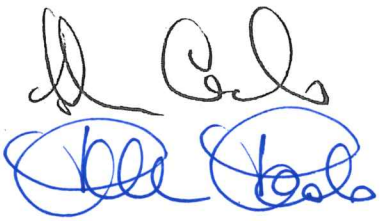
lyondellbasell

Rapporto di intervento

AT601
Manutenzione Forno 1- Forno 2 e taratura

Redattore:	[Pardini Carlo]
Revisore/Approvatore:	[Paolo Palma]
Data di intervento:	[11/03/2021]
Data di emissione:	[11/03/2021]



Sommario

1 Informazioni generali

Assistente MTN: **Pardini**

Ditta esecutrice: **ABB**

Tecnico Supervisore: **Sig. Ugo Caia** della Società **ABB**

Data inizio intervento: **09/03/2021**

Data fine intervento: **11/03/2021**

2 Motivo dell'intervento e diagnosi iniziale

L'intervento è stato eseguito dal tecnico incaricato ABB Sig. Ugo Caia come previsto dall' Ordine n. 4404203545, quale controllo periodico di efficienza e calibrazione GC AT601.

3 Descrizione dell'intervento

Preliminarmente sono stati controllati e puliti tutti i filtri sul circuito di campionamento.

Per i dettagli dell'intervento sul GC e sulle attività di taratura di entrambi i forni, tramite bombola di gas campione certificata, si rimanda al report di intervento e relativo certificato di calibrazione rilasciati dal tecnico incaricato ABB allegati al presente report.
Rif. report intervento: *ANLYS_527042-020 del 09/03/2021.*

4 Parti di ricambio

Come riportato nel report di intervento (Rif . allegato "*2021.03.11_CaiaU_Report_Basell_Brindisi*")

5 Attività da completare

Nessuna; apparecchiatura lasciata perfettamente funzionante.

6 Documentazione fotografica

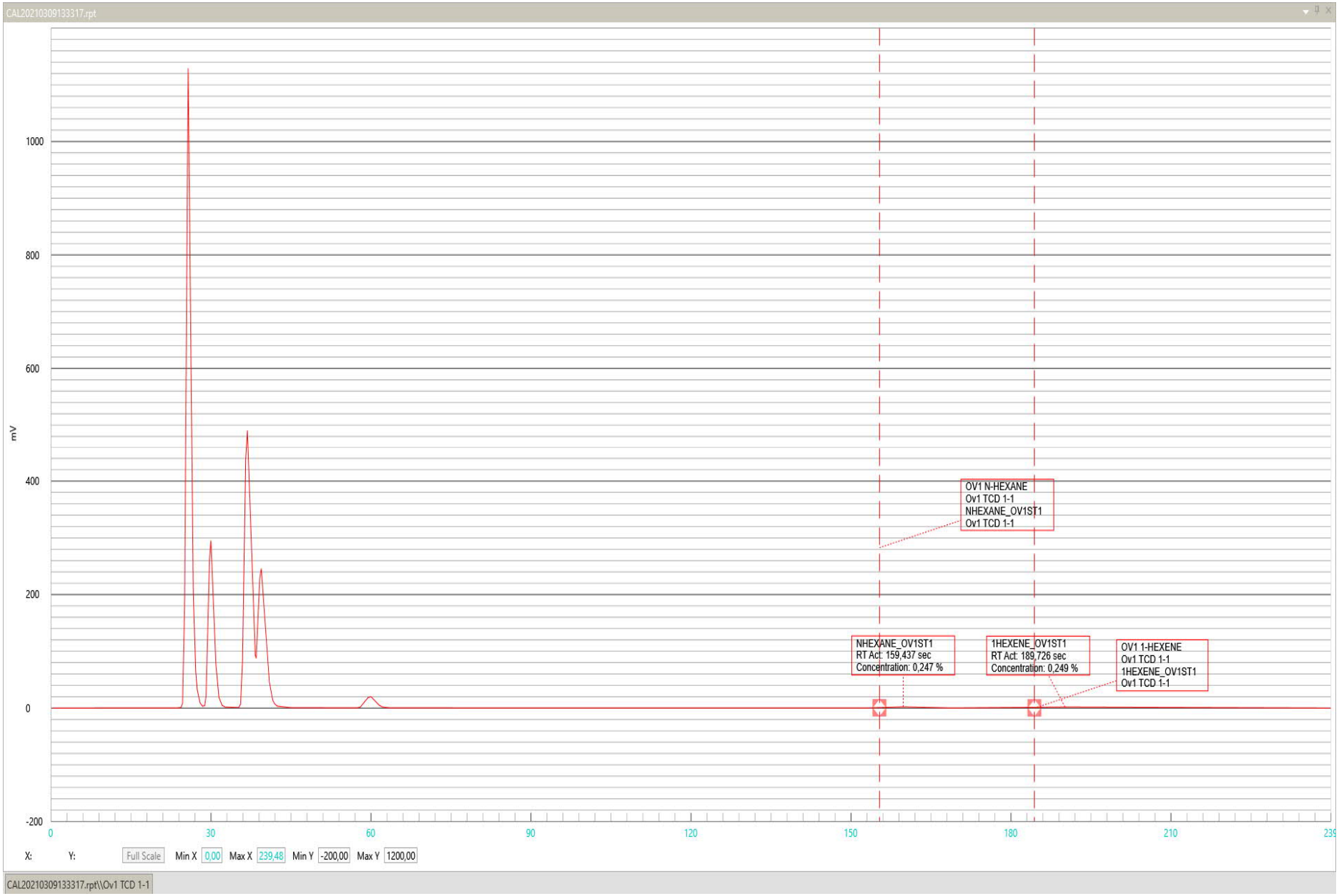
Foto 1	Foto 2
Foto 3	Foto 4

Peak Data																			
Component Name	Concentration	RT Actual	RT Expected	Response Factor	Valid	Type	Total Area	Positive Area	Peak Found	Negative Area	SOI	EOI	SOB	EOB	Ampl SOI	Ampl EOI	Ampl SOB	Ampl EOB	Ampl Crest
N2_OV1ST1	46,387	25,328	25	0,01721497		Measured	2694,919	2694,573	True	0,3463626	19	31	19	32	0,0000	-0,1634	0,1406	-0,2611	1801,6219
H2 MID_OV1ST1	9,978	59,109	58	0,02134284		Measured	467,5107	467,5105	True	0,0001907349	50,914	68,945	47	68,945	0,0679	0,0000	-0,0275	-0,4268	188,2600
ETHYLEN_OV1ST1	9,962	83,289	81	0,01389739		Measured	716,8264	716,8251	True	0,001311302	69,835	96,726	69,835	96,726	0,0000	0,0000	-0,0489	-0,0597	120,8412
ETHANE_OV1ST1	2,005	109,382	107	0,01345199		Measured	149,0486	149,0486	True	0	96,726	123,945	96,726	128,429	0,0000	0,0119	-0,0597	-0,0716	18,8112
PROPANE_OV1ST1	19,97	115,226	114	0,0654537		Measured	305,1808	305,1012	True	0,07967949	109,968	124	107,976	124	-0,0251	0,0000	0,0429	0,0584	125,8313
PROPYLN_OV1ST1	10,17	133,929	133	0,06726892		Measured	151,23	151,1842	True	0,04582405	127,953	144	126,976	144,976	-0,0084	0,0154	0,0226	0,0536	49,5636
NHEXANE_OV1ST1	0,247	159,437	155	0,0165292		Measured	14,95636	14,94325	True	0,0131011	143,75	171,585	143,75	172,289	0,0000	0,0011	-0,0275	-0,0227	2,2292
1HEXENE_OV1ST1	0,249	189,726	184	0,01709915		Measured	14,63345	14,56213	True	0,07132292	172,289	203,593	172,289	202,976	0,0000	-0,0036	-0,0227	-0,0167	1,8978
1BUTENE_OV1ST1	1,032	203,804	203	0,0576118		Measured	17,9135	17,913	True	0,000500679	191,585	218,304	191,585	218,304	0,0000	0,0000	-0,0370	-0,0346	3,8290

TCFs										
Type	Name	Description	Scope	Relative Offset	Startup Purge A Cycle Time M Sequence Offset	Absolute Offset	Hardware	Settings 1	Settings 2	Action
ANALYSIS	ANLYS_524072-020				5					
METHOD	MTD_524072-20		AT-601-1		240					
TCF	StreamStep	Stream Step	Method	150	0	150				
TCF	DigInCheck	Low Sample Flow	Method	130	0	130	Ov1 Sample Alarm			
SEQUENCE	Seq V1 sTCD Ref				0					
TCF	ValveOn	OV1 SV 7 BV on	Sequence	1	0	1	Ov1 SV7 Block Vent			
TCF	ValveOn	OV1 Valve 1 on	Sequence	4	0	4	Ov1 Valve 1			
TCF	ValveOff	OV1 Valve 1 off	Sequence	25	0	25	Ov1 Valve 1			
TCF	ValveOff	OV1 SV7 BV off	Sequence	7	0	7	Ov1 SV7 Block Vent			
TCF	AutoZero	Auto Zero	Sequence	15	0	15	Ov1 TCD 2			
TCF	Component	OV1 Hydrogen Mid	Sequence	58	0	58	Ov1 TCD 2			
SEQUENCE	Seq V2 mTCD meas1				0					
TCF	AutoZero	AutoZero	Sequence	10	0	10	Ov1 TCD 1-1			
TCF	ValveOn	OV1 Valve 2 on	Sequence	5	0	5	Ov1 Valve 2			
TCF	ValveOff	OV1 Valve 2 off	Sequence	105	0	105	Ov1 Valve 2			
TCF	Component	OV1 1-HEXENE	Sequence	184	0	184	Ov1 TCD 1-1			
TCF	Component	OV1 N-HEXANE	Sequence	155	0	155	Ov1 TCD 1-1			
SEQUENCE	Seq V3 mTCD meas2				0					

TCF	AutoZero	AutoZero	Sequence	10	0	10	Ov1 TCD 1-2			
TCF	ValveOn	OV1 Valve 3 on	Sequence	5	0	5	Ov1 Valve 3			
TCF	ValveOff	OV1 Valve 3 off	Sequence	40	0	40	Ov1 Valve 3			
TCF	Component	OV1 Nitrogen	Sequence	25	0	25	Ov1 TCD 1-2			
TCF	Component	OV1 Ethylene	Sequence	81	0	81	Ov1 TCD 1-2			
TCF	Component	OV1 Ethane	Sequence	107	0	107	Ov1 TCD 1-2			
SEQUENCE	Seq V4 sTCD Meas				20					
TCF	ValveOn	OV1 SV 7 BV on	Sequence	1	20	21	Ov1 SV7 Block Vent			
TCF	ValveOn	OV1 Valve 4 on	Sequence	5	20	25	Ov1 Valve 4			
TCF	ValveOff	OV1 Valve 4 off	Sequence	75	20	95	Ov1 Valve 4			
TCF	ValveOff	OV1 SV7 BV off	Sequence	7	20	27	Ov1 SV7 Block Vent			
TCF	Component	OV1 Propane	Sequence	94	20	114	Ov1 TCD 2			
TCF	Component	OV1 Propylene	Sequence	113	20	133	Ov1 TCD 2			
TCF	Component	OV1 1-Butene	Sequence	183	20	203	Ov1 TCD 2			

Components													
Name	Description	Begin Crest	End Crest	Begin SOI	End SOI	Begin EOI	End EOI	Begin SOB	End SOB	Begin EOB	End EOB	Detector	Peak Type
H2 MID_OV1ST1	OV1 Hydrogen Mid	-3	4	-11	-7	9	13	-11	-8	9	11	Ov1 TCD 2	Positive
1HEXENE_OV1ST1	OV1 1-HEXENE	-7	10	-17	-11	14	20	-17	-11	14	19	Ov1 TCD 1-1	Positive
NHEXANE_OV1ST1	OV1 N-HEXANE	-8	10	-15	-9	11	17	-14	-10	11	18	Ov1 TCD 1-1	Positive
N2_OV1ST1	OV1 Nitrogen	-2	2	-6	-4	6	9	-6	-4	7	9	Ov1 TCD 1-2	Positive
ETHYLEN_OV1ST1	OV1 Ethylene	-3	3	-15	-11	13	18	-14	-11	12	16	Ov1 TCD 1-2	Positive
ETHANE_OV1ST1	OV1 Ethane	-3	3	-14	-10	13	17	-14	-10	16	22	Ov1 TCD 1-2	Positive
PROPANE_OV1ST1	OV1 Propane	-2	2	-8	-4	6	10	-9	-6	6	10	Ov1 TCD 2	Positive
PROPYLN_OV1ST1	OV1 Propylene	-3	3	-8	-5	7	11	-9	-6	8	12	Ov1 TCD 2	Positive
1BUTENE_OV1ST1	OV1 1-Butene	-4	4	-13	-9	11	17	-14	-11	14	18	Ov1 TCD 2	Positive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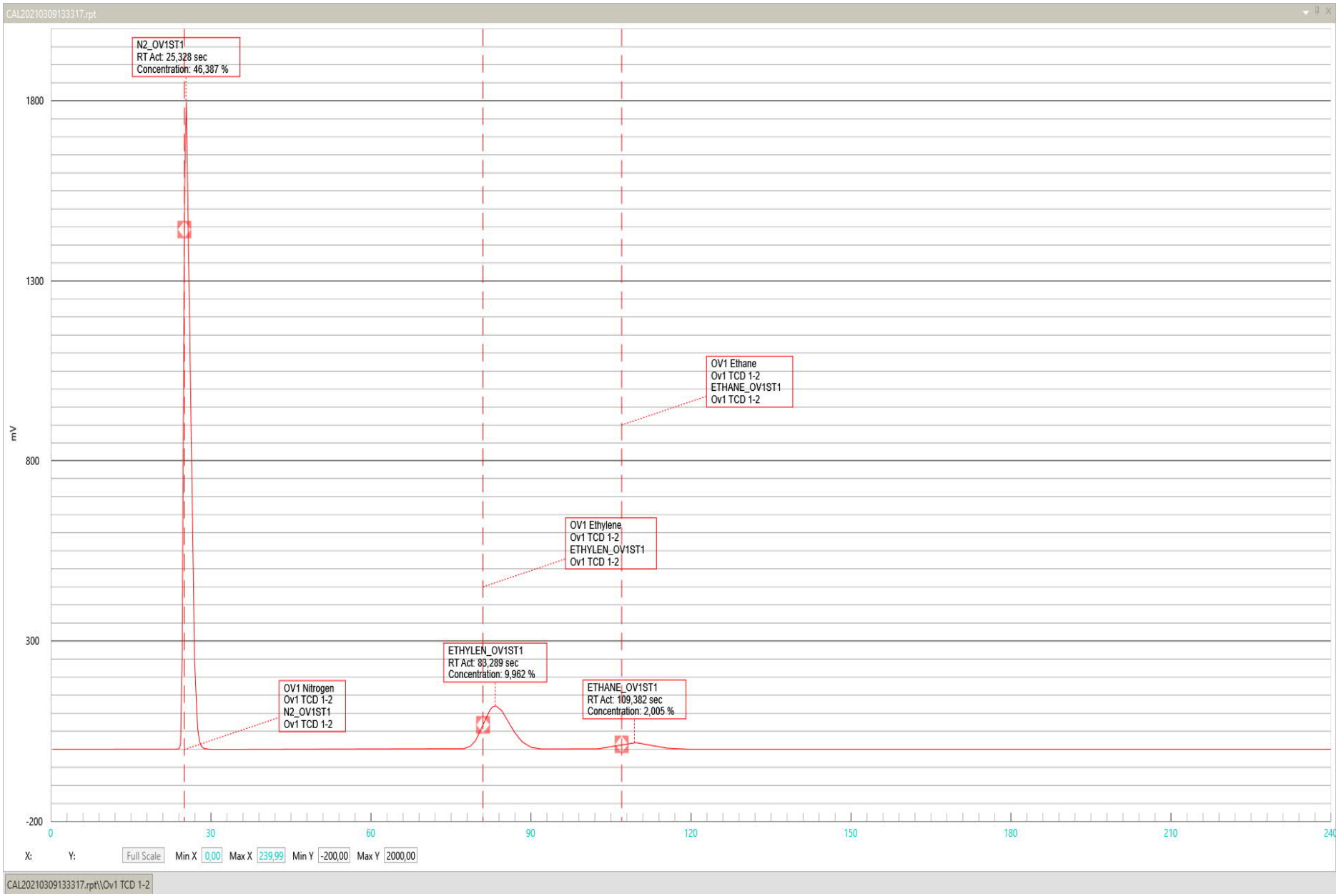
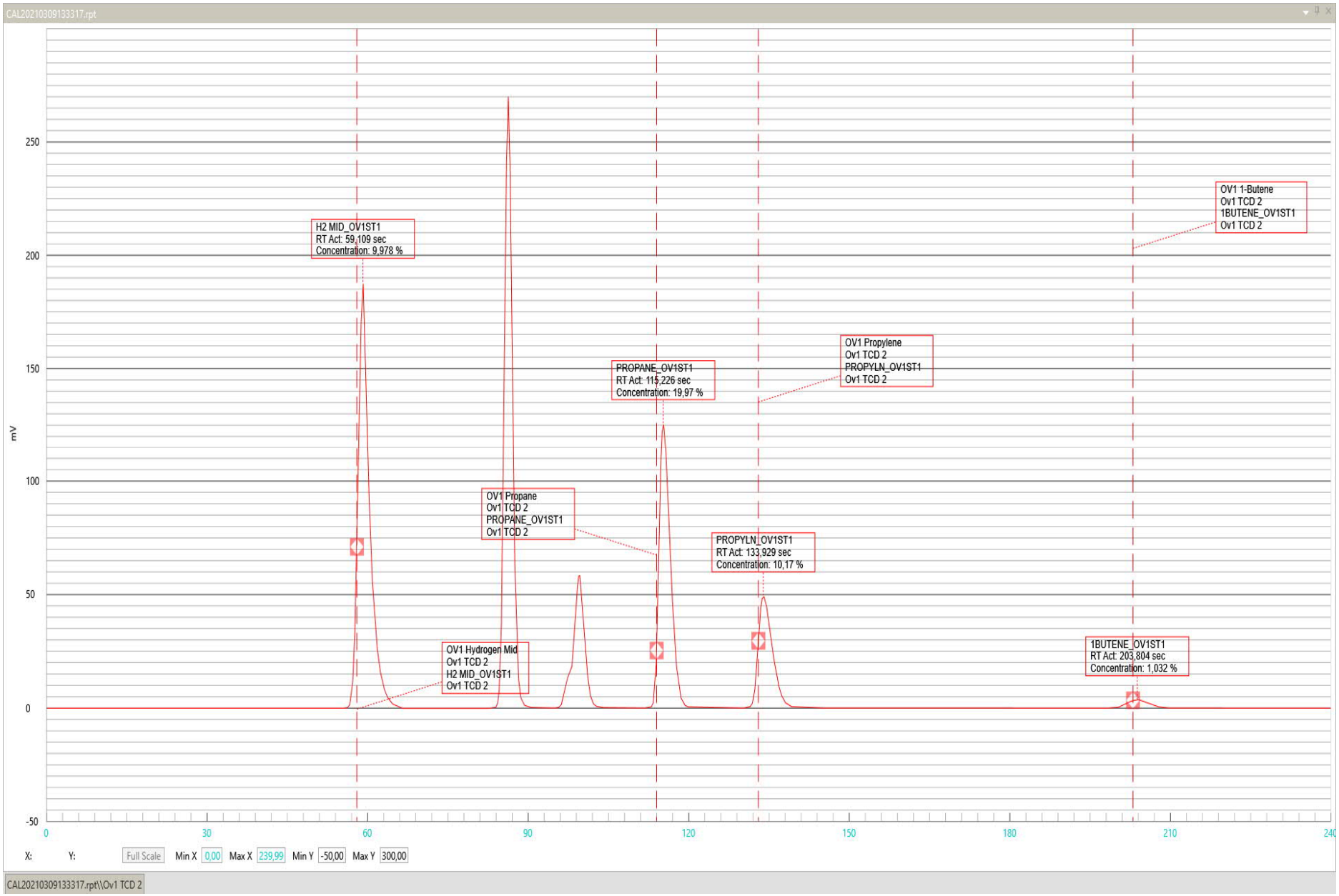
1000
800
600
mV
400
200
0
-200
0
30
60
90
120
150
180
210
239
OV1 N-HEXANE
Ov1 TCD 1-1
NHEXANE_OV1ST1
Ov1 TCD 1-1
NHEXANE_OV1ST1
RT Act: 159,437 sec
Concentration: 0,247 %
1HEXENE_OV1ST1
RT Act: 189,726 sec
Concentration: 0,249 %
OV1 1-HEXENE
Ov1 TCD 1-1
1HEXENE_OV1ST1
Ov1 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,48
Min Y -200,00
Max Y 1200,00
CAL20210309133317.rpt\\Ov1 TCD 1-1


CAL20210309133317.rpt
N2_OV1ST1
RT Act: 25,328 sec
Concentration: 46,387 %
OV1 Ethane
Ov1 TCD 1-2
ETHANE_OV1ST1
Ov1 TCD 1-2
OV1 Ethylene
Ov1 TCD 1-2
ETHYLEN_OV1ST1
Ov1 TCD 1-2
ETHYLEN_OV1ST1
RT Act: 83,289 sec
Concentration: 9,962 %
OV1 Nitrogen
Ov1 TCD 1-2
N2_OV1ST1
Ov1 TCD 1-2
ETHANE_OV1ST1
RT Act: 109,382 sec
Concentration: 2,005 %
mV
1800
1300
800
300
-200
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -200,00
Max Y 2000,00
CAL20210309133317.rpt\\Ov1 TCD 1-2


CAL20210309133317.rpt
H2 MID_OV1ST1
RT Act: 59,109 sec
Concentration: 9,978 %
OV1 Propylene
Ov1 TCD 2
PROPYLN_OV1ST1
Ov1 TCD 2
PROPANE_OV1ST1
RT Act: 115,226 sec
Concentration: 19,97 %
OV1 1-Butene
Ov1 TCD 2
1BUTENE_OV1ST1
Ov1 TCD 2
OV1 Propane
Ov1 TCD 2
PROPANE_OV1ST1
Ov1 TCD 2
PROPYLN_OV1ST1
RT Act: 133,929 sec
Concentration: 10,17 %
OV1 Hydrogen Mid
Ov1 TCD 2
H2 MID_OV1ST1
Ov1 TCD 2
1BUTENE_OV1ST1
RT Act: 203,804 sec
Concentration: 1,032 %
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
CAL20210309133317.rpt\\Ov1 TCD 2

Report

NAME: CAL20210309133317.rpt
2021-03-09-13:33:17.0000 Ov1 Calibration
Calibration, Analysis: ANLYS_524072-020

Detector: Ov1 TCD 1-1

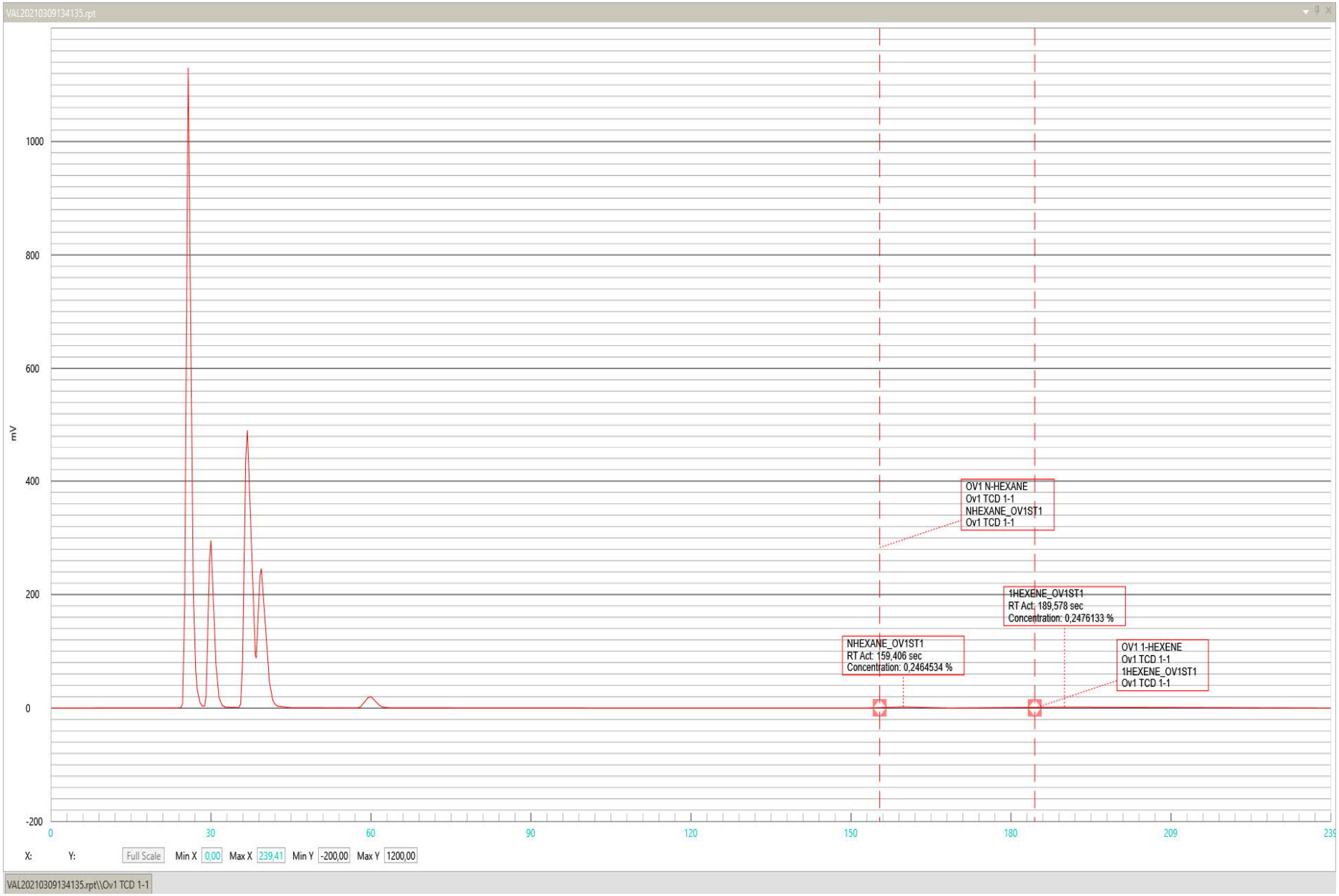
Name	RT	Concentration	New RF	Old RF	Updt
NHEXANE_OV1ST1	159,437	0,247 %	0,0165292	0,01642157	True
1HEXENE_OV1ST1	189,726	0,249 %	0,01709915	0,01695908	True

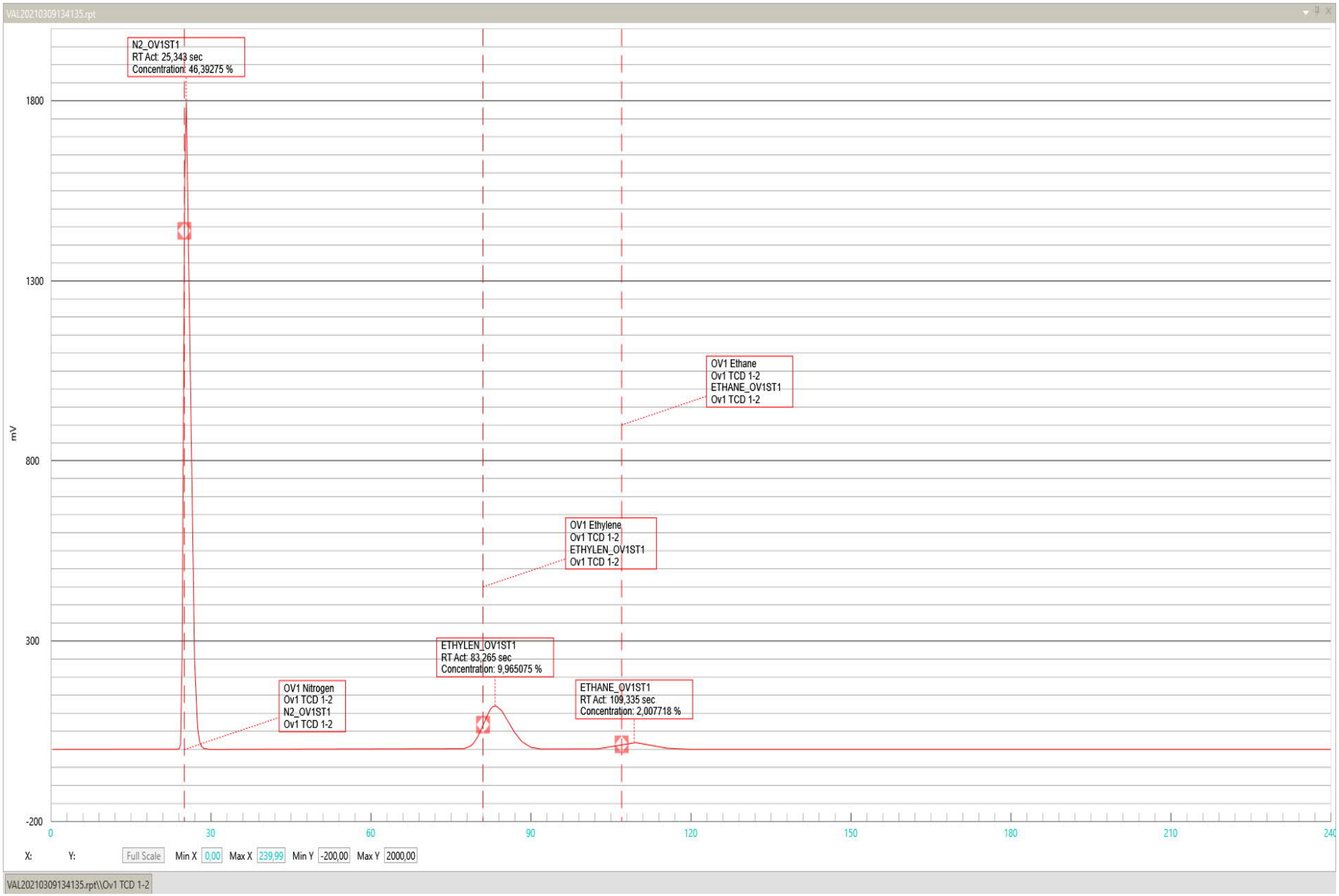
Detector: Ov1 TCD 1-2

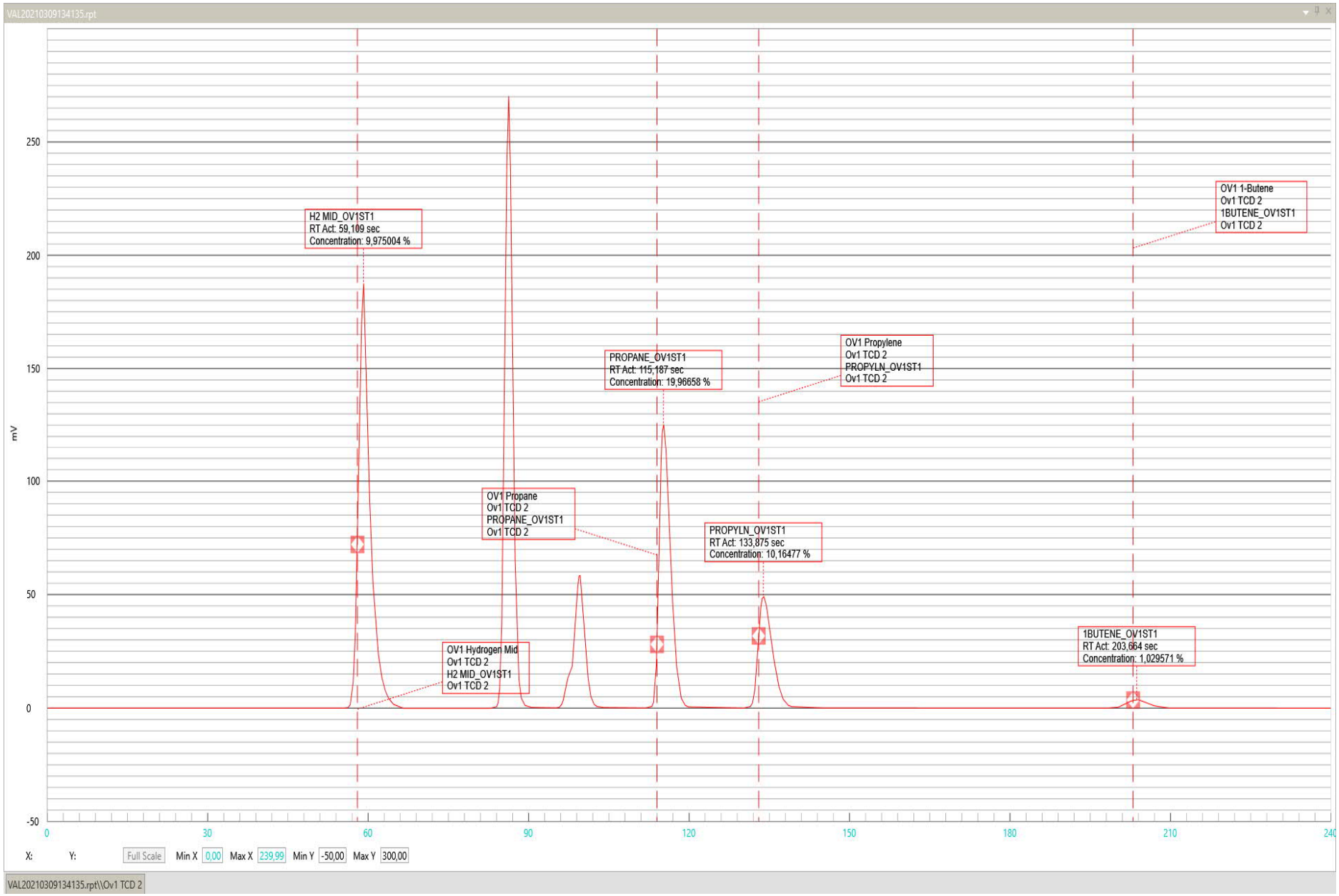
Name	RT	Concentration	New RF	Old RF	Updt
N2_OV1ST1	25,328	46,387 %	0,01721497	0,01722992	True
ETHYLEN_OV1ST1	83,289	9,962 %	0,01389739	0,0139196	True
ETHANE_OV1ST1	109,382	2,005 %	0,01345199	0,01338202	True

Detector: Ov1 TCD 2

Name	RT	Concentration	New RF	Old RF	Updt
H2 MID_OV1ST1	59,109	9,978 %	0,02134284	0,02112839	True
PROPANE_OV1ST1	115,226	19,97 %	0,0654537	0,0651536	True
PROPYLN_OV1ST1	133,929	10,17 %	0,06726892	0,0670155	True
1BUTENE_OV1ST1	203,804	1,032 %	0,0576118	0,05681686	True


VAL20210309134135.rpt
1000
800
600
mV
400
200
0
-200
0
30
60
90
120
150
180
209
239
OV1 N-HEXANE
Ov1 TCD 1-1
NHEXANE_OV1ST1
Ov1 TCD 1-1
1HEXENE_OV1ST1
RT Act: 189,578 sec
Concentration: 0,2476133 %
NHEXANE_OV1ST1
RT Act: 159,406 sec
Concentration: 0,2464534 %
OV1 1-HEXENE
Ov1 TCD 1-1
1HEXENE_OV1ST1
Ov1 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,41
Min Y -200,00
Max Y 1200,00
VAL20210309134135.rpt\\Ov1 TCD 1-1


VAL20210309134135.rpt
N2_OV1ST1
RT Act: 25,343 sec
Concentration: 46,39275 %
OV1 Ethane
Ov1 TCD 1-2
ETHANE_OV1ST1
Ov1 TCD 1-2
OV1 Ethylene
Ov1 TCD 1-2
ETHYLEN_OV1ST1
Ov1 TCD 1-2
ETHYLEN_OV1ST1
RT Act: 83,265 sec
Concentration: 9,965075 %
OV1 Nitrogen
Ov1 TCD 1-2
N2_OV1ST1
Ov1 TCD 1-2
ETHANE_OV1ST1
RT Act: 109,335 sec
Concentration: 2,007718 %
mV
1800
1300
800
300
-200
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -200,00
Max Y 2000,00
VAL20210309134135.rpt\\Ov1 TCD 1-2


VAL20210309134135.rpt
H2 MID_OV1ST1
RT Act: 59,109 sec
Concentration: 9,975004 %
PROPANE_OV1ST1
RT Act: 115,187 sec
Concentration: 19,96658 %
PROPYLN_OV1ST1
RT Act: 133,875 sec
Concentration: 10,16477 %
1BUTENE_OV1ST1
RT Act: 203,664 sec
Concentration: 1,029571 %
OV1 Hydrogen Mid
Ov1 TCD 2
H2 MID_OV1ST1
Ov1 TCD 2
OV1 Propane
Ov1 TCD 2
PROPANE_OV1ST1
Ov1 TCD 2
OV1 Propylene
Ov1 TCD 2
PROPYLN_OV1ST1
Ov1 TCD 2
OV1 1-Butene
Ov1 TCD 2
1BUTENE_OV1ST1
Ov1 TCD 2
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
VAL20210309134135.rpt\\Ov1 TCD 2

Report

NAME: VAL20210309134135.rpt
2021-03-09-13:41:35.0000 Ov1 Validation
Validation, Analysis: ANLYS_524072-020

Detector: Ov1 TCD 1-1

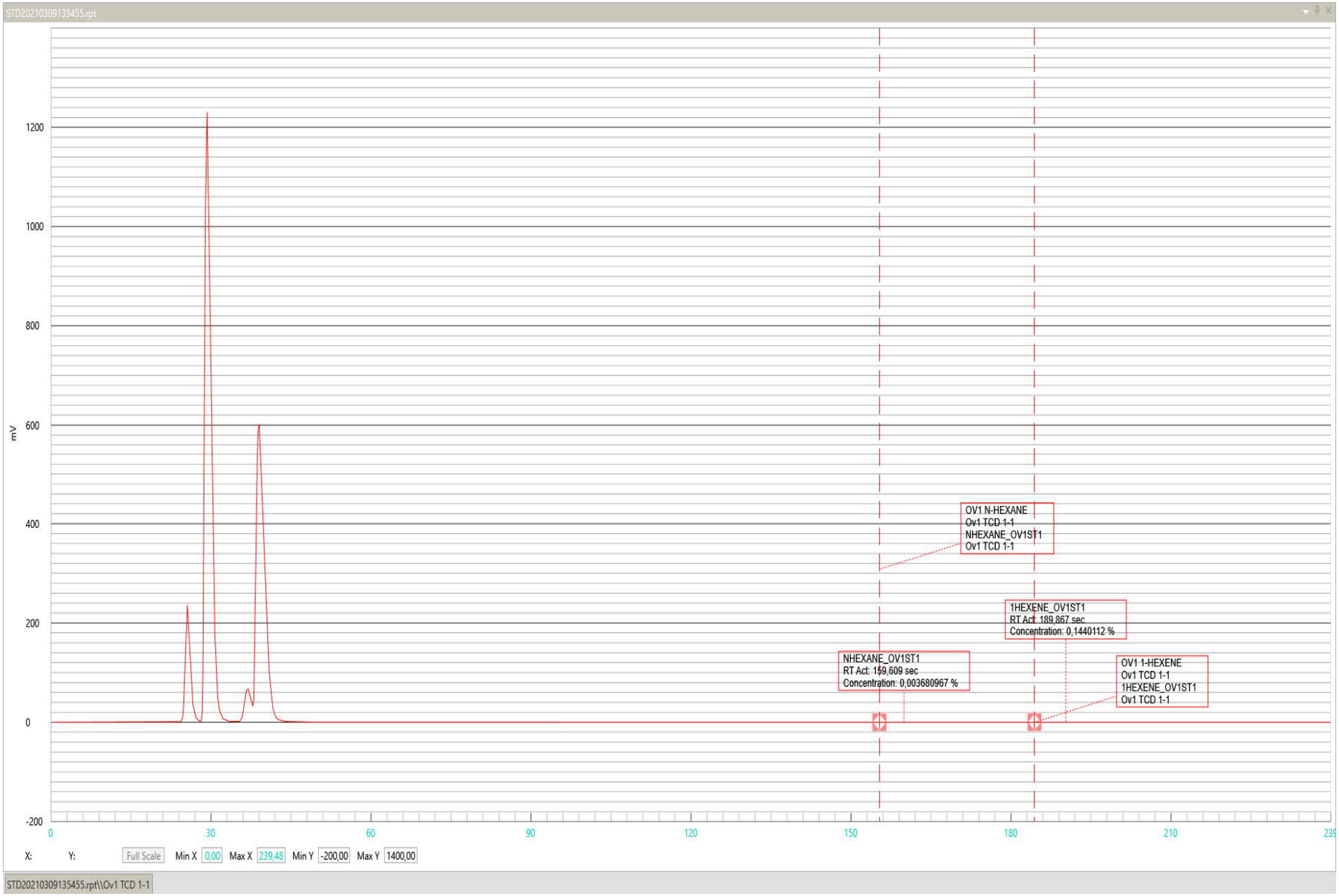
Name	RT	Concentration	Benchmark	%Deviation
NHEXANE_OV1ST1	159,406	0,2464534 %	0,247	0,2213034
1HEXENE_OV1ST1	189,578	0,2476133 %	0,249	0,5569084

Detector: Ov1 TCD 1-2

Name	RT	Concentration	Benchmark	%Deviation
N2_OV1ST1	25,343	46,39275 %	46,387	0,01238479
ETHYLEN_OV1ST1	83,265	9,965075 %	9,962	0,03087331
ETHANE_OV1ST1	109,335	2,007718 %	2,005	0,1355716

Detector: Ov1 TCD 2

Name	RT	Concentration	Benchmark	%Deviation
H2 MID_OV1ST1	59,109	9,975004 %	9,978	0,03002096
PROPANE_OV1ST1	115,187	19,96658 %	19,97	0,01710597
PROPYLN_OV1ST1	133,875	10,16477 %	10,17	0,05141589
1BUTENE_OV1ST1	203,664	1,029571 %	1,032	0,2353922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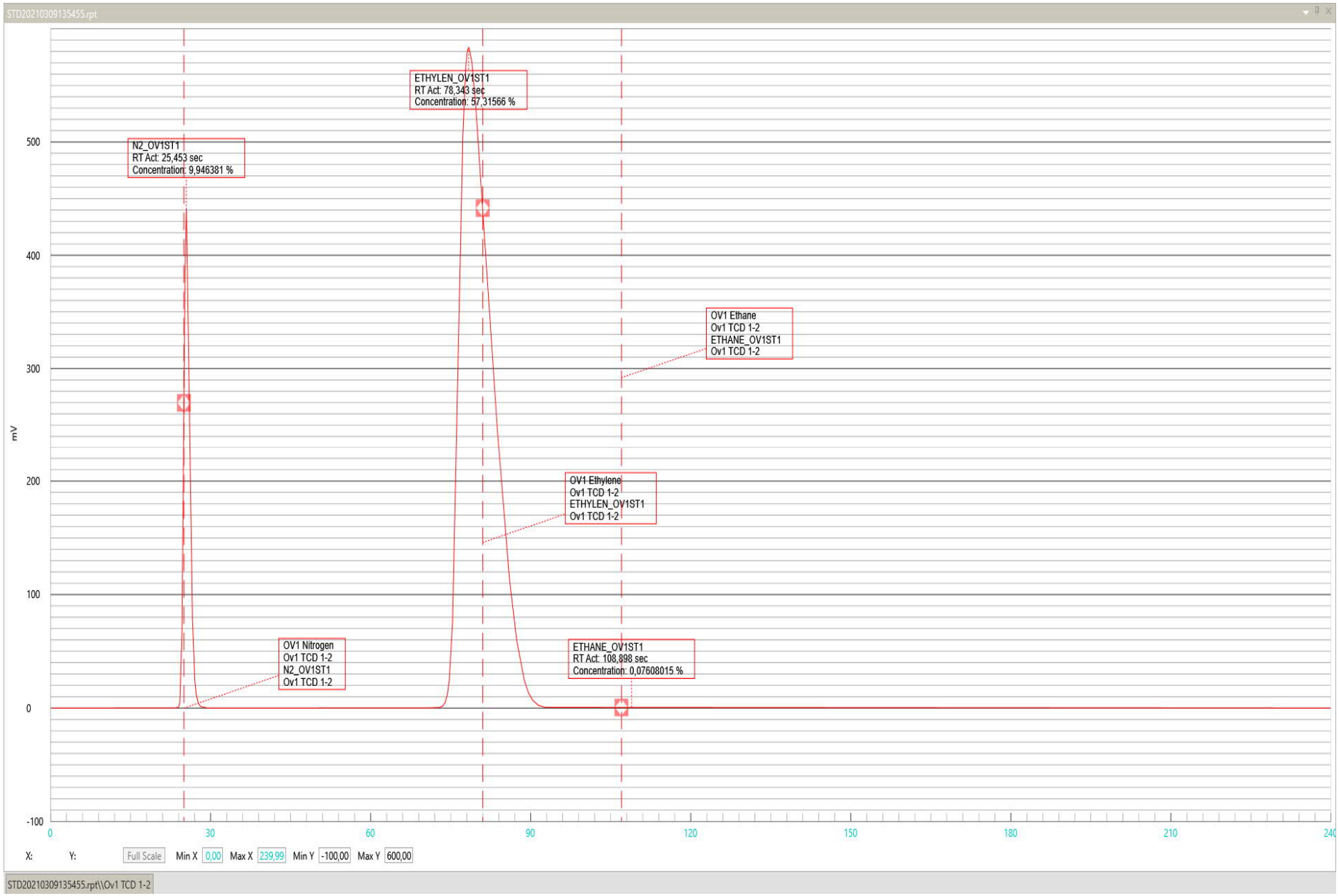
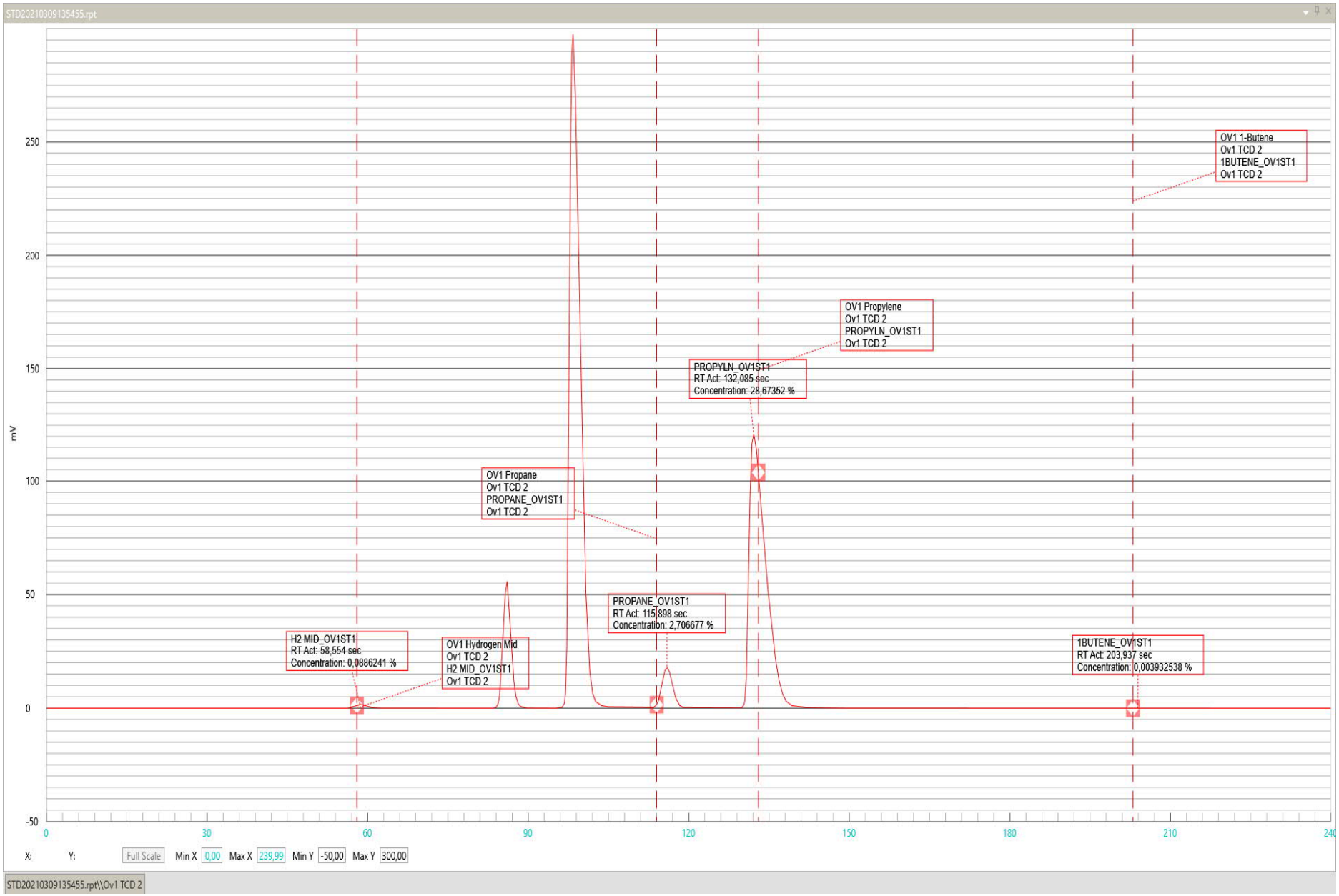
1200
1000
800
600
400
200
0
-200
mV
0
30
60
90
120
150
180
210
239
OV1 N-HEXANE
Ov1 TCD 1-1
NHEXANE_OV1ST1
Ov1 TCD 1-1
1HEXENE_OV1ST1
RT Act: 189,867 sec
Concentration: 0,1440112 %
NHEXANE_OV1ST1
RT Act: 159,609 sec
Concentration: 0,003680967 %
OV1 1-HEXENE
Ov1 TCD 1-1
1HEXENE_OV1ST1
Ov1 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,48
Min Y -200,00
Max Y 1400,00
STD20210309135455.rpt\\Ov1 TCD 1-1


STD20210309135455.rpt
ETHYLEN_OV1ST1
RT Act: 78,343 sec
Concentration: 57,31566 %
N2_OV1ST1
RT Act: 25,453 sec
Concentration: 9,946381 %
OV1 Ethane
Ov1 TCD 1-2
ETHANE_OV1ST1
Ov1 TCD 1-2
OV1 Ethylene
Ov1 TCD 1-2
ETHYLEN_OV1ST1
Ov1 TCD 1-2
OV1 Nitrogen
Ov1 TCD 1-2
N2_OV1ST1
Ov1 TCD 1-2
ETHANE_OV1ST1
RT Act: 108,898 sec
Concentration: 0,07608015 %
mV
500
400
300
200
100
0
-100
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -100,00
Max Y 600,00
STD20210309135455.rpt\\Ov1 TCD 1-2


STD20210309135455.rpt
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
OV1 1-Butene
Ov1 TCD 2
1BUTENE_OV1ST1
Ov1 TCD 2
OV1 Propylene
Ov1 TCD 2
PROPYLN_OV1ST1
Ov1 TCD 2
PROPYLN_OV1ST1
RT Act: 132,085 sec
Concentration: 28,67352 %
OV1 Propane
Ov1 TCD 2
PROPANE_OV1ST1
Ov1 TCD 2
PROPANE_OV1ST1
RT Act: 115,898 sec
Concentration: 2,706677 %
H2 MID_OV1ST1
RT Act: 58,554 sec
Concentration: 0,0886241 %
OV1 Hydrogen Mid
Ov1 TCD 2
H2 MID_OV1ST1
Ov1 TCD 2
1BUTENE_OV1ST1
RT Act: 203,937 sec
Concentration: 0,003932538 %
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
STD20210309135455.rpt\\Ov1 TCD 2

Report

NAME: STD20210309135455.rpt
2021-03-09-13:54:55.0000 Ov1 Stream 1
Standard, Analysis: ANLYS_524072-020

Detector: Ov1 TCD 1-1

Name	RT	Concentration	Valid
NHEXANE_OV1ST1	159,609	0,003680967 %	OK
1HEXENE_OV1ST1	189,867	0,1440112 %	OK

Detector: Ov1 TCD 1-2

Name	RT	Concentration	Valid
N2_OV1ST1	25,453	9,946381 %	OK
ETHYLEN_OV1ST1	78,343	57,31566 %	OK
ETHANE_OV1ST1	108,898	0,07608015 %	OK

Detector: Ov1 TCD 2

Name	RT	Concentration	Valid
H2 MID_OV1ST1	58,554	0,0886241 %	OK
PROPANE_OV1ST1	115,898	2,706677 %	OK
PROPYLN_OV1ST1	132,085	28,67352 %	OK
1BUTENE_OV1ST1	203,937	0,003932538 %	OK

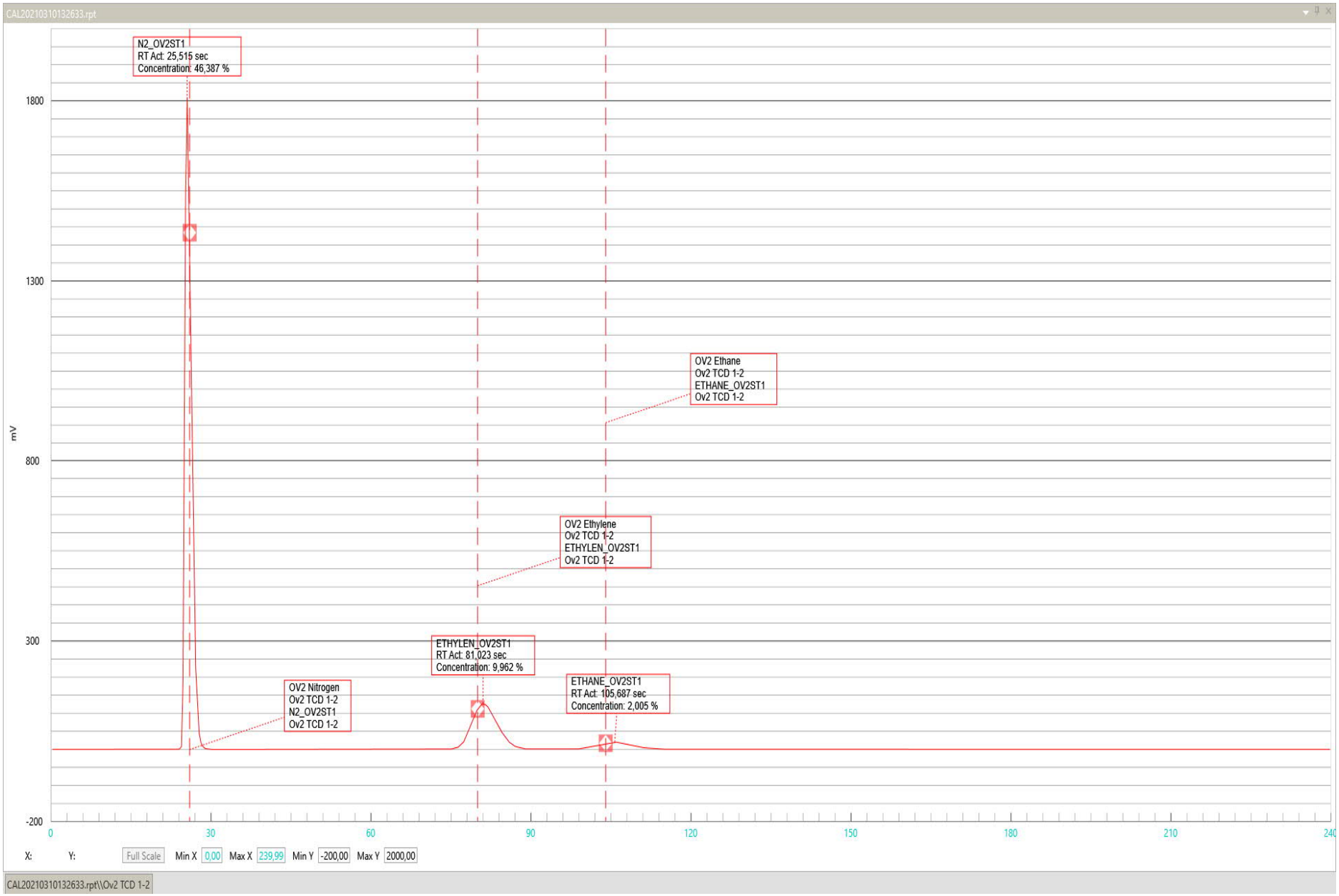
Peak Data																			
Component Name	Concentration	RT Actual	RT Expected	Response Factor	Valid	Type	Total Area	Positive Area	Peak Found	Negative Area	SOI	EOI	SOB	EOB	Ampl SOI	Ampl EOI	Ampl SOB	Ampl EOB	Ampl Crest
N2_OV2ST1	46,387	25,515	26	0,01731711		Measured	2679,444	2678,68	True	0,7640362	20	32	17	34	0,1025	-0,2087	0,1049	-0,0847	1814,1591
H2 MID_OV2ST1	9,978	59,5	59	0,02184097		Measured	456,8478	456,8478	True	0	51,453	68,976	50,226	70,156	0,0190	0,0143	-0,0859	-0,3303	182,7681
ETHYLEN_OV2ST1	9,962	81,023	80	0,01409207		Measured	706,9222	706,9222	True	0	68,187	92,718	67,476	92,718	0,0023	0,0000	-0,0334	-0,0358	126,4929
ETHANE_OV2ST1	2,005	105,687	104	0,0133461		Measured	150,2312	150,2312	True	0	93,734	117,968	93,734	118,867	0,0000	0,0083	-0,0394	-0,0394	20,0033
PROPANE_OV2ST1	19,97	112,656	112	0,06374742		Measured	313,3602	313,2675	True	0,09269714	107,914	119,984	106,968	119,984	-0,0287	0,0000	0,1227	0,2443	130,6903
PROPYLN_OV2ST1	10,17	127,585	127	0,06556877		Measured	155,226	155,1043	True	0,1216412	121,968	138,968	120,976	138,968	-0,0287	0,0000	0,1955	0,1263	53,5738
NHEXANE_OV2ST1	0,247	147,898	146	0,01736636		Measured	14,22663	14,2229	True	0,003731251	132,515	158,554	132,515	157,937	0,0000	-0,0108	-0,3720	-0,3660	2,3496
1HEXENE_OV2ST1	0,249	169,398	167	0,01788291		Measured	13,9536	13,92391	True	0,02969503	158,554	182,117	157,937	182,117	-0,0096	0,0000	-0,3660	-0,3779	2,0837
1BUTENE_OV2ST1	1,032	185,835	185	0,05447367		Measured	18,94493	18,94493	True	0	178,414	196,523	174,562	198,914	0,0035	0,0083	-0,0108	-0,0132	4,3714

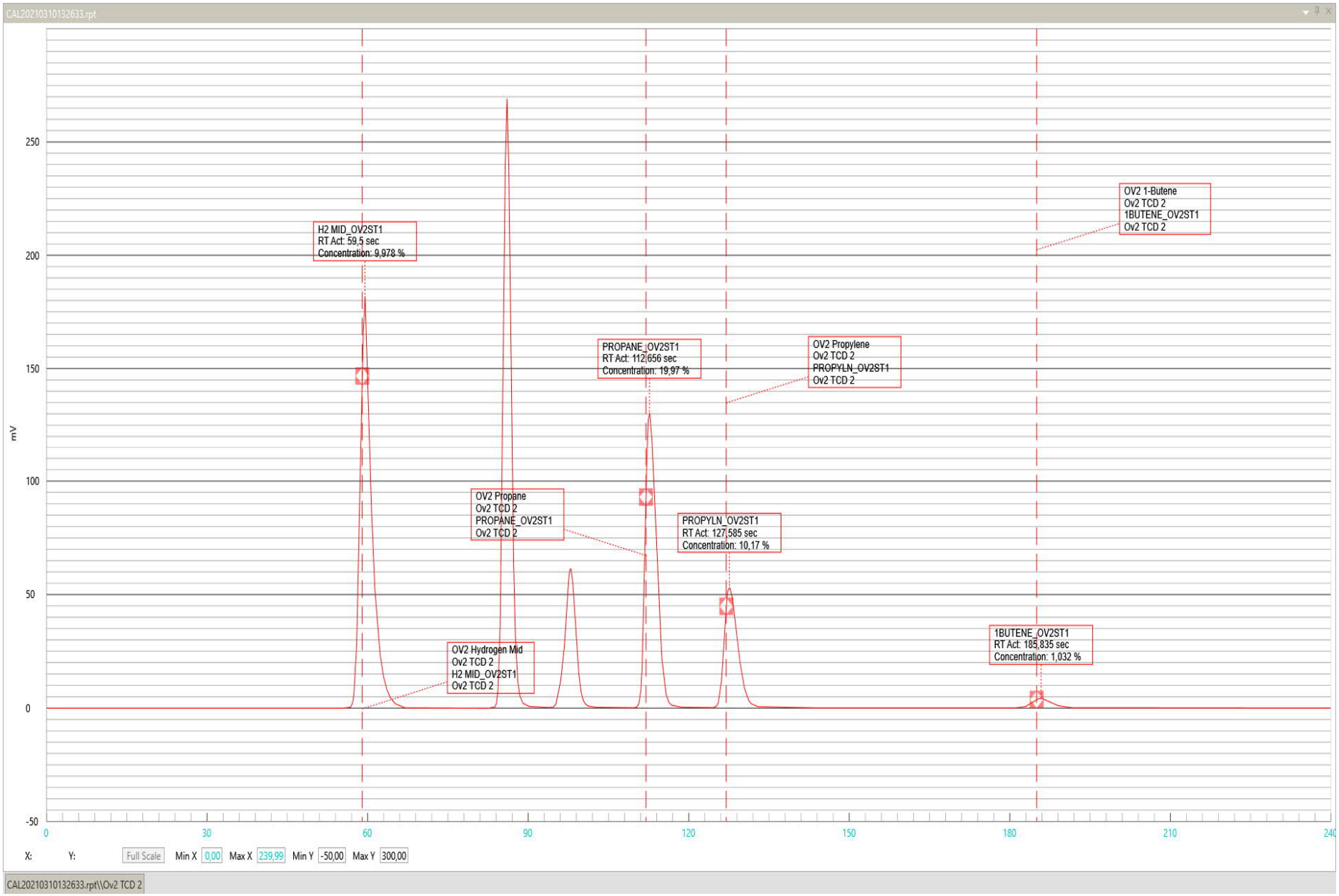
TCFs										
Type	Name	Description	Scope	Relative Offset	Startup Purge A Cycle Time M Sequence Offset	Absolute Offset	Hardware	Settings 1	Settings 2	Action
ANALYSIS	ANLYS_524072-030				5					
METHOD	MTD_524072-030		AT-601-2		240					
TCF	DigInCheck	Low Sample Flow	Method	130	0	130	Ov2 Sample Alarm			
TCF	StreamStep	Stream Step	Method	150	0	150				
SEQUENCE	Seq V1 sTCD Ref				0					
TCF	ValveOn	OV2 SV 7 BV on	Sequence	1	0	1	Ov2 SV7 Block Vent			
TCF	ValveOn	OV2 Valve 1 on	Sequence	4	0	4	Ov2 Valve 1			
TCF	ValveOff	OV2 Valve 1 off	Sequence	25	0	25	Ov2 Valve 1			
TCF	ValveOff	OV2 SV7 BV off	Sequence	7	0	7	Ov2 SV7 Block Vent			
TCF	AutoZero	Auto Zero	Sequence	15	0	15	Ov2 TCD 2			
TCF	Component	OV2 Hydrogen Mid	Sequence	59	0	59	Ov2 TCD 2			
SEQUENCE	Seq V2 mTCD meas1				0					
TCF	AutoZero	AutoZero	Sequence	10	0	10	Ov2 TCD 1-1			
TCF	ValveOn	OV2 Valve 2 on	Sequence	5	0	5	Ov2 Valve 2			
TCF	ValveOff	OV2 Valve 2 off	Sequence	104	0	104	Ov2 Valve 2			
TCF	Component	OV2 1-HEXENE	Sequence	167	0	167	Ov2 TCD 1-1			
TCF	Component	OV2 N-HEXANE	Sequence	146	0	146	Ov2 TCD 1-1			
SEQUENCE	Seq V3 mTCD meas2				0					

TCF	AutoZero	AutoZero	Sequence	10	0	10	Ov2 TCD 1-2			
TCF	ValveOn	OV2 Valve 3 on	Sequence	5	0	5	Ov2 Valve 3			
TCF	ValveOff	OV2 Valve 3 off	Sequence	40	0	40	Ov2 Valve 3			
TCF	Component	OV2 Nitrogen	Sequence	26	0	26	Ov2 TCD 1-2			
TCF	Component	OV2 Ethylene	Sequence	80	0	80	Ov2 TCD 1-2			
TCF	Component	OV2 Ethane	Sequence	104	0	104	Ov2 TCD 1-2			
SEQUENCE	Seq V4 sTCD Meas				20					
TCF	ValveOn	OV2 SV 7 BV on	Sequence	1	20	21	Ov2 SV7 Block Vent			
TCF	ValveOn	OV2 Valve 4 on	Sequence	5	20	25	Ov2 Valve 4			
TCF	ValveOff	OV2 Valve 4 off	Sequence	75	20	95	Ov2 Valve 4			
TCF	ValveOff	OV2 SV7 BV off	Sequence	7	20	27	Ov2 SV7 Block Vent			
TCF	Component	OV2 Propane	Sequence	92	20	112	Ov2 TCD 2			
TCF	Component	OV2 Propylene	Sequence	107	20	127	Ov2 TCD 2			
TCF	Component	OV2 1-Butene	Sequence	165	20	185	Ov2 TCD 2			

Components													
Name	Description	Begin Crest	End Crest	Begin SOI	End SOI	Begin EOI	End EOI	Begin SOB	End SOB	Begin EOB	End EOB	Detector	Peak Type
H2 MID_OV2ST1	OV2 Hydrogen Mid	-2	2	-8	-6	8	10	-10	-8	10	12	Ov2 TCD 2	Positive
1HEXENE_OV2ST1	OV2 1-HEXENE	-4	5	-11	-8	14	20	-11	-9	14	20	Ov2 TCD 1-1	Positive
NHEXANE_OV2ST1	OV2 N-HEXANE	-4	5	-15	-10	9	13	-15	-10	9	12	Ov2 TCD 1-1	Positive
N2_OV2ST1	OV2 Nitrogen	-2	3	-6	-4	6	8	-9	-7	8	10	Ov2 TCD 1-2	Positive
ETHYLEN_OV2ST1	OV2 Ethylene	-4	4	-12	-9	10	13	-13	-10	10	13	Ov2 TCD 1-2	Positive
ETHANE_OV2ST1	OV2 Ethane	-4	4	-11	-9	12	14	-11	-9	12	15	Ov2 TCD 1-2	Positive
PROPANE_OV2ST1	OV2 Propane	-2	2	-7	-4	5	8	-8	-5	5	8	Ov2 TCD 2	Positive
PROPYLN_OV2ST1	OV2 Propylene	-2	2	-7	-5	10	12	-8	-6	10	12	Ov2 TCD 2	Positive
1BUTENE_OV2ST1	OV2 1-Butene	-2	2	-9	-5	8	12	-13	-9	10	14	Ov2 TCD 2	Positive


CAL20210310132633.rpt
1000
800
600
mV
400
200
0
-200
0
30
60
90
120
150
180
210
240
OV2 N-HEXANE
Ov2 TCD 1-1
NHEXANE_OV2ST1
Ov2 TCD 1-1
NHEXANE_OV2ST1
RT Act: 147,898 sec
Concentration: 0,247 %
1HEXENE_OV2ST1
RT Act: 169,398 sec
Concentration: 0,249 %
OV2 1-HEXENE
Ov2 TCD 1-1
1HEXENE_OV2ST1
Ov2 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,55
Min Y -200,00
Max Y 1200,00
CAL20210310132633.rpt\\Ov2 TCD 1-1


CAL20210310132633.rpt
N2_OV2ST1
RT Act: 25,515 sec
Concentration: 46,387 %
OV2 Ethane
Ov2 TCD 1-2
ETHANE_OV2ST1
Ov2 TCD 1-2
OV2 Ethylene
Ov2 TCD 1-2
ETHYLEN_OV2ST1
Ov2 TCD 1-2
ETHYLEN_OV2ST1
RT Act: 81,023 sec
Concentration: 9,962 %
ETHANE_OV2ST1
RT Act: 105,687 sec
Concentration: 2,005 %
OV2 Nitrogen
Ov2 TCD 1-2
N2_OV2ST1
Ov2 TCD 1-2
mV
1800
1300
800
300
-200
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -200,00
Max Y 2000,00
CAL20210310132633.rpt\\Ov2 TCD 1-2


CAL20210310132633.rpt
H2 MID_OV2ST1
RT Act: 59,5 sec
Concentration: 9,978 %
OV2 Propane
Ov2 TCD 2
PROPANE_OV2ST1
Ov2 TCD 2
PROPANE_OV2ST1
RT Act: 112,656 sec
Concentration: 19,97 %
OV2 Propylene
Ov2 TCD 2
PROPYLN_OV2ST1
Ov2 TCD 2
PROPYLN_OV2ST1
RT Act: 127,585 sec
Concentration: 10,17 %
OV2 1-Butene
Ov2 TCD 2
1BUTENE_OV2ST1
Ov2 TCD 2
1BUTENE_OV2ST1
RT Act: 185,835 sec
Concentration: 1,032 %
OV2 Hydrogen Mid
Ov2 TCD 2
H2 MID_OV2ST1
Ov2 TCD 2
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
CAL20210310132633.rpt\\Ov2 TCD 2

Report

NAME: CAL20210310132633.rpt
2021-03-10-13:26:33.0000 Ov2 Calibration
Calibration, Analysis: ANLYS_524072-030

Detector: Ov2 TCD 1-1

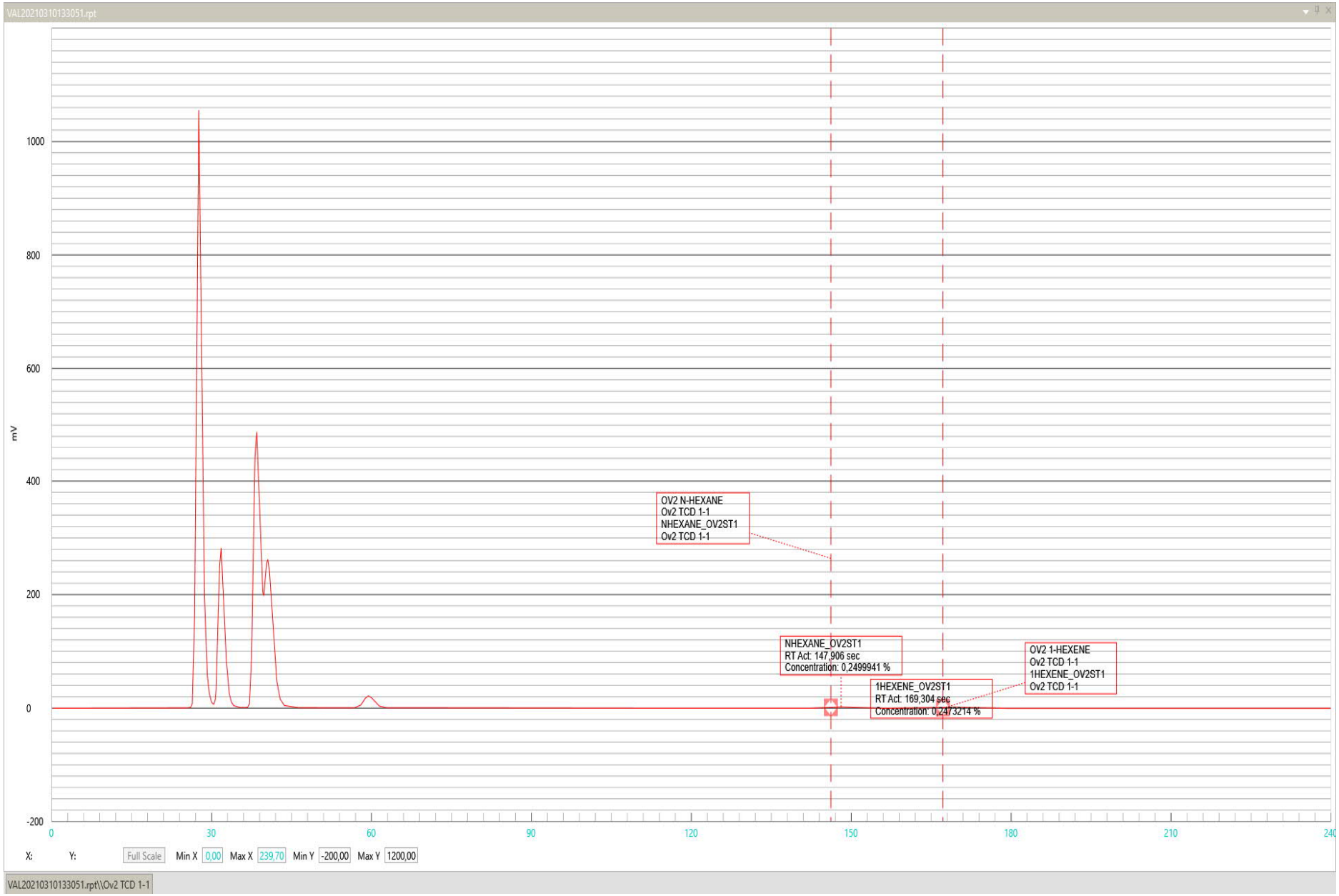
Name	RT	Concentration	New RF	Old RF	Updt
NHEXANE_OV2ST1	147,898	0,247 %	0,01736636	0,01877479	True
1HEXENE_OV2ST1	169,398	0,249 %	0,01788291	0,01905045	True

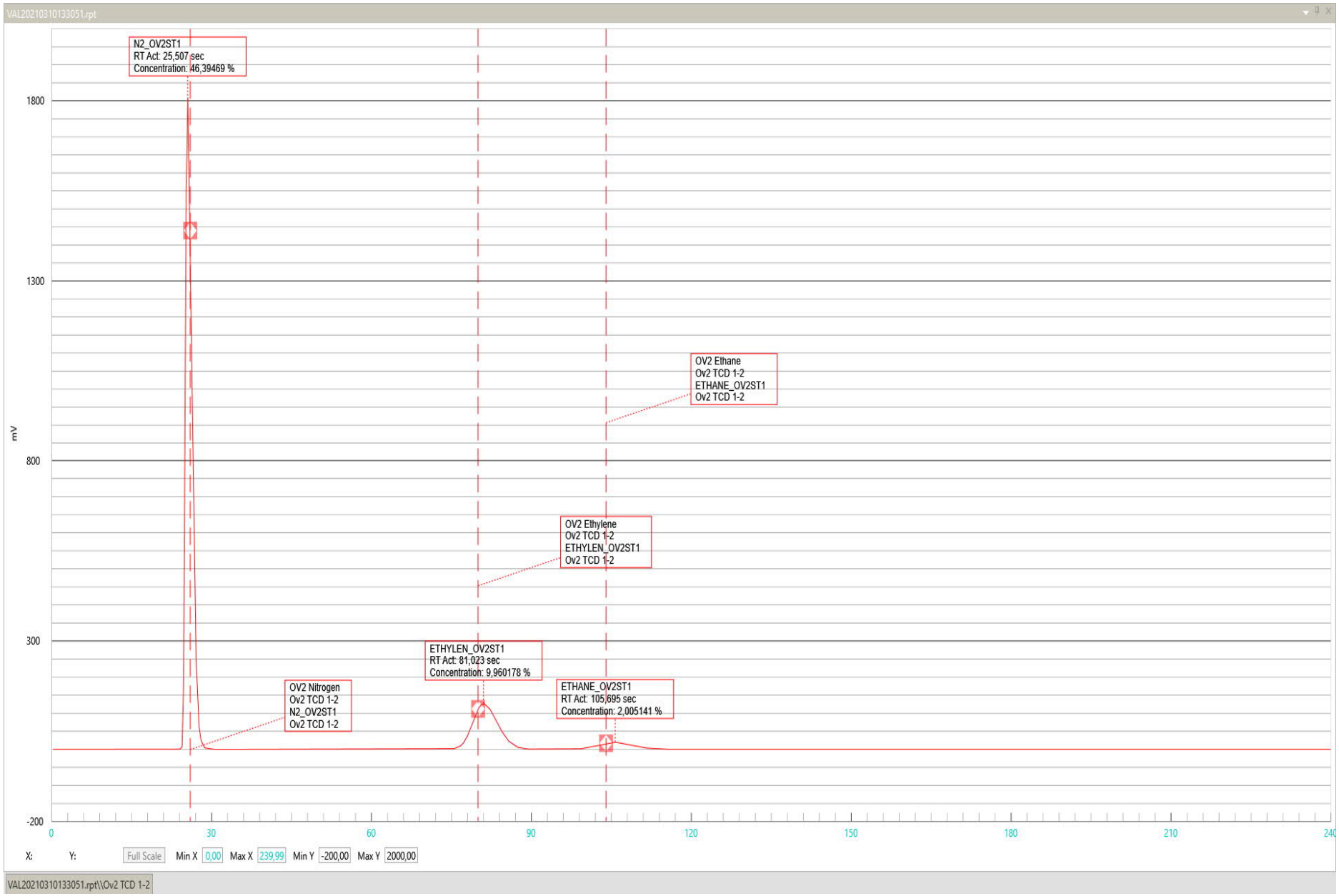
Detector: Ov2 TCD 1-2

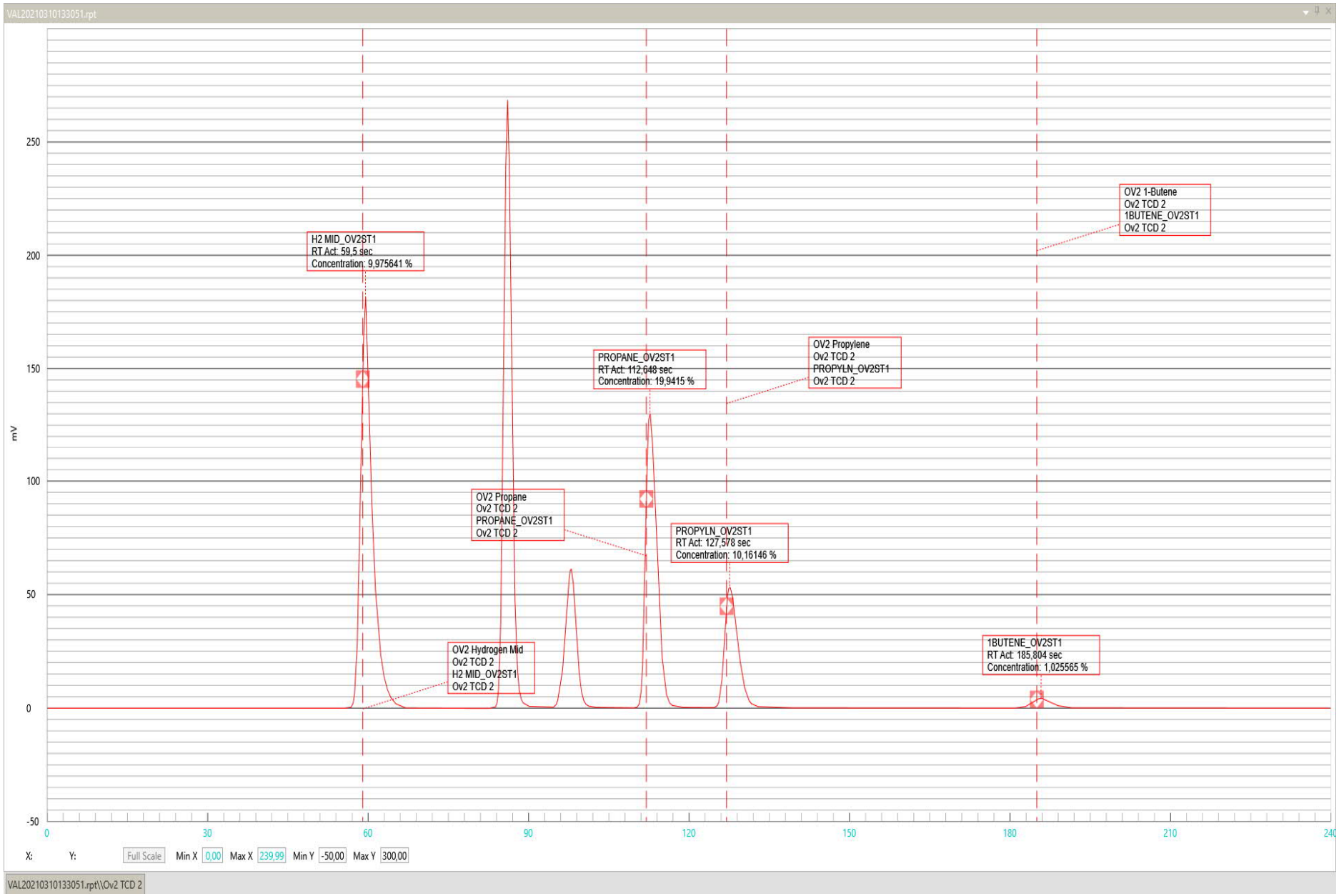
Name	RT	Concentration	New RF	Old RF	Updt
N2_OV2ST1	25,515	46,387 %	0,01731711	0,01738184	True
ETHYLEN_OV2ST1	81,023	9,962 %	0,01409207	0,01414958	True
ETHANE_OV2ST1	105,687	2,005 %	0,0133461	0,01354066	True

Detector: Ov2 TCD 2

Name	RT	Concentration	New RF	Old RF	Updt
H2 MID_OV2ST1	59,5	9,978 %	0,02184097	0,02181096	True
PROPANE_OV2ST1	112,656	19,97 %	0,06374742	0,06392638	True
PROPYLN_OV2ST1	127,585	10,17 %	0,06556877	0,06570863	True
1BUTENE_OV2ST1	185,835	1,032 %	0,05447367	0,05465864	True


VAL20210310133051.rpt
1000
800
600
mV
400
200
0
-200
0
30
60
90
120
150
180
210
240
OV2 N-HEXANE
Ov2 TCD 1-1
NHEXANE_OV2ST1
Ov2 TCD 1-1
NHEXANE_OV2ST1
RT Act: 147,906 sec
Concentration: 0,2499941 %
1HEXENE_OV2ST1
RT Act: 169,304 sec
Concentration: 0,2473214 %
OV2 1-HEXENE
Ov2 TCD 1-1
1HEXENE_OV2ST1
Ov2 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,70
Min Y -200,00
Max Y 1200,00
VAL20210310133051.rpt\\Ov2 TCD 1-1


VAL20210310133051.rpt
N2_OV2ST1
RT Act: 25,507 sec
Concentration: 46,39469 %
OV2 Ethane
Ov2 TCD 1-2
ETHANE_OV2ST1
Ov2 TCD 1-2
OV2 Ethylene
Ov2 TCD 1-2
ETHYLEN_OV2ST1
Ov2 TCD 1-2
ETHYLEN_OV2ST1
RT Act: 81,023 sec
Concentration: 9,960178 %
OV2 Nitrogen
Ov2 TCD 1-2
N2_OV2ST1
Ov2 TCD 1-2
ETHANE_OV2ST1
RT Act: 105,695 sec
Concentration: 2,005141 %
mV
1800
1300
800
300
-200
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -200,00
Max Y 2000,00
VAL20210310133051.rpt\\Ov2 TCD 1-2


VAL20210310133051.rpt
H2 MID_OV2ST1
RT Act: 59,5 sec
Concentration: 9,975641 %
OV2 Propane
Ov2 TCD 2
PROPANE_OV2ST1
Ov2 TCD 2
PROPANE_OV2ST1
RT Act: 112,648 sec
Concentration: 19,9415 %
OV2 Propylene
Ov2 TCD 2
PROPYLN_OV2ST1
Ov2 TCD 2
PROPYLN_OV2ST1
RT Act: 127,578 sec
Concentration: 10,16146 %
OV2 1-Butene
Ov2 TCD 2
1BUTENE_OV2ST1
Ov2 TCD 2
1BUTENE_OV2ST1
RT Act: 185,804 sec
Concentration: 1,025565 %
OV2 Hydrogen Mid
Ov2 TCD 2
H2 MID_OV2ST1
Ov2 TCD 2
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
VAL20210310133051.rpt\\Ov2 TCD 2

Report

NAME: VAL20210310133051.rpt
2021-03-10-13:30:51.0000 Ov2 Validation
Validation, Analysis: ANLYS_524072-030

Detector: Ov2 TCD 1-1

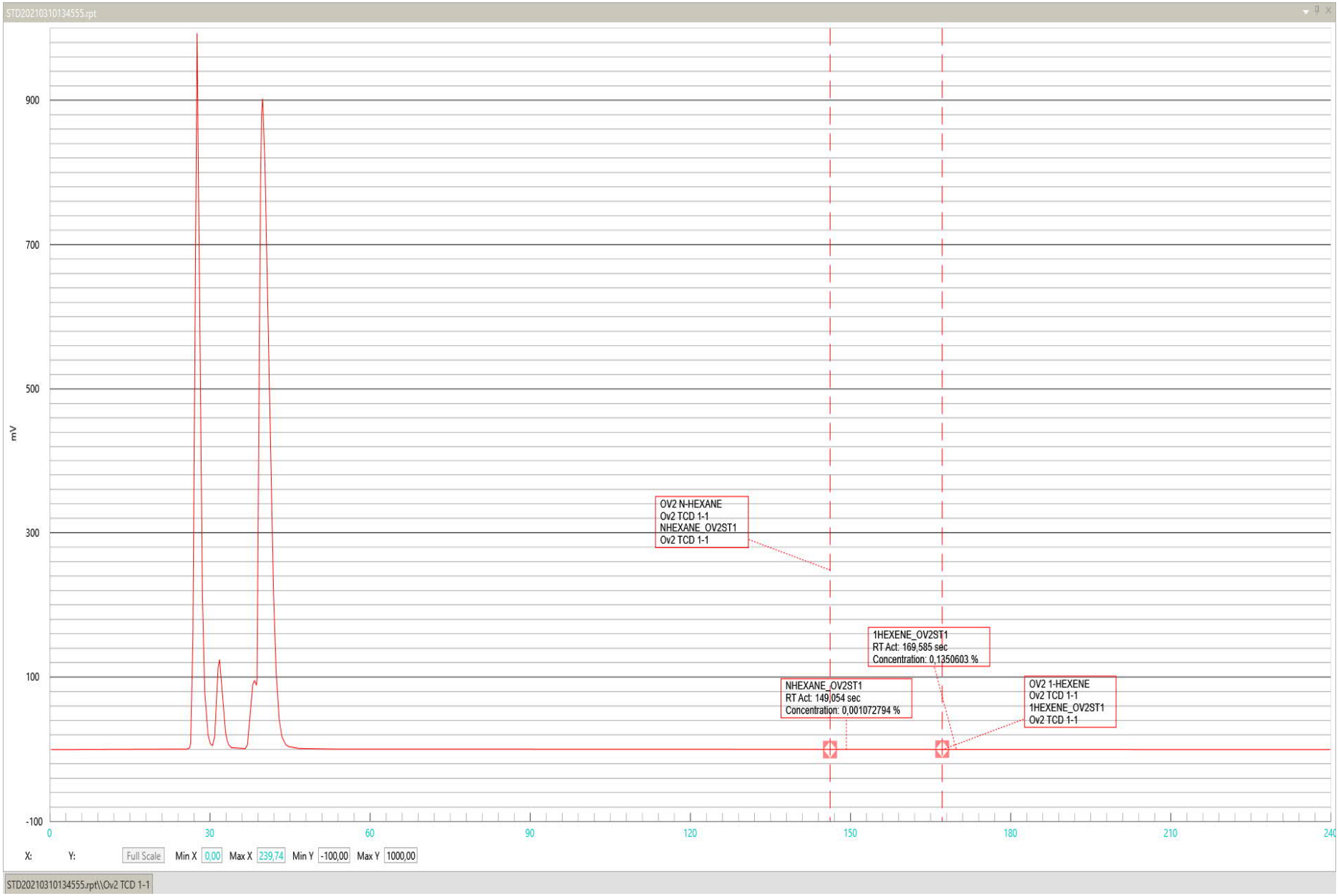
Name	RT	Concentration	Benchmark	%Deviation
NHEXANE_OV2ST1	147,906	0,2499941 %	0,247	1,212206
1HEXENE_OV2ST1	169,304	0,2473214 %	0,249	0,674131

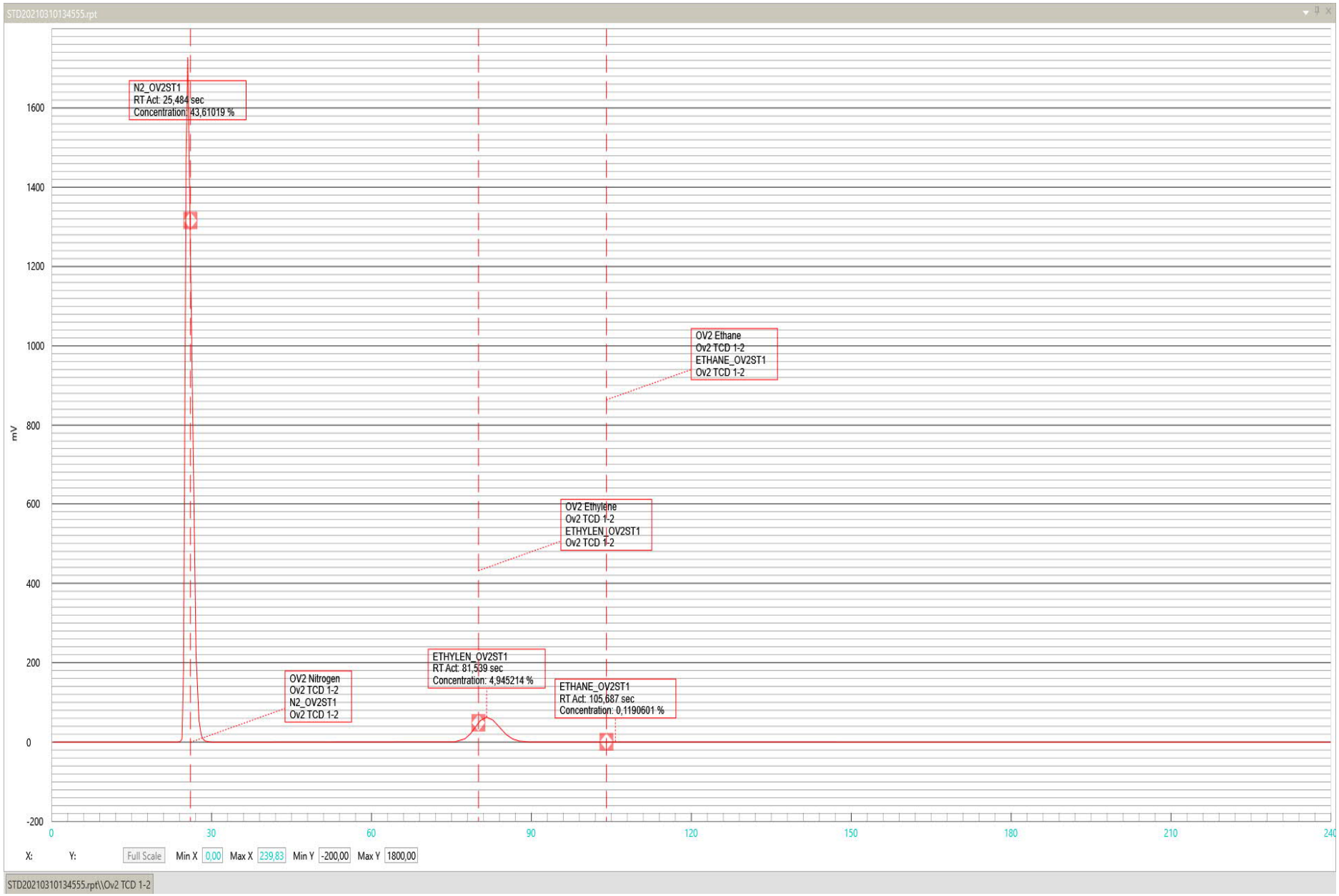
Detector: Ov2 TCD 1-2

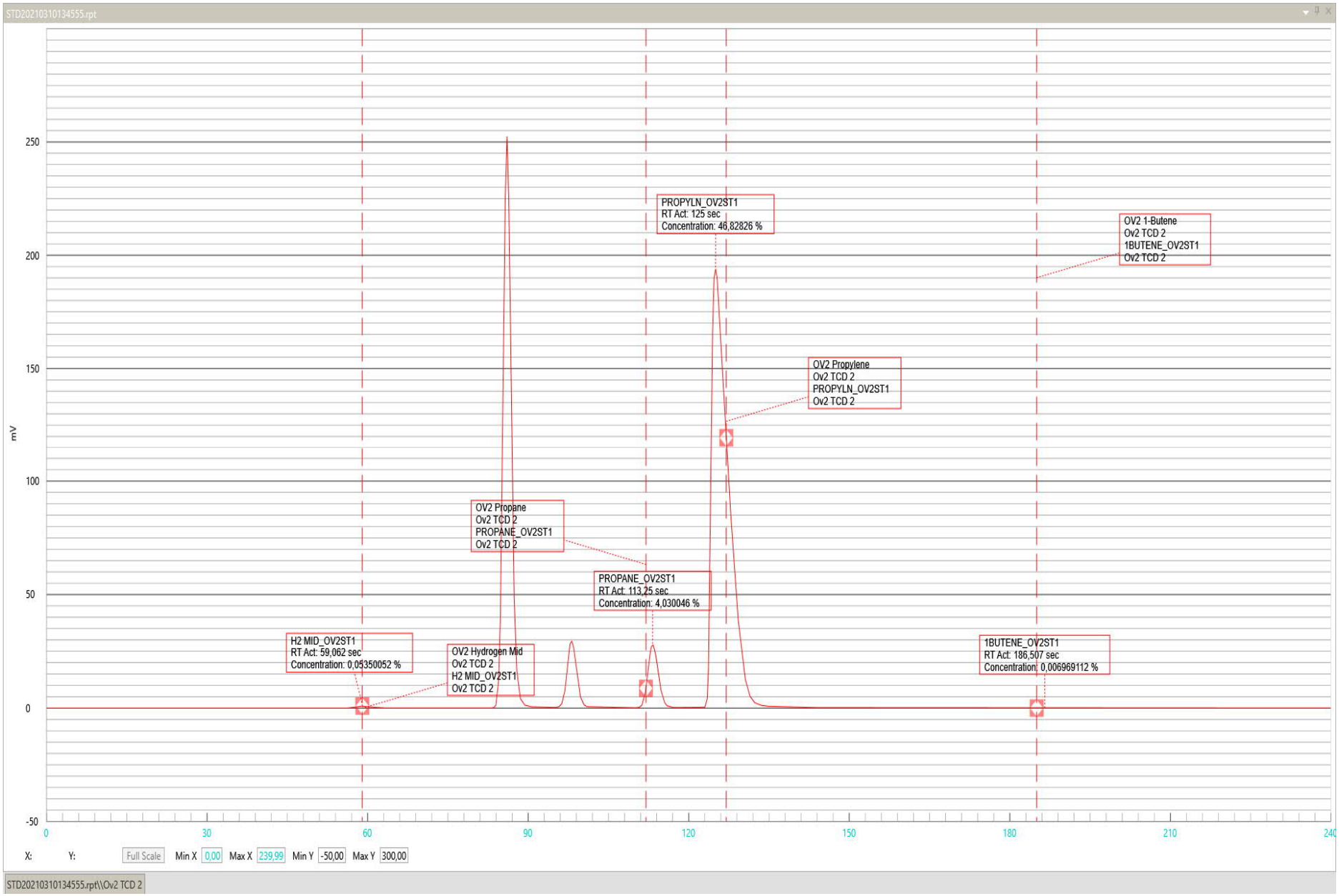
Name	RT	Concentration	Benchmark	%Deviation
N2_OV2ST1	25,507	46,39469 %	46,387	0,01657062
ETHYLEN_OV2ST1	81,023	9,960178 %	9,962	0,01828466
ETHANE_OV2ST1	105,695	2,005141 %	2,005	0,007027699

Detector: Ov2 TCD 2

Name	RT	Concentration	Benchmark	%Deviation
H2 MID_OV2ST1	59,5	9,975641 %	9,973	0,0264883
PROPANE_OV2ST1	112,648	19,9415 %	19,97	0,142693
PROPYLN_OV2ST1	127,578	10,16146 %	10,17	0,08402086
1BUTENE_OV2ST1	185,804	1,025565 %	1,032	0,6235154


STD20210310134555.rpt
900
700
500
300
100
-100
mV
0
30
60
90
120
150
180
210
240
OV2 N-HEXANE
Ov2 TCD 1-1
NHEXANE_OV2ST1
Ov2 TCD 1-1
1HEXENE_OV2ST1
RT Act: 169,585 sec
Concentration: 0,1350603 %
NHEXANE_OV2ST1
RT Act: 149,054 sec
Concentration: 0,001072794 %
OV2 1-HEXENE
Ov2 TCD 1-1
1HEXENE_OV2ST1
Ov2 TCD 1-1
X:
Y:
Full Scale
Min X 0,00
Max X 239,74
Min Y -100,00
Max Y 1000,00
STD20210310134555.rpt\\Ov2 TCD 1-1


STD20210310134555.rpt
N2_OV2ST1
RT Act: 25,484 sec
Concentration: 43,61019 %
OV2 Ethane
Ov2 TCD 1-2
ETHANE_OV2ST1
Ov2 TCD 1-2
OV2 Ethylene
Ov2 TCD 1-2
ETHYLEN_OV2ST1
Ov2 TCD 1-2
OV2 Nitrogen
Ov2 TCD 1-2
N2_OV2ST1
Ov2 TCD 1-2
ETHYLEN_OV2ST1
RT Act: 81,539 sec
Concentration: 4,945214 %
ETHANE_OV2ST1
RT Act: 105,687 sec
Concentration: 0,1190601 %
mV
1600
1400
1200
1000
800
600
400
200
0
-200
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,83
Min Y -200,00
Max Y 1800,00
STD20210310134555.rpt\\Ov2 TCD 1-2


STD20210310134555.rpt
PROPYLN_OV2ST1
RT Act: 125 sec
Concentration: 46,82826 %
OV2 1-Butene
Ov2 TCD 2
1BUTENE_OV2ST1
Ov2 TCD 2
OV2 Propylene
Ov2 TCD 2
PROPYLN_OV2ST1
Ov2 TCD 2
OV2 Propane
Ov2 TCD 2
PROPANE_OV2ST1
Ov2 TCD 2
PROPANE_OV2ST1
RT Act: 113,25 sec
Concentration: 4,030046 %
H2 MID_OV2ST1
RT Act: 59,062 sec
Concentration: 0,05350052 %
OV2 Hydrogen Mid
Ov2 TCD 2
H2 MID_OV2ST1
Ov2 TCD 2
1BUTENE_OV2ST1
RT Act: 186,507 sec
Concentration: 0,006969112 %
mV
250
200
150
100
50
0
-50
0
30
60
90
120
150
180
210
240
X:
Y:
Full Scale
Min X 0,00
Max X 239,99
Min Y -50,00
Max Y 300,00
STD20210310134555.rpt\\Ov2 TCD 2

Report

NAME: STD20210310134555.rpt
2021-03-10-13:45:55.0000 Ov2 Stream 1
Standard, Analysis: ANLYS_524072-030

Detector: Ov2 TCD 1-1

Name	RT	Concentration	Valid
NHEXANE_OV2ST1	149,054	0,001072794 %	OK
1HEXENE_OV2ST1	169,585	0,1350603 %	OK

Detector: Ov2 TCD 1-2

Name	RT	Concentration	Valid
N2_OV2ST1	25,484	43,61019 %	OK
ETHYLEN_OV2ST1	81,539	4,945214 %	OK
ETHANE_OV2ST1	105,687	0,1190601 %	OK

Detector: Ov2 TCD 2

Name	RT	Concentration	Valid
H2 MID_OV2ST1	59,062	0,05350052 %	OK
PROPANE_OV2ST1	113,25	4,030046 %	OK
PROPYLN_OV2ST1	125	46,82826 %	OK
1BUTENE_OV2ST1	186,507	0,006969112 %	OK

CERTIFICATO DI CALIBRAZIONE

ABB Spa

Tipo di Strumento: **GAS CROMATOGRAFO**

Modello: **PGC5000**

Tag: **AT-601**

N° componenti analizzati: **9**

Dati Bombola Campione

Marca **BOC** Matricola **269096** Scadenza

Dati di Calibrazione

Componente Analizzato	Concentrazione Bombola	Valore misurato Prima della calib.	Errore % Fondo scala	Valore misurato Dopo calibrazione	Errore % Fondo scala
OVEN-1					
N2	46,387	46,41	0,050	46,392	0,011
H2	9,978	9,897	-0,812	9,975	-0,030
C2-	9,962	9,972	0,100	9,965	0,030
C2+	2,005	1,984	-1,047	2,007	0,100
C3+	19,970	19,249	-3,610	19,966	-0,020
C3-	10,170	9,803	-3,609	10,164	-0,059
N-C6	0,247	0,233	-5,668	0,2464	-0,243
C6-1	0,249	0,237	-4,819	0,2476	-0,562
B-1	1,032	0,988	-4,264	1,0295	-0,242
OVEN-2					
N2	46,387	46,398	0,024	46,395	0,017
H2	9,978	9,912	-0,661	9,976	-0,020
C2-	9,962	9,961	-0,010	9,96	-0,020
C2+	2,005	2,002	-0,150	2,005	0,000
C3+	19,970	19,960	-0,050	19,942	-0,140
C3-	10,170	10,177	0,069	10,161	-0,088
N-C6	0,247	0,249	0,810	0,25	1,215
C6-1	0,249	0,253	1,606	0,247	-0,803
B-1	1,032	1,028	-0,388	1,026	-0,581

Note:

Firma del Tecnico: Ugo Caia **Data:** 11/03/2021

ABB Spa Via Luciano Lama , 33 - 20099 Sesto San Giovanni (MI) tel. 02-24141 fax 02-24148635

Service report

IT-IAMA.FSL
ABB SpA - Via Luciano Lama 33
Sesto San Giovanni
20099
Italy

Preparato da Ugo Caia U
Data 11/03/2021

Informazioni del Cliente

Indirizzo per l'ordine	Indirizzo di consegna
Basell Poliolefine Italia S.r.l. Via Soperga 14/a Milano Milano, 20127 Italy	Basell Poliolefine Italia - Brindisi via Enrico Fermi 50 Brindisi 72100 Italy

Dettagli sul lavoro

Numero d'ordine di lavoro
00028795

Oggetto
1° int – mar 2021 - Basell Brindisi

Contatto del sito
Giuseppe Di Paolo
Phone:
Email: giuseppe.dipaolo@lyondellbasell.com

Numero Ordine di Acquisto del Cliente
4404203545

Tipo di Contratto Service
Contratto rimborsabile

Tipo di servizio
Manutenzione preventiva

Numero Ordine Service CS
800004551646

Numero Ordine di Vendita SD
1210061035

Dettaglio WOLI

Numero WOLI
001

Oggetto
1° int – mar 2021 - Basell Brindisi

Stato WOLI
Completato

Installazione/Locazione
US4080110900004116|PGC5000A

Serial Number
US4080110900004116

Note di lavoro di consegna
Manutenzione preventiva dei due forni dell'AT-601

Per ciascun forno sono state eseguite le seguenti operazioni:

1) Manutenzione delle valvole M2CP:
- Sostituzione O'ring attuatore e pulizia
- Sostituzione cushion
- Sostituzione slider
- Sostituzione guide in grafite

2) Controllo perdite circuito analitico

3) Controllo metodo di analisi

4) Calibrazione con bombole

5) Controllo analisi di processo

6) Backup configurazione

Si è riscontrato casualmente con analisi di processo ad alto tenore di N2 che per concentrazioni superiori al 50 %Vol di N2 (da verificare a quale concentrazione il problema comincia a presentarsi), la misura di N2 comincia ad analizzare in difetto fino ad arrivare ad un 3% circa. Si è fatta una verifica con una bombola di N2-85% e H2-15% ed il risultato dell'N2 risultava 82% mentre la lettura dell'H2 era corretta.
Bisognerà investigare sul problema.

N.B. Tutti i ricambi sono stati forniti dal cliente.

Fogli di presenza

Data	Ora di inizio	Ora di fine	ORE	Tipo di inserimento del tempo	Categoria	Numero WOLI	Risorse di servizio
08/03/2021	06:30	12:00	05:30	Arrivo		001	Ugo Caia U
08/03/2021	12:45	16:45	04:00	Lavoro		001	Ugo Caia U
09/03/2021	08:00	12:00	04:00	Lavoro		001	Ugo Caia U
09/03/2021	12:45	16:45	04:00	Lavoro		001	Ugo Caia U
10/03/2021	08:00	12:00	04:00	Lavoro		001	Ugo Caia U
10/03/2021	12:45	16:45	04:00	Lavoro		001	Ugo Caia U
11/03/2021	08:00	12:45	04:45	Lavoro		001	Ugo Caia U
11/03/2021	12:45	16:00	03:15	Lavoro		001	Ugo Caia U
11/03/2021	16:00	22:00	06:00	Partenza		001	Ugo Caia U
		Totale	39:30				

Materiale utilizzato

Nome del bene	Serial Number	Prodotto	Quantità consumata	Non fatturabile	Numero WOLI
US40801109000004116|PGC5000A		3528402-1 - Cushion,Sliding Plate Valve,Silicone	8.00	Sì	001
US40801109000004116|PGC5000A		764M005-21 - SLIDER,10 PT REDUCED OUTLINE,DYN-GRAPHI	8.00	Sì	001
US40801109000004116|PGC5000A		3527279-4 - WEDGE, Q2M, M2CP VALVE	32.00	Sì	001
US40801109000004116|PGC5000A		764K001N-2 - Kit O-Ring Replacement M2	8.00	Sì	001

Commenti aggiuntivi

Firma

Firma dell'ingegnere

Ugo Caia U
11/03/2021 14:38:00

Firma del cliente

Carlo Pardini
11/03/2021 14:38:36