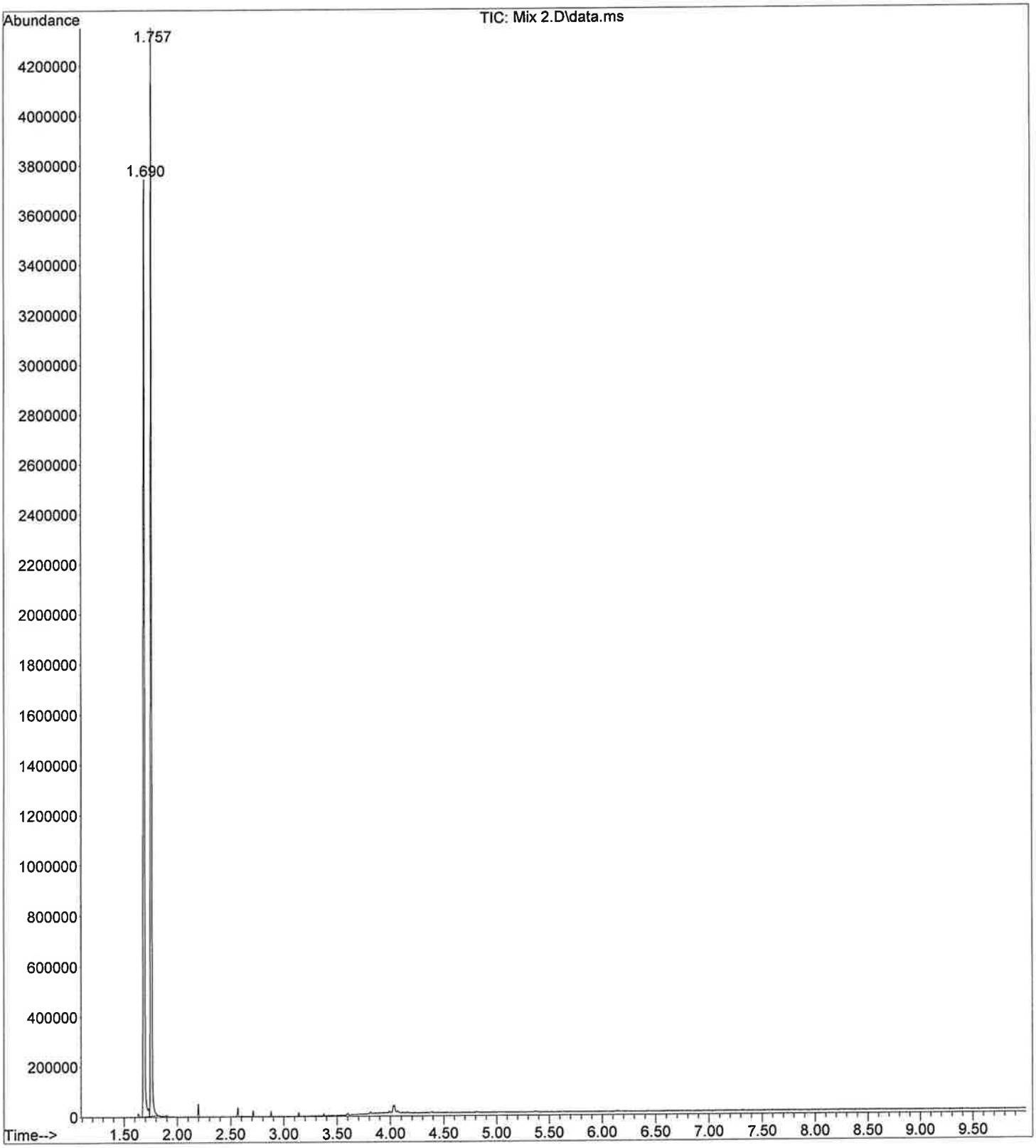
File :C:\msdchem\1\data\2022\BT\2-2-22\Mix 1.D
Operator :
Acquired : 2 Feb 2022 8:19 using AcqMethod ASMSDRUGS100.M
Instrument : donna2
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

2/2/22
BT



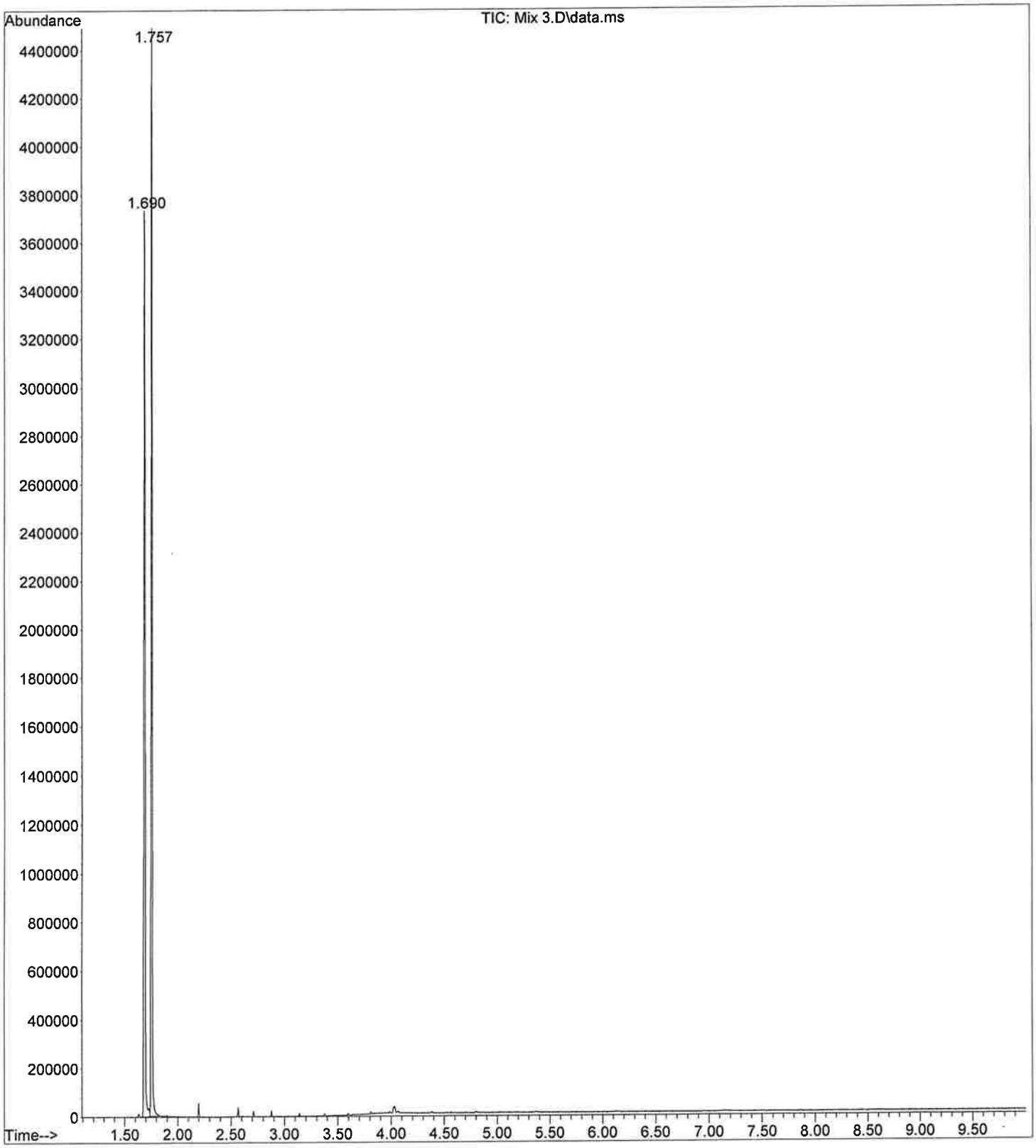
File :C:\msdchem\1\data\2022\BT\2-2-22\Mix 2.D
Operator :
Acquired : 2 Feb 2022 8:47 using AcqMethod ASMSDRUGS100.M
Instrument : donna2
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

2/2/22
BT



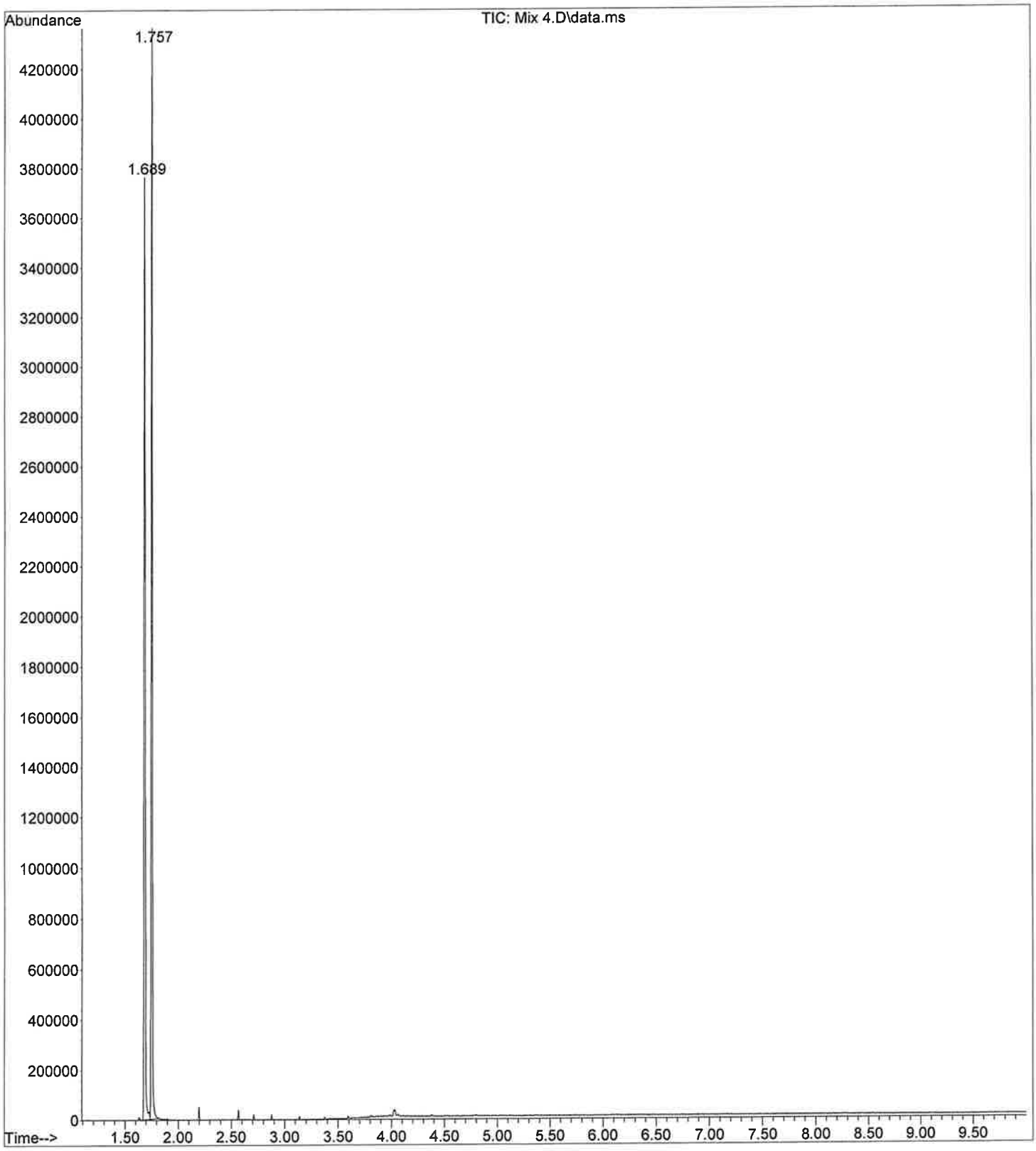
File :C:\msdchem\1\data\2022\BT\2-2-22\Mix 3.D
Operator :
Acquired : 2 Feb 2022 9:14 using AcqMethod ASMSDRUGS100.M
Instrument : donna2
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

2/2/22
BT



File :C:\msdchem\1\data\2022\BT\2-2-22\Mix 4.D
Operator :
Acquired : 2 Feb 2022 9:42 using AcqMethod ASMSDRUGS100.M
Instrument : donna2
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

2/2/22
BT



File :C:\msdchem\1\data\2022\BT\2-2-22\Mix 5.D
Operator :
Acquired : 2 Feb 2022 10:10 using AcqMethod ASMSDRUGS100.M
Instrument : donna2
Sample Name: Standard
Misc Info : 0.5 N NaOH-CHCl3
Vial Number: 25

2/2/22
BT