SGS Accutest Internal Chain of Custody

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/11/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC14083-11.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-11.1	GCMS3D	Sushila Yadav	02/13/16 12:48	Unload from Instrument
JC14083-11.1	Sushila Yadav	GCMS2A	02/13/16 12:48	Load on Instrument
JC14083-11.1	GCMS2A	Tracy Karpinski	02/15/16 08:57	Unload from Instrument
JC14083-11.1	Tracy Karpinski	Secured Storage	02/15/16 08:57	Return to Storage
JC14083-12.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-12.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-12.1	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-12.1	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-12.4	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-12.4	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-12.4	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-12.4	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-12.7	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-12.7	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-12.7	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-12.7	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-13.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-13.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-13.1	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-13.1	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-14.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-14.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-14.1	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-14.1	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-15.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-15.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-15.1	GCMS3D	Sushila Yadav	02/13/16 12:48	Unload from Instrument
JC14083-15.1	Sushila Yadav	GCMS2A	02/13/16 12:48	Load on Instrument
JC14083-15.1	GCMS2A	Tracy Karpinski	02/15/16 08:57	Unload from Instrument
JC14083-15.1	Tracy Karpinski	Secured Storage	02/15/16 08:57	Return to Storage
JC14083-16.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-16.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-16.1	GCMS3D	Sushila Yadav	02/13/16 12:48	Unload from Instrument
JC14083-16.1	Sushila Yadav	GCMS2A	02/13/16 12:48	Load on Instrument
JC14083-16.1	GCMS2A	Tracy Karpinski	02/15/16 08:57	Unload from Instrument
JC14083-16.1	Tracy Karpinski	Secured Storage	02/15/16 08:57	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Received: 02/11/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC14083-17.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-17.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-17.1	GCMS3D	Sushila Yadav	02/13/16 12:48	Unload from Instrument
JC14083-17.1	Sushila Yadav	GCMS2A	02/13/16 12:48	Load on Instrument
JC14083-17.1	GCMS2A	Tracy Karpinski	02/15/16 08:57	Unload from Instrument
JC14083-17.1	Tracy Karpinski	Secured Storage	02/15/16 08:57	Return to Storage
JC14083-18.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-18.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-18.1	GCMS3D	Ximena Collado	02/15/16 09:43	Unload from Instrument
JC14083-18.1	Ximena Collado	Secured Storage	02/15/16 09:43	Return to Storage
JC14083-18.1	Secured Storage	Tracy Karpinski	02/15/16 13:44	Retrieve from Storage
JC14083-18.1	Tracy Karpinski	GCMS2A	02/15/16 13:44	Load on Instrument
JC14083-18.1	GCMS2A	Tracy Karpinski	02/16/16 09:10	Unload from Instrument
JC14083-18.1	Tracy Karpinski	Secured Storage	02/16/16 09:10	Return to Storage
JC14083-19.1	Secured Storage	Ximena Collado	02/12/16 12:09	Retrieve from Storage
JC14083-19.1	Ximena Collado	GCMS3D	02/12/16 12:09	Load on Instrument
JC14083-19.1	GCMS3D	Sushila Yadav	02/13/16 12:48	Unload from Instrument
JC14083-19.1	Sushila Yadav	GCMS2A	02/13/16 12:48	Load on Instrument
JC14083-19.1	GCMS2A	Tracy Karpinski	02/15/16 08:57	Unload from Instrument
JC14083-19.1	Tracy Karpinski	Secured Storage	02/15/16 08:57	Return to Storage

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D5014-MB	3D117216.D	1	02/12/16	XC	n/a	n/a	V3D5014

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-12, JC14083-13, JC14083-14

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	111%	76-120%
17060-07-0	1,2-Dichloroethane-D4	111%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	95%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7042-MB	2A165584.D	1	02/13/16	TK	n/a	n/a	V2A7042

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-1, JC14083-2, JC14083-3, JC14083-4, JC14083-5, JC14083-6, JC14083-7, JC14083-9, JC14083-10, JC14083-11, JC14083-15, JC14083-16, JC14083-17, JC14083-19

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	76-120%
17060-07-0	1,2-Dichloroethane-D4	94%	73-122%
2037-26-5	Toluene-D8	103%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7043-MB1	2A165609.D	1	02/15/16	TK	n/a	n/a	V2A7043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-8, JC14083-18

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.17	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.51	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.27	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.65	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.27	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.73	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.40	ug/l	
108-88-3	Toluene	ND	1.0	0.16	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.21	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.15	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	73-122%
2037-26-5	Toluene-D8	102%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3D5014-BS	3D117217.D	1	02/12/16	XC	n/a	n/a	V3D5014

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-12, JC14083-13, JC14083-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	55.2	110	80-125
107-06-2	1,2-Dichloroethane	50	56.0	112	78-131
75-35-4	1,1-Dichloroethene	50	56.6	113	73-127
156-59-2	cis-1,2-Dichloroethene	50	51.4	103	77-118
156-60-5	trans-1,2-Dichloroethene	50	51.7	103	75-118
100-41-4	Ethylbenzene	50	50.6	101	80-118
75-09-2	Methylene chloride	50	55.2	110	75-122
127-18-4	Tetrachloroethene	50	57.2	114	69-138
108-88-3	Toluene	50	53.4	107	80-122
71-55-6	1,1,1-Trichloroethane	50	57.3	115	80-131
79-00-5	1,1,2-Trichloroethane	50	52.1	104	78-122
79-01-6	Trichloroethene	50	55.2	110	83-122
75-01-4	Vinyl chloride	50	44.9	90	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	109%	76-120%
17060-07-0	1,2-Dichloroethane-D4	108%	73-122%
2037-26-5	Toluene-D8	105%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7042-BS	2A165585.D	1	02/13/16	TK	n/a	n/a	V2A7042

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-1, JC14083-2, JC14083-3, JC14083-4, JC14083-5, JC14083-6, JC14083-7, JC14083-9, JC14083-10, JC14083-11, JC14083-15, JC14083-16, JC14083-17, JC14083-19

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	48.0	96	80-125
107-06-2	1,2-Dichloroethane	50	45.4	91	78-131
75-35-4	1,1-Dichloroethene	50	52.1	104	73-127
156-59-2	cis-1,2-Dichloroethene	50	49.6	99	77-118
156-60-5	trans-1,2-Dichloroethene	50	46.6	93	75-118
100-41-4	Ethylbenzene	50	47.4	95	80-118
75-09-2	Methylene chloride	50	49.6	99	75-122
127-18-4	Tetrachloroethene	50	52.3	105	69-138
108-88-3	Toluene	50	49.6	99	80-122
71-55-6	1,1,1-Trichloroethane	50	52.6	105	80-131
79-00-5	1,1,2-Trichloroethane	50	48.3	97	78-122
79-01-6	Trichloroethene	50	50.2	100	83-122
75-01-4	Vinyl chloride	50	49.2	98	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	76-120%
17060-07-0	1,2-Dichloroethane-D4	96%	73-122%
2037-26-5	Toluene-D8	104%	84-119%
460-00-4	4-Bromofluorobenzene	104%	78-117%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2A7043-BS	2A165610.D	1	02/15/16	TK	n/a	n/a	V2A7043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-8, JC14083-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	47.1	94	80-125
107-06-2	1,2-Dichloroethane	50	46.1	92	78-131
75-35-4	1,1-Dichloroethene	50	52.6	105	73-127
156-59-2	cis-1,2-Dichloroethene	50	49.1	98	77-118
156-60-5	trans-1,2-Dichloroethene	50	46.3	93	75-118
100-41-4	Ethylbenzene	50	46.8	94	80-118
75-09-2	Methylene chloride	50	49.7	99	75-122
127-18-4	Tetrachloroethene	50	50.8	102	69-138
108-88-3	Toluene	50	49.7	99	80-122
71-55-6	1,1,1-Trichloroethane	50	53.0	106	80-131
79-00-5	1,1,2-Trichloroethane	50	48.0	96	78-122
79-01-6	Trichloroethene	50	50.6	101	83-122
75-01-4	Vinyl chloride	50	49.9	100	57-138

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	73-122%
2037-26-5	Toluene-D8	105%	84-119%
460-00-4	4-Bromofluorobenzene	103%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC14083-2MS	2A165595.D	1	02/13/16	TK	n/a	n/a	V2A7042
JC14083-2	2A165587.D	1	02/13/16	TK	n/a	n/a	V2A7042

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-1, JC14083-2, JC14083-3, JC14083-4, JC14083-5, JC14083-6, JC14083-7, JC14083-9, JC14083-10, JC14083-11, JC14083-15, JC14083-16, JC14083-17, JC14083-19

CAS No.	Compound	JC14083-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	10.1		50	59.6	99	60-129
107-06-2	1,2-Dichloroethane	ND		50	46.2	92	72-133
75-35-4	1,1-Dichloroethene	0.52	J	50	55.9	111	40-137
156-59-2	cis-1,2-Dichloroethene	71.3		50	118	93	57-128
156-60-5	trans-1,2-Dichloroethene	0.71	J	50	48.9	96	53-128
100-41-4	Ethylbenzene	ND		50	49.4	99	38-139
75-09-2	Methylene chloride	ND		50	50.3	101	63-128
127-18-4	Tetrachloroethene	52.1		50	108	112	43-145
108-88-3	Toluene	ND		50	51.6	103	51-136
71-55-6	1,1,1-Trichloroethane	17.4		50	75.3	116	51-141
79-00-5	1,1,2-Trichloroethane	ND		50	49.2	98	71-127
79-01-6	Trichloroethene	5.9		50	59.3	107	55-136
75-01-4	Vinyl chloride	ND		50	60.7	121	34-147

CAS No.	Surrogate Recoveries	MS	JC14083-2	Limits
1868-53-7	Dibromofluoromethane	105%	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	96%	94%	73-122%
2037-26-5	Toluene-D8	104%	104%	84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	78-117%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC14083-8MS	2A165622.D	1	02/15/16	TK	n/a	n/a	V2A7043
JC14083-8	2A165617.D	1	02/15/16	TK	n/a	n/a	V2A7043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-8, JC14083-18

CAS No.	Compound	JC14083-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	ND		50	52.2	104	60-129
107-06-2	1,2-Dichloroethane	ND		50	48.0	96	72-133
75-35-4	1,1-Dichloroethene	ND		50	60.5	121	40-137
156-59-2	cis-1,2-Dichloroethene	0.63	J	50	54.7	108	57-128
156-60-5	trans-1,2-Dichloroethene	ND		50	52.1	104	53-128
100-41-4	Ethylbenzene	ND		50	52.3	105	38-139
75-09-2	Methylene chloride	ND		50	54.0	108	63-128
127-18-4	Tetrachloroethene	1.1		50	60.4	119	43-145
108-88-3	Toluene	ND		50	55.2	110	51-136
71-55-6	1,1,1-Trichloroethane	0.29	J	50	60.2	120	51-141
79-00-5	1,1,2-Trichloroethane	ND		50	50.9	102	71-127
79-01-6	Trichloroethene	16.5		50	74.3	116	55-136
75-01-4	Vinyl chloride	ND		50	64.6	129	34-147

CAS No.	Surrogate Recoveries	MS	JC14083-8	Limits
1868-53-7	Dibromofluoromethane	106%	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	96%	73-122%
2037-26-5	Toluene-D8	105%	103%	84-119%
460-00-4	4-Bromofluorobenzene	103%	103%	78-117%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC14083-12MS	3D117228.D	1	02/12/16	XC	n/a	n/a	V3D5014
JC14083-12MSD	3D117229.D	1	02/12/16	XC	n/a	n/a	V3D5014
JC14083-12	3D117221.D	1	02/12/16	XC	n/a	n/a	V3D5014

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-12, JC14083-13, JC14083-14

CAS No.	Compound	JC14083-12 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	1.1		50	66.9	132* [a]	50	61.9	122	8	60-129/13
107-06-2	1,2-Dichloroethane	ND		50	62.3	125	50	58.0	116	7	72-133/12
75-35-4	1,1-Dichloroethene	ND		50	72.6	145* [a]	50	68.9	138* [a]	5	40-137/17
156-59-2	cis-1,2-Dichloroethene	ND		50	58.8	118	50	55.0	110	7	57-128/13
156-60-5	trans-1,2-Dichloroethene	ND		50	62.5	125	50	58.1	116	7	53-128/15
100-41-4	Ethylbenzene	ND		50	56.9	114	50	53.9	108	5	38-139/12
75-09-2	Methylene chloride	ND		50	63.1	126	50	59.6	119	6	63-128/13
127-18-4	Tetrachloroethene	ND		50	65.8	132	50	61.6	123	7	43-145/15
108-88-3	Toluene	ND		50	60.9	122	50	56.9	114	7	51-136/13
71-55-6	1,1,1-Trichloroethane	1.2		50	67.7	133	50	63.8	125	6	51-141/16
79-00-5	1,1,2-Trichloroethane	ND		50	56.2	112	50	52.5	105	7	71-127/12
79-01-6	Trichloroethene	ND		50	64.6	129	50	59.6	119	8	55-136/14
75-01-4	Vinyl chloride	ND		50	59.4	119	50	54.9	110	8	34-147/17

CAS No.	Surrogate Recoveries	MS	MSD	JC14083-12	Limits
1868-53-7	Dibromofluoromethane	110%	109%	118%	76-120%
17060-07-0	1,2-Dichloroethane-D4	110%	109%	117%	73-122%
2037-26-5	Toluene-D8	105%	103%	101%	84-119%
460-00-4	4-Bromofluorobenzene	105%	104%	95%	78-117%

(a) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC14083-3DUP	2A165597.D	1	02/13/16	TK	n/a	n/a	V2A7042
JC14083-3	2A165588.D	1	02/13/16	TK	n/a	n/a	V2A7042

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-1, JC14083-2, JC14083-3, JC14083-4, JC14083-5, JC14083-6, JC14083-7, JC14083-9, JC14083-10, JC14083-11, JC14083-15, JC14083-16, JC14083-17, JC14083-19

CAS No.	Compound	JC14083-3 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	8.9		8.9		0	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	2.1		2.0		5	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
100-41-4	Ethylbenzene	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	30
127-18-4	Tetrachloroethene	20.6		20.5		0	30
108-88-3	Toluene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	4.9		4.9		0	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	1.3		1.5		14	30
75-01-4	Vinyl chloride	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JC14083-3	Limits
1868-53-7	Dibromofluoromethane	106%	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	73-122%
2037-26-5	Toluene-D8	102%	103%	84-119%
460-00-4	4-Bromofluorobenzene	102%	102%	78-117%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC14167-1DUP	2A165621.D	1	02/15/16	TK	n/a	n/a	V2A7043
JC14167-1	2A165613.D	1	02/15/16	TK	n/a	n/a	V2A7043

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC14083-8, JC14083-18

CAS No.	Compound	JC14167-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
100-41-4	Ethylbenzene	0.70	J	0.69	J	1	30
75-09-2	Methylene chloride	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	30
108-88-3	Toluene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30

CAS No.	Surrogate Recoveries	DUP	JC14167-1	Limits
1868-53-7	Dibromofluoromethane	106%	105%	76-120%
17060-07-0	1,2-Dichloroethane-D4	96%	97%	73-122%
2037-26-5	Toluene-D8	103%	103%	84-119%
460-00-4	4-Bromofluorobenzene	103%	102%	78-117%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7005-BFB
Lab File ID: 2A164687.D
Instrument ID: GCMS2A
Injection Date: 01/12/16
Injection Time: 14:11

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	14270	20.3		Pass
75	30.0 - 60.0% of mass 95	35056	50.0		Pass
95	Base peak, 100% relative abundance	70125	100.0		Pass
96	5.0 - 9.0% of mass 95	4663	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	71298	101.7		Pass
175	5.0 - 9.0% of mass 174	6036	8.61	(8.47) [a]	Pass
176	95.0 - 101.0% of mass 174	69288	98.8	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4528	6.46	(6.54) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2A7005-IC7005	2A164688.D	01/12/16	14:57	00:46	Initial cal 0.2
V2A7005-IC7005	2A164689.D	01/12/16	15:26	01:15	Initial cal 0.5
V2A7005-IC7005	2A164690.D	01/12/16	15:56	01:45	Initial cal 1
V2A7005-IC7005	2A164691.D	01/12/16	16:26	02:15	Initial cal 2
V2A7005-IC7005	2A164692.D	01/12/16	16:55	02:44	Initial cal 5
V2A7005-IC7005	2A164693.D	01/12/16	17:25	03:14	Initial cal 10
V2A7005-IC7005	2A164694.D	01/12/16	17:54	03:43	Initial cal 20
V2A7005-ICC7005	2A164695.D	01/12/16	18:23	04:12	Initial cal 50
V2A7005-IC7005	2A164696.D	01/12/16	18:53	04:42	Initial cal 100
V2A7005-IC7005	2A164697.D	01/12/16	19:23	05:12	Initial cal 200
V2A7005-ICV7005	2A164700.D	01/12/16	20:51	06:40	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2A7042-BFB	**Injection Date:**	02/13/16
Lab File ID:	2A165581.D	**Injection Time:**	09:54
Instrument ID:	GCMS2A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	11150	16.6		Pass
75	30.0 - 60.0% of mass 95	30938	46.0		Pass
95	Base peak, 100% relative abundance	67240	100.0		Pass
96	5.0 - 9.0% of mass 95	4585	6.82		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	64818	96.4		Pass
175	5.0 - 9.0% of mass 174	5314	7.90	(8.20) [a]	Pass
176	95.0 - 101.0% of mass 174	62850	93.5	(97.0) [a]	Pass
177	5.0 - 9.0% of mass 176	4375	6.51	(6.96) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2A7042-CC7005	2A165582.D	02/13/16	10:30	00:36	Continuing cal 20
V2A7042-MB	2A165584.D	02/13/16	11:37	01:43	Method Blank
V2A7042-BS	2A165585.D	02/13/16	12:06	02:12	Blank Spike
JC14083-2	2A165587.D	02/13/16	13:05	03:11	HSSER-SMW08-020816
JC14083-3	2A165588.D	02/13/16	13:35	03:41	HSSER-GMZ01-020816
JC14083-4	2A165589.D	02/13/16	14:04	04:10	HSSER-SMW01-020816
JC14083-6	2A165590.D	02/13/16	14:33	04:39	HSSER-MW203-020816
JC14083-7	2A165591.D	02/13/16	15:03	05:09	HSSER-MW07FGA-020916
JC14083-10	2A165592.D	02/13/16	15:32	05:38	HSSER-EBLK01-020916
JC14083-9	2A165593.D	02/13/16	16:02	06:08	HSSER-PMW01-020916
ZZZZZZ	2A165594.D	02/13/16	16:32	06:38	(unrelated sample)
JC14083-2MS	2A165595.D	02/13/16	17:02	07:08	Matrix Spike
JC14083-3DUP	2A165597.D	02/13/16	18:00	08:06	Duplicate
JC14083-1	2A165598.D	02/13/16	18:30	08:36	HSSER-FBLK01-020816
JC14083-19	2A165599.D	02/13/16	18:59	09:05	HSSER-TRIP01-020816
JC14083-5	2A165600.D	02/13/16	19:28	09:34	HSSER-SMW02-020816
JC14083-11	2A165601.D	02/13/16	19:57	10:03	HSSER-PMW02-020916
JC14083-15	2A165602.D	02/13/16	20:26	10:32	HSSER-SMW21-021016
JC14083-16	2A165603.D	02/13/16	20:56	11:02	HSSER-GMZ03-021016
JC14083-17	2A165604.D	02/13/16	21:25	11:31	HSSER-SMW04-021016

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V2A7043-BFB	**Injection Date:**	02/15/16
Lab File ID:	2A165606.D	**Injection Time:**	08:53
Instrument ID:	GCMS2A		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	12006	17.0		Pass
75	30.0 - 60.0% of mass 95	33528	47.6		Pass
95	Base peak, 100% relative abundance	70506	100.0		Pass
96	5.0 - 9.0% of mass 95	4607	6.53		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	67442	95.7		Pass
175	5.0 - 9.0% of mass 174	5549	7.87	(8.23) [a]	Pass
176	95.0 - 101.0% of mass 174	66301	94.0	(98.3) [a]	Pass
177	5.0 - 9.0% of mass 176	4822	6.84	(7.27) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V2A7043-CC7005	2A165607.D	02/15/16	09:30	00:37	Continuing cal 20
V2A7043-MB1	2A165609.D	02/15/16	10:39	01:46	Method Blank
V2A7043-BS	2A165610.D	02/15/16	11:08	02:15	Blank Spike
ZZZZZZ	2A165612.D	02/15/16	12:07	03:14	(unrelated sample)
JC14167-1	2A165613.D	02/15/16	12:36	03:43	(used for QC only; not part of job JC14083)
ZZZZZZ	2A165615.D	02/15/16	13:35	04:42	(unrelated sample)
ZZZZZZ	2A165616.D	02/15/16	14:05	05:12	(unrelated sample)
JC14083-8	2A165617.D	02/15/16	14:34	05:41	HSSER-SMW19-020916
JC14083-18	2A165618.D	02/15/16	15:04	06:11	HSSER-DUP01-021016
ZZZZZZ	2A165619.D	02/15/16	15:34	06:41	(unrelated sample)
ZZZZZZ	2A165620.D	02/15/16	16:03	07:10	(unrelated sample)
JC14167-1DUP	2A165621.D	02/15/16	16:33	07:40	Duplicate
JC14083-8MS	2A165622.D	02/15/16	17:03	08:10	Matrix Spike
ZZZZZZ	2A165624.D	02/15/16	18:03	09:10	(unrelated sample)
ZZZZZZ	2A165625.D	02/15/16	18:33	09:40	(unrelated sample)
ZZZZZZ	2A165626.D	02/15/16	19:03	10:10	(unrelated sample)
ZZZZZZ	2A165627.D	02/15/16	19:33	10:40	(unrelated sample)
ZZZZZZ	2A165628.D	02/15/16	20:03	11:10	(unrelated sample)
ZZZZZZ	2A165629.D	02/15/16	20:33	11:40	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D4991-BFB
Lab File ID: 3D116721.D
Instrument ID: GCMS3D
Injection Date: 01/20/16
Injection Time: 11:35

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	10727	16.7		Pass
75	30.0 - 60.0% of mass 95	27626	42.9		Pass
95	Base peak, 100% relative abundance	64413	100.0		Pass
96	5.0 - 9.0% of mass 95	4239	6.58		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	59269	92.0		Pass
175	5.0 - 9.0% of mass 174	4557	7.07	(7.69) [a]	Pass
176	95.0 - 101.0% of mass 174	58778	91.3	(99.2) [a]	Pass
177	5.0 - 9.0% of mass 176	4134	6.42	(7.03) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D4991-IC4991	3D116722.D	01/20/16	12:04	00:29	Initial cal 0.2
V3D4991-IC4991	3D116723.D	01/20/16	12:31	00:56	Initial cal 0.5
V3D4991-IC4991	3D116724.D	01/20/16	12:58	01:23	Initial cal 1
V3D4991-IC4991	3D116725.D	01/20/16	13:25	01:50	Initial cal 2
V3D4991-IC4991	3D116726.D	01/20/16	13:52	02:17	Initial cal 5
V3D4991-IC4991	3D116727.D	01/20/16	14:19	02:44	Initial cal 10
V3D4991-IC4991	3D116728.D	01/20/16	14:46	03:11	Initial cal 20
V3D4991-ICC4991	3D116729.D	01/20/16	15:13	03:38	Initial cal 50
V3D4991-IC4991	3D116730.D	01/20/16	15:40	04:05	Initial cal 100
V3D4991-IC4991	3D116731.D	01/20/16	16:07	04:32	Initial cal 200
V3D4991-ICV4991	3D116734.D	01/20/16	17:29	05:54	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample:	V3D4991-BFB	**Injection Date:**	01/21/16
Lab File ID:	3D116736.D	**Injection Time:**	10:39
Instrument ID:	GCMS3D		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	10823	16.1		Pass
75	30.0 - 60.0% of mass 95	28890	42.9		Pass
95	Base peak, 100% relative abundance	67336	100.0		Pass
96	5.0 - 9.0% of mass 95	4478	6.65		Pass
173	Less than 2.0% of mass 174	150	0.22	(0.24) [a]	Pass
174	50.0 - 120.0% of mass 95	62338	92.6		Pass
175	5.0 - 9.0% of mass 174	4702	6.98	(7.54) [a]	Pass
176	95.0 - 101.0% of mass 174	60293	89.5	(96.7) [a]	Pass
177	5.0 - 9.0% of mass 176	3912	5.81	(6.49) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D4991-ICV4991	3D116737.D	01/21/16	11:19	00:40	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D5014-BFB
Lab File ID: 3D117213.D
Instrument ID: GCMS3D
Injection Date: 02/12/16
Injection Time: 09:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9554	16.4		Pass
75	30.0 - 60.0% of mass 95	25320	43.3		Pass
95	Base peak, 100% relative abundance	58432	100.0		Pass
96	5.0 - 9.0% of mass 95	3891	6.66		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	59381	101.6		Pass
175	5.0 - 9.0% of mass 174	4500	7.70	(7.58) [a]	Pass
176	95.0 - 101.0% of mass 174	57731	98.8	(97.2) [a]	Pass
177	5.0 - 9.0% of mass 176	3873	6.63	(6.71) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V3D5014-CC4991	3D117214.D	02/12/16	09:41	00:38	Continuing cal 20
V3D5014-MB	3D117216.D	02/12/16	10:40	01:37	Method Blank
V3D5014-BS	3D117217.D	02/12/16	11:07	02:04	Blank Spike
ZZZZZZ	3D117219.D	02/12/16	12:05	03:02	(unrelated sample)
ZZZZZZ	3D117220.D	02/12/16	12:32	03:29	(unrelated sample)
JC14083-12	3D117221.D	02/12/16	12:59	03:56	HSSER-GMZ02-020916
JC14083-13	3D117222.D	02/12/16	13:26	04:23	HSSER-GMZ04-020916
JC14083-14	3D117223.D	02/12/16	13:54	04:51	HSSER-SMW20-021016
ZZZZZZ	3D117224.D	02/12/16	14:21	05:18	(unrelated sample)
ZZZZZZ	3D117225.D	02/12/16	14:49	05:46	(unrelated sample)
ZZZZZZ	3D117226.D	02/12/16	15:16	06:13	(unrelated sample)
ZZZZZZ	3D117227.D	02/12/16	15:43	06:40	(unrelated sample)
JC14083-12MS	3D117228.D	02/12/16	16:11	07:08	Matrix Spike
JC14083-12MSD	3D117229.D	02/12/16	16:38	07:35	Matrix Spike Duplicate
V3D5015-MB	3D117231.D	02/12/16	17:33	08:30	Method Blank
ZZZZZZ	3D117232.D	02/12/16	18:01	08:58	(unrelated sample)
ZZZZZZ	3D117233.D	02/12/16	18:28	09:25	(unrelated sample)
ZZZZZZ	3D117234.D	02/12/16	18:55	09:52	(unrelated sample)
ZZZZZZ	3D117235.D	02/12/16	19:23	10:20	(unrelated sample)
ZZZZZZ	3D117236.D	02/12/16	19:50	10:47	(unrelated sample)
ZZZZZZ	3D117237.D	02/12/16	20:18	11:15	(unrelated sample)
ZZZZZZ	3D117238.D	02/12/16	20:45	11:42	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V2A7042-CC7005	**Injection Date:**	02/13/16
Lab File ID:	2A165582.D	**Injection Time:**	10:30
Instrument ID:	GCMS2A	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	82148	8.33	265741	10.75	289546	11.68	235154	14.67	127707	16.83
Upper Limit [a]	164296	8.83	531482	11.25	579092	12.18	470308	15.17	255414	17.33
Lower Limit [b]	41074	7.83	132871	10.25	144773	11.18	117577	14.17	63854	16.33

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2A7042-MB	80717	8.32	281818	10.75	304425	11.68	242757	14.67	127830	16.82
V2A7042-BS	76206	8.33	280042	10.75	307829	11.67	249795	14.66	134035	16.82
JC14083-2	69955	8.33	267384	10.75	287186	11.68	232878	14.66	124139	16.82
JC14083-3	73301	8.33	267762	10.75	287805	11.68	232433	14.66	124538	16.82
JC14083-4	83235	8.32	280429	10.75	303268	11.67	246188	14.66	130190	16.82
JC14083-6	67776	8.33	259713	10.75	282077	11.67	227044	14.67	120082	16.82
JC14083-7	69047	8.32	261297	10.75	280541	11.67	226876	14.66	121656	16.82
JC14083-10	82385	8.32	276344	10.75	299251	11.67	242235	14.66	128029	16.82
JC14083-9	68362	8.32	260359	10.75	282715	11.67	229071	14.66	123592	16.82
ZZZZZZ	123140	8.32	271654	10.75	295160	11.68	238602	14.67	127550	16.82
JC14083-2MS	83034	8.33	265253	10.75	290415	11.68	236961	14.67	129271	16.82
JC14083-3DUP	69725	8.33	263020	10.75	286966	11.68	229937	14.66	123879	16.82
JC14083-1	72450	8.32	268385	10.75	290443	11.67	233487	14.66	124877	16.82
JC14083-19	75735	8.33	274002	10.75	295043	11.67	240116	14.66	130466	16.82
JC14083-5	75746	8.33	268352	10.75	290566	11.67	232824	14.66	126142	16.82
JC14083-11	74092	8.32	270358	10.75	293783	11.67	235055	14.66	127153	16.82
JC14083-15	71064	8.32	270167	10.75	289080	11.67	233945	14.66	127033	16.82
JC14083-16	67207	8.32	254560	10.74	278144	11.67	221657	14.66	119232	16.82
JC14083-17	71830	8.32	267029	10.75	289745	11.67	233246	14.66	125906	16.82

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V2A7043-CC7005	**Injection Date:**	02/15/16
Lab File ID:	2A165607.D	**Injection Time:**	09:30
Instrument ID:	GCMS2A	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	69910	8.32	262950	10.75	284183	11.68	231182	14.67	126168	16.83
Upper Limit [a]	139820	8.82	525900	11.25	568366	12.18	462364	15.17	252336	17.33
Lower Limit [b]	34955	7.82	131475	10.25	142092	11.18	115591	14.17	63084	16.33

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V2A7043-MB1	65487	8.33	271268	10.75	291773	11.67	233594	14.66	126711	16.82
V2A7043-BS	69812	8.33	272132	10.75	295206	11.67	242583	14.66	131492	16.82
ZZZZZZ	64043	8.32	263264	10.75	282824	11.67	229983	14.66	121290	16.82
JC14167-1	90981	8.33	274157	10.75	294527	11.67	236001	14.66	128101	16.82
ZZZZZZ	74543	8.32	287684	10.75	310783	11.68	251584	14.66	135126	16.82
ZZZZZZ	73508	8.33	281159	10.75	303868	11.68	247259	14.66	130165	16.82
JC14083-8	75964	8.33	280154	10.75	305179	11.67	246495	14.66	130291	16.82
JC14083-18	72831	8.33	276369	10.75	298236	11.68	239715	14.67	130103	16.82
ZZZZZZ	68057	8.33	270778	10.75	288303	11.68	231957	14.66	125695	16.82
ZZZZZZ	73060	8.33	266810	10.75	286954	11.68	231092	14.67	123790	16.82
JC14167-1DUP	83866	8.33	271527	10.75	293996	11.68	236124	14.67	126582	16.82
JC14083-8MS	80479	8.34	274774	10.75	299014	11.68	242969	14.66	130551	16.82
ZZZZZZ	75529	8.32	272448	10.75	297972	11.68	238616	14.66	127655	16.82
ZZZZZZ	79548	8.33	277426	10.75	298804	11.68	239080	14.67	129787	16.82
ZZZZZZ	81545	8.33	282568	10.75	306480	11.68	245718	14.66	130150	16.82
ZZZZZZ	75994	8.33	265102	10.75	288202	11.68	233085	14.66	125832	16.82
ZZZZZZ	80538	8.33	280013	10.75	302305	11.68	243735	14.67	128816	16.82
ZZZZZZ	76390	8.33	260243	10.75	280038	11.68	227160	14.67	120486	16.82

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V3D5014-CC4991	**Injection Date:**	02/12/16
Lab File ID:	3D117214.D	**Injection Time:**	09:41
Instrument ID:	GCMS3D	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	156888	7.16	282883	9.38	323811	10.30	261877	13.46	145303	15.77
Upper Limit [a]	313776	7.66	565766	9.88	647622	10.80	523754	13.96	290606	16.27
Lower Limit [b]	78444	6.66	141442	8.88	161906	9.80	130939	12.96	72652	15.27

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V3D5014-MB	133619	7.16	238446	9.38	278169	10.30	222998	13.46	125520	15.78
V3D5014-BS	148015	7.16	255211	9.38	302141	10.29	245594	13.46	136729	15.77
ZZZZZZ	140896	7.15	258844	9.38	306861	10.29	247990	13.45	138602	15.77
ZZZZZZ	138799	7.16	255942	9.38	302126	10.29	240918	13.45	134555	15.77
JC14083-12	138715	7.15	239665	9.38	287338	10.29	228318	13.45	128248	15.77
JC14083-13	139668	7.15	241354	9.38	290908	10.29	231836	13.45	128890	15.77
JC14083-14	135556	7.15	234841	9.38	281151	10.29	225845	13.45	125841	15.77
ZZZZZZ	128619	7.16	237142	9.38	284939	10.29	225804	13.45	127162	15.77
ZZZZZZ	137359	7.16	229361	9.38	278675	10.29	227157	13.45	122079	15.77
ZZZZZZ	159376	7.15	264291	9.38	316480	10.29	253061	13.45	137624	15.77
ZZZZZZ	153607	7.15	270572	9.38	320950	10.29	253390	13.45	138231	15.77
JC14083-12MS	158305	7.15	259870	9.38	309878	10.29	253900	13.45	135499	15.77
JC14083-12MSD	165776	7.16	276172	9.38	332782	10.29	269255	13.45	144517	15.77
V3D5015-MB	143741	7.15	252323	9.38	305011	10.29	242580	13.45	132384	15.77
ZZZZZZ	144817	7.15	262422	9.38	313165	10.29	254296	13.45	140684	15.77
ZZZZZZ	150097	7.15	265561	9.38	316822	10.29	257445	13.45	142779	15.77
ZZZZZZ	137322	7.15	246461	9.37	294183	10.29	238792	13.45	131269	15.77
ZZZZZZ	151786	7.15	250613	9.37	299475	10.29	243443	13.45	135815	15.77
ZZZZZZ	149913	7.14	253409	9.37	302238	10.29	246086	13.45	137928	15.77
ZZZZZZ	142689	7.15	248271	9.37	296464	10.29	242427	13.45	135940	15.77
ZZZZZZ	139416	7.16	249957	9.37	295844	10.29	244249	13.45	136854	15.77

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260C **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC14083-1	2A165598.D	104	95	102	103
JC14083-2	2A165587.D	104	94	104	102
JC14083-3	2A165588.D	104	95	103	102
JC14083-4	2A165589.D	105	95	104	103
JC14083-5	2A165600.D	106	96	103	102
JC14083-6	2A165590.D	106	95	102	103
JC14083-7	2A165591.D	105	95	103	102
JC14083-8	2A165617.D	105	96	103	103
JC14083-9	2A165593.D	106	97	103	102
JC14083-10	2A165592.D	105	96	104	104
JC14083-11	2A165601.D	105	96	103	102
JC14083-12	3D117221.D	118	117	101	95
JC14083-13	3D117222.D	118	119	100	95
JC14083-14	3D117223.D	118	119	101	95
JC14083-15	2A165602.D	105	95	104	101
JC14083-16	2A165603.D	105	94	103	102
JC14083-17	2A165604.D	105	96	104	102
JC14083-18	2A165618.D	105	96	103	101
JC14083-19	2A165599.D	105	94	103	101
JC14083-12MS	3D117228.D	110	110	105	105
JC14083-12MSD	3D117229.D	109	109	103	104
JC14083-2MS	2A165595.D	105	96	104	102
JC14083-3DUP	2A165597.D	106	95	102	102
JC14083-8MS	2A165622.D	106	95	105	103
JC14167-1DUP	2A165621.D	106	96	103	103
V2A7042-BS	2A165585.D	106	96	104	104
V2A7042-MB	2A165584.D	106	94	103	102
V2A7043-BS	2A165610.D	105	95	105	103
V2A7043-MB1	2A165609.D	105	95	102	102
V3D5014-BS	3D117217.D	109	108	105	101
V3D5014-MB	3D117216.D	111	111	101	95

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%
S4 = 4-Bromofluorobenzene	78-117%

Initial Calibration Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7005-ICC7005
Lab FileID: 2A164695.D

Response Factor Report Instrumen

Method : C:\MSDCHEM\1\METHODS\M2A7005.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jan 15 12:57:23 2016
Response via : Initial Calibration

Calibration Files
1 =2A164690.D 2 =2A164691.D 100 =2A164696.D 50 =2A164695.D
20 =2A164694.D 200 =2A164697.D 5 =2A164692.D 0.5 =2A164689.D
10 =2A164693.D 0.2 =2A164688.D = =

Compound	1	2	100	50	20	200	5	0.5	10	0.2	Avg	%RSD
1) I Tert Butyl Alcohol-d9 ----------ISTD----------												
2) tertiary butyl alcohol	1.106	1.249	1.162	1.201	1.176	1.093	1.122		1.262		1.171	5.42
3) Ethanol	0.117	0.087	0.086	0.091	0.096	0.067	0.088		0.100		0.091	15.51
4) 1,4-dioxane			0.096	0.091	0.092	0.089	0.089		0.100		0.093	4.77
5) I pentafluorobenzene ----------ISTD----------												
6) FREON 143A											0.000#	-1.00
7) chlorodifluoromethane	0.400	0.254	0.461	0.423	0.420	0.438	0.380		0.409		0.398	15.89
8) dichlorodifluoromethane			0.350	0.603	0.560	0.533	0.540	0.486	0.494		0.509	15.84
9) FREON 142B											0.000#	-1.00
10) chloromethane	0.483	0.522	0.600	0.571	0.523	0.548	0.513	0.683	0.512		0.551	11.04
11) vinyl chloride	0.287	0.383	0.534	0.496	0.455	0.494	0.438	0.342	0.433		0.429	18.52
12) bromomethane	0.275	0.287	0.302	0.293	0.290	0.275	0.294	0.284	0.290		0.288	3.04
13) chloroethane	0.120	0.185	0.236	0.231	0.216	0.221	0.207		0.208		0.203	18.26
14) trichlorofluoromethane	0.337	0.506	0.656	0.620	0.615	0.622	0.574		0.585		0.564	18.08
15) PENTANE											0.000#	-1.00
16) ethyl ether	0.182	0.157	0.182	0.177	0.177	0.186	0.166		0.164		0.174	5.89
17) FREON 141B											0.000#	-1.00
18) acrolein	0.064	0.065	0.063	0.064	0.064	0.066	0.062	0.063	0.065		0.064	1.91
19) 1,1-dichloroethene	0.583	0.342	0.533	0.521	0.531	0.541	0.518		0.488		0.507	14.16
20) acetone			0.093	0.095	0.107	0.090	0.126		0.118		0.105	14.10
21) allyl chloride	0.177	0.133	0.221	0.215	0.214	0.223	0.206		0.208		0.200	15.21
22) acetonitrile	0.047	0.043	0.031	0.032	0.039	0.030	0.035		0.035		0.037	16.75
23) iodomethane												

Initial Calibration Summary

Job Number: JC14083 **Sample:** V2A7005-ICC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A164695.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
     0.745 0.529 0.715 0.701 0.692 0.714 0.686 0.524 0.653        0.662   12.21
24)  iso-butyl alcohol
                 0.013 0.013 0.012 0.013 0.012       0.012        0.012    3.20
25)  carbon disulfide
     1.211 0.750 1.165 1.115 1.095 1.178 1.045 0.905 0.988        1.050   14.14
26)  methylene chloride
     0.471 0.316 0.399 0.393 0.394 0.401 0.388       0.368        0.391   10.92
27)  methyl acetate
                 0.049 0.051 0.052 0.051 0.038       0.050        0.048   10.96
28)  methyl tert butyl ether
     1.259 0.985 1.109 1.088 1.081 1.102 1.033 0.956 1.039 1.027  1.068    7.83
29)  trans-1,2-dichloroethene
     0.639 0.413 0.580 0.572 0.579 0.582 0.563 0.453 0.549        0.548   12.81
30)  di-isopropyl ether
     1.432 1.139 1.396 1.369 1.339 1.408 1.247 1.068 1.331        1.303    9.71
31)  2-butanone
                 0.039 0.038 0.040 0.038 0.036       0.034        0.038    6.20
32)  1,1-dichloroethane
     0.802 0.575 0.736 0.727 0.738 0.731 0.714 0.551 0.691        0.696   11.68
33)  chloroprene
     0.559 0.364 0.599 0.594 0.576 0.613 0.542       0.579        0.553   14.40
34)  acrylonitrile
     0.140 0.122 0.124 0.126 0.130 0.125 0.125 0.120 0.122        0.126    4.61
35)  vinyl acetate
                 0.068 0.066 0.068 0.068 0.054       0.065        0.065    8.56
36)  ethyl tert-butyl ether
     1.339 1.107 1.321 1.290 1.249 1.336 1.159 1.052 1.249        1.233    8.48
37)  ethyl acetate
                 0.050 0.051 0.047 0.050 0.037       0.051        0.048   11.12
38)  2,2-dichloropropane
     0.675 0.474 0.624 0.616 0.622 0.601 0.617 0.506 0.566        0.589   10.76
39)  cis-1,2-dichloroethene
     0.568 0.384 0.444 0.437 0.446 0.445 0.456 0.399 0.423        0.445   11.69
40)  methylacrylate
                 0.051 0.051 0.053 0.051 0.047       0.049        0.050    4.02
41)  propionitrile
     0.055 0.047 0.047 0.048 0.052 0.047 0.048 0.044 0.048        0.048    6.90
42)  bromochloromethane
     0.235 0.180 0.228 0.222 0.226 0.230 0.220       0.214        0.219    7.79
43)  tetrahydrofuran
           0.093 0.120 0.121 0.124 0.120 0.119       0.116        0.116    8.97
44)  chloroform
     0.519 0.357 0.476 0.467 0.468 0.475 0.461 0.411 0.448        0.453   10.14
45)  t-butyl formate
                                                                  0.000#  -1.00
46)  dibromofluoromethane (s)
     0.365 0.367 0.365 0.364 0.366 0.371 0.365 0.363 0.364 0.361  0.365    0.77
47)  1,2-dichloroethane-d4 (s)
     0.415 0.419 0.415 0.421 0.421 0.428 0.421 0.413 0.419 0.413  0.419    1.13
48)  freon 113
                 0.254 0.240 0.245 0.252 0.225       0.229        0.241    4.94
49)  methacrylonitrile
     0.254 0.214 0.232 0.234 0.233 0.236 0.227       0.222        0.231    5.02
50)  1,1,1-trichloroethane
     0.695 0.428 0.653 0.639 0.636 0.649 0.637 0.478 0.597        0.601   14.74
51)  Cyclohexane
     0.566 0.334 0.573 0.545 0.571 0.569 0.556       0.507        0.528   15.41

52) I   1,4-difluorobenzene   ----------------ISTD---------------------
53)  epichlorohydrin
```

6.9.1, 6

Initial Calibration Summary

Job Number: JC14083 **Sample:** V2A7005-ICC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A164695.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.029	0.030	0.028	0.028	0.028	0.027	0.027		0.028		0.028	3.71
54)	n-butyl alcohol											
	0.009	0.009	0.007	0.008	0.009	0.007	0.007	0.007	0.008		0.008#	10.55
55)	carbon tetrachloride											
	0.588	0.385	0.579	0.565	0.565	0.556	0.549	0.399	0.528		0.524	14.62
56)	1,1-dichloropropene											
	0.548	0.343	0.497	0.493	0.491	0.494	0.486		0.464		0.477	12.38
57)	hexane											
			0.383	0.372	0.384	0.390	0.347		0.361		0.373	4.31
58)	TERT AMYL ALCOHOL											
											0.000#	-1.00
59)	2,2,4-TRIMETHYLPENTANE											
			1.205	1.140	1.175	1.196	1.108		1.081		1.151	4.34
60)	benzene											
	1.610	1.123	1.415	1.410	1.408	1.396	1.389	1.313	1.360	1.929	1.435	14.65
61)	tert-amyl methyl ether											
	0.234	0.229	0.258	0.253	0.242	0.251	0.235		0.254		0.244	4.51
62)	heptane											
			0.230	0.219	0.225	0.233	0.215		0.213		0.222	3.59
63)	isopropyl acetate											
		0.726	0.774	0.788	0.789	0.784	0.735		0.787		0.769	3.52
64)	1,2-dichloroethane											
	0.610	0.461	0.528	0.534	0.535	0.518	0.537	0.475	0.518		0.524	8.01
65)	Ethyl Acrylate											
											0.000#	-1.00
66)	trichloroethene											
	0.404	0.277	0.375	0.367	0.370	0.370	0.379		0.353		0.362	10.32
67)	TERT-AMYL ETHYL ETHER											
											0.000#	-1.00
68)	methyl methacrylate											
		0.071	0.079	0.078	0.078	0.077	0.066		0.073		0.075	6.47
69)	2-nitropropane											
		0.123	0.129	0.131	0.130	0.124	0.131		0.127		0.128	2.57
70)	2-chloroethyl vinyl ether											
	0.201	0.190	0.187	0.186	0.180	0.182	0.169	0.160	0.186		0.182	6.57
71)	1,2-dichloropropane											
	0.401	0.294	0.373	0.370	0.370	0.365	0.373	0.284	0.355		0.354	10.96
72)	dibromomethane											
	0.256	0.187	0.226	0.225	0.226	0.223	0.220		0.216		0.222	8.42
73)	methylcyclohexane											
			0.537	0.502	0.518	0.533	0.486		0.482		0.510	4.59
74)	bromodichloromethane											
	0.576	0.401	0.531	0.513	0.509	0.526	0.499	0.401	0.485		0.494	11.78
75)	cis-1,3-dichloropropene											
	0.611	0.488	0.611	0.598	0.592	0.599	0.575	0.502	0.559		0.571	8.05
76)	toluene-d8 (s)											
	1.107	1.107	1.123	1.113	1.095	1.120	1.116	1.114	1.114	1.117	1.113	0.72
77)	4-methyl-2-pentanone											
		0.103	0.110	0.111	0.113	0.107	0.102		0.113		0.108	4.16
78)	toluene											
	0.934	0.633	0.840	0.816	0.820	0.826	0.801	0.648	0.767	0.995	0.808	13.71
79)	3-methyl-1-butanol											
	0.015	0.013	0.012	0.013	0.014	0.011	0.012	0.013	0.013		0.013	9.40
80)	trans-1,3-dichloropropene											
	0.547	0.429	0.552	0.546	0.534	0.540	0.526	0.484	0.520		0.520	7.64
81)	ethyl methacrylate											
	0.396	0.334	0.395	0.389	0.380	0.391	0.360		0.366		0.376	5.74
82)	1,1,2-trichloroethane											
	0.270	0.228	0.252	0.250	0.242	0.249	0.251	0.216	0.234		0.244	6.55
83)	2-hexanone											

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Initial Calibration Summary

Job Number: JC14083 **Sample:** V2A7005-ICC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A164695.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
          0.088 0.097 0.098 0.109 0.094 0.100       0.105        0.099    6.88

 84) I   chlorobenzene-d5       ----------------ISTD---------------------
 85)  tetrachloroethene
      0.462 0.308 0.414 0.406 0.418 0.401 0.417 0.314 0.393        0.392   12.77
 86)  1,3-dichloropropane
      0.714 0.553 0.611 0.600 0.625 0.596 0.599 0.566 0.602        0.608    7.52
 87)  butyl acetate
      0.252 0.240 0.230 0.232 0.226 0.226 0.198       0.237        0.230    6.82
 88)  3,3-dimethyl-1-butanol
      0.039 0.038 0.033 0.035 0.038 0.029 0.032 0.035 0.034        0.035    9.35
 89)  dibromochloromethane
      0.518 0.418 0.520 0.508 0.504 0.521 0.484 0.432 0.472        0.486    7.94
 90)  1,2-dibromoethane
      0.391 0.341 0.393 0.388 0.388 0.387 0.383 0.330 0.373        0.375    6.19
 91)  chlorobenzene
      1.283 0.983 1.163 1.145 1.169 1.140 1.146 0.995 1.106 1.479  1.161   12.14
 92)  1,1,1,2-tetrachloroethane
      0.510 0.383 0.493 0.478 0.481 0.474 0.484 0.378 0.470        0.461   10.24
 93)  ethylbenzene
      2.204 1.542 1.946 1.910 1.952 1.911 1.925 1.690 1.829 2.394  1.930   12.34
 94)  m,p-xylene
      0.816 0.572 0.738 0.723 0.751 0.725 0.737 0.588 0.696 0.830  0.718   11.62
 95)  o-xylene
      0.761 0.537 0.732 0.726 0.727 0.722 0.715 0.564 0.671 0.783  0.694   11.69
 96)  styrene
      1.259 0.983 1.264 1.234 1.235 1.238 1.237 0.974 1.170 1.392  1.199   10.74
 97)  bromoform
      0.326 0.293 0.363 0.352 0.343 0.357 0.337       0.330        0.338    6.53

 98) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
 99)  isopropylbenzene
      3.976 2.761 3.540 3.504 3.492 3.568 3.546 2.930 3.298 4.171  3.478   12.09
100)  4-bromofluorobenzene (s)
      0.922 0.931 0.910 0.918 0.904 0.931 0.926 0.935 0.923 0.915  0.921    1.08
101)  cyclohexanone(Tis compound does not meet initial calibration criteria)
                0.010 0.011 0.013       0.015       0.013        0.012   15.85
102)  bromobenzene
      1.158 0.894 1.017 1.024 1.029 0.999 1.052 0.831 0.992        1.000    9.30
103)  1,1,2,2-tetrachloroethane
      0.906 0.793 0.819 0.820 0.814 0.827 0.838 0.702 0.821        0.815    6.46
104)  trans-1,4-dichloro-2-butene
      0.205 0.203 0.256 0.255 0.256 0.257 0.223       0.254        0.239   10.16
105)  1,2,3-trichloropropane
            0.209 0.217 0.219 0.224 0.217 0.220       0.222        0.218    2.20
106)  n-propylbenzene
      1.042 0.712 0.907 0.893 0.901 0.903 0.942 0.687 0.857        0.872   12.65
107)  2-chlorotoluene
      1.026 0.752 0.874 0.885 0.887 0.869 0.908       0.816        0.877    8.89
108)  4-chlorotoluene
      1.039 0.722 0.904 0.896 0.894 0.902 0.947       0.860        0.895    9.86
109)  1,3,5-trimethylbenzene
      3.160 2.338 3.021 2.956 2.939 3.033 2.986 2.388 2.839        2.851   10.16
110)  tert-butylbenzene
      2.766 2.032 2.636 2.577 2.565 2.630 2.628 2.071 2.434        2.482   10.44
111)  pentachloroethane
      0.690 0.560 0.708 0.686 0.670 0.698 0.668       0.652        0.667    7.00
112)  1,2,4-trimethylbenzene
      3.308 2.459 3.066 3.029 2.995 3.083 3.006 2.472 2.884        2.922    9.66
113)  sec-butylbenzene
```

6.9.1

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Initial Calibration Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7005-ICC7005
Lab FileID: 2A164695.D

```
      4.039 2.881 3.833 3.743 3.690 3.840 3.749 2.959 3.510        3.583   11.20
114)  1,3-dichlorobenzene
      2.189 1.622 1.957 1.924 1.933 1.930 1.943 1.668 1.879        1.894    8.81
115)  p-isopropyltoluene
      3.594 2.624 3.355 3.273 3.267 3.348 3.247 2.330 3.064        3.123   12.74
116)  1,4-dichlorobenzene
      2.288 1.690 1.958 1.943 1.920 1.924 1.926 1.763 1.883        1.922    8.56
117)  1,2-dichlorobenzene
      2.158 1.638 1.918 1.890 1.858 1.875 1.827 1.542 1.796        1.833    9.50
118)  benzyl chloride
      1.730 1.671 1.715 1.684 1.638 1.703 1.520       1.671        1.667    3.96
119)  n-butylbenzene
      1.732 1.274 1.707 1.650 1.669 1.723 1.644 1.385 1.511        1.589   10.26
120)  1,2-dibromo-3-chloropropane
      0.192 0.139 0.170 0.167 0.166 0.167 0.157       0.155        0.164    9.09
121)  1,3,5-TRICHLOROBENZENE
      1.894 1.428 1.822 1.767 1.707 1.744 1.649 1.464 1.640        1.680    9.22
122)  1,2,4-trichlorobenzene
      1.839 1.333 1.710 1.656 1.578 1.636 1.515 1.424 1.559        1.583    9.55
123)  hexachlorobutadiene
      0.892 0.643 0.853 0.828 0.804 0.833 0.789 0.612 0.765        0.780   12.08
124)  naphthalene
      3.212 2.507 3.037 3.025 2.873 2.952 2.672 2.466 2.808        2.839    8.85
125)  1,2,3-trichlorobenzene
      1.638 1.247 1.551 1.517 1.444 1.471 1.392 1.254 1.408        1.436    8.99
126)  hexachloroethane
      0.686 0.483 0.719 0.688 0.640 0.720 0.634       0.597        0.646   12.17
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M2A7005.M        Fri Jan 15 13:04:31 2016   MS2A
```

6.9.1

6

Initial Calibration Verification

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7005-ICV7005
Lab FileID: 2A164700.D

Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\2A164700.D Vial: 14
Acq On : 12 Jan 2016 8:51 pm Operator: tracyk
Sample : icv7005-50 Inst : Instrumen
Misc : MS96673,V2A7005,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7005.M (RTE Integrator)
Title : Method SW846 8260B, ZB624 60mx0.25mmx1.4um
Last Update : Fri Jan 15 12:57:23 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	98	0.00	8.33
2	M	tertiary butyl alcohol	1.171	1.269	-8.4	103	0.00	8.46
3	m	Ethanol	0.091	0.089	2.2	96	-0.02	6.87
4	M	1,4-dioxane	0.093	0.082	11.8	89	0.00	12.39
5	I	pentafluorobenzene	1.000	1.000	0.0	104	0.00	10.75
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.398	0.423	-6.3	104	-0.01	4.34
8	M	dichlorodifluoromethane	0.509	0.537	-5.5	100	-0.02	4.30
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.551	0.523	5.1	96	-0.01	4.72
11	M	vinyl chloride	0.429	0.470	-9.6	99	-0.01	5.02
12	M	bromomethane	0.288	0.282	2.1	100	-0.02	5.78
13	M	chloroethane	0.203	0.225	-10.8	101	0.00	6.00
14	M	trichlorofluoromethane	0.564	0.618	-9.6	104	0.00	6.54
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.174	0.190	-9.2	112	0.00	7.02
17		FREON 141B		----------NA----------				
18	M	acrolein	0.064	0.067	-4.7	108	-0.01	7.34
19	M	1,1-dichloroethene	0.507	0.527	-3.9	106	0.00	7.50
20	M	acetone	0.105	0.100	4.8	109	0.00	7.60
21	M	allyl chloride	0.200	0.208	-4.0	101	0.00	8.13
22	M	acetonitrile	0.037	0.033	10.8	105	0.00	8.13
23	M	iodomethane	0.662	0.690	-4.2	103	0.00	7.84
24	M	iso-butyl alcohol	0.012	0.013	-8.3	106	0.00	11.31
25	M	carbon disulfide	1.050	1.155	-10.0	108	-0.01	7.96
26	M	methylene chloride	0.391	0.400	-2.3	106	0.00	8.36
27	M	methyl acetate	0.048	0.053	-10.4	107	0.00	8.12
28	M	methyl tert butyl ether	1.068	1.128	-5.6	109	0.00	8.70
29	M	trans-1,2-dichloroethene	0.548	0.565	-3.1	103	0.00	8.77
30	M	di-isopropyl ether	1.303	1.503	-15.3	115	0.00	9.36
31	M	2-butanone	0.038	0.039	-2.6	107	0.00	10.18
32	M	1,1-dichloroethane	0.696	0.747	-7.3	107	0.00	9.40
33	M	chloroprene	0.553	0.573	-3.6	101	0.00	9.51
34	M	acrylonitrile	0.126	0.134	-6.3	111	0.00	8.75
35	M	vinyl acetate	0.065	0.071	-9.2	113	-0.01	9.38
36	M	ethyl tert-butyl ether	1.233	1.361	-10.4	110	0.00	9.86
37	M	ethyl acetate	0.048	0.052	-8.3	108	0.00	10.19
38	M	2,2-dichloropropane	0.589	0.573	2.7	97	0.00	10.20
39	M	cis-1,2-dichloroethene	0.445	0.437	1.8	104	0.00	10.21
40		methylacrylate	0.050	0.050	0.0	102	0.00	10.28
41	M	propionitrile	0.048	0.048	0.0	104	0.00	10.31

Initial Calibration Verification

Job Number: JC14083 **Sample:** V2A7005-ICV7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A164700.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane	0.219	0.223	-1.8	104	0.00	10.55
43	M	tetrahydrofuran	0.116	0.122	-5.2	105	0.00	10.58
44	M	chloroform	0.453	0.472	-4.2	106	0.00	10.61
45		t-butyl formate		----------NA----------				
46	S	dibromofluoromethane (s)	0.365	0.367	-0.5	105	0.00	10.82
47	S	1,2-dichloroethane-d4 (s)	0.419	0.415	1.0	103	0.00	11.25
48	M	freon 113	0.241	0.254	-5.4	110	0.00	7.45
49	M	methacrylonitrile	0.231	0.233	-0.9	104	0.00	10.49
50	M	1,1,1-trichloroethane	0.601	0.647	-7.7	106	0.00	10.85
51	M	Cyclohexane	0.528	0.563	-6.6	108	0.00	10.91
52	I	1,4-difluorobenzene	1.000	1.000	0.0	104	0.00	11.68
53	M	epichlorohydrin	0.028	0.028	0.0	104	0.00	12.90
54	M	n-butyl alcohol	0.008	0.007#	12.5	98	0.00	11.82
55	M	carbon tetrachloride	0.524	0.555	-5.9	102	0.00	11.06
56	M	1,1-dichloropropene	0.477	0.526	-10.3	111	0.00	11.04
57	M	hexane	0.373	0.348	6.7	97	0.00	9.07
58		TERT AMYL ALCOHOL		----------NA----------				
59		2,2,4-TRIMETHYLPENTANE	1.151	1.165	-1.2	106	0.00	11.27
60	M	benzene	1.435	1.426	0.6	105	0.00	11.31
61	M	tert-amyl methyl ether	0.244	0.265	-8.6	109	0.00	11.33
62	M	heptane	0.222	0.227	-2.3	108	0.00	11.44
63	M	isopropyl acetate	0.769	0.865	-12.5	114	0.00	11.23
64	M	1,2-dichloroethane	0.524	0.528	-0.8	103	0.00	11.34
65	M	Ethyl Acrylate		----------NA----------				
66	M	trichloroethene	0.362	0.373	-3.0	106	0.00	12.01
67		TERT-AMYL ETHYL ETHER		----------NA----------				
68	M	methyl methacrylate	0.075	0.082	-9.3	108	0.00	12.27
69	M	2-nitropropane	0.128	0.134	-4.7	106	0.00	12.77
70	M	2-chloroethyl vinyl ether	0.182	0.198	-8.8	111	0.00	12.77
71	M	1,2-dichloropropane	0.354	0.374	-5.6	105	0.00	12.28
72	M	dibromomethane	0.222	0.220	0.9	102	0.00	12.43
73	M	methylcyclohexane	0.510	0.514	-0.8	106	0.00	12.20
74	M	bromodichloromethane	0.494	0.518	-4.9	105	0.00	12.55
75	M	cis-1,3-dichloropropene	0.571	0.593	-3.9	103	0.00	12.98
76	S	toluene-d8 (s)	1.113	1.121	-0.7	105	0.00	13.24
77	M	4-methyl-2-pentanone	0.108	0.116	-7.4	109	0.00	13.07
78	M	toluene	0.808	0.825	-2.1	105	0.00	13.31
79	M	3-methyl-1-butanol	0.013	0.013	0.0	101	0.00	13.09
80	M	trans-1,3-dichloropropene	0.520	0.516	0.8	98	0.00	13.51
81	M	ethyl methacrylate	0.376	0.389	-3.5	104	0.00	13.48
82	M	1,1,2-trichloroethane	0.244	0.248	-1.6	103	0.00	13.71
83	M	2-hexanone	0.099	0.101	-2.0	107	0.00	13.86
84	I	chlorobenzene-d5	1.000	1.000	0.0	104	0.00	14.67
85	M	tetrachloroethene	0.392	0.417	-6.4	106	0.00	13.86
86	M	1,3-dichloropropane	0.608	0.605	0.5	104	0.00	13.89
87	M	butyl acetate	0.230	0.248	-7.8	110	0.00	13.92
88		3,3-dimethyl-1-butanol	0.035	0.035	0.0	104	0.00	14.02
89	M	dibromochloromethane	0.486	0.505	-3.9	103	0.00	14.14
90	M	1,2-dibromoethane	0.375	0.384	-2.4	102	0.00	14.28
91	M	chlorobenzene	1.161	1.171	-0.9	106	0.00	14.70
92	M	1,1,1,2-tetrachloroethane	0.461	0.466	-1.1	101	0.00	14.75
93	M	ethylbenzene	1.930	1.932	-0.1	105	0.00	14.73
94	M	m,p-xylene	0.718	0.730	-1.7	105	0.00	14.83
95	M	o-xylene	0.694	0.737	-6.2	105	0.00	15.23
96	M	styrene	1.199	1.213	-1.2	102	0.00	15.24
97	M	bromoform	0.338	0.345	-2.1	102	0.00	15.50
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	102	0.00	16.83

Initial Calibration Verification

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7005-ICV7005
Lab FileID: 2A164700.D

99	M	isopropylbenzene	3.478	3.506	-0.8	102	0.00	15.53
100	S	4-bromofluorobenzene (s)	0.921	0.925	-0.4	103	0.00	15.74
101		cyclohexanone	0.012	0.008#	33.3#	78	0.00	15.72
102	M	bromobenzene	1.000	1.025	-2.5	102	0.00	15.93
103	M	1,1,2,2-tetrachloroethane	0.815	0.829	-1.7	103	0.00	15.84
104	M	trans-1,4-dichloro-2-bute	0.239	0.247	-3.3	99	0.00	15.87
105	M	1,2,3-trichloropropane	0.218	0.214	1.8	100	0.00	15.91
106	M	n-propylbenzene	0.872	0.933	-7.0	107	0.00	15.92
107	M	2-chlorotoluene	0.877	0.854	2.6	99	0.00	16.06
108	M	4-chlorotoluene	0.895	0.893	0.2	102	0.00	16.16
109	M	1,3,5-trimethylbenzene	2.851	2.945	-3.3	102	0.00	16.05
110	M	tert-butylbenzene	2.482	2.598	-4.7	103	0.00	16.38
111	M	pentachloroethane	0.667	0.681	-2.1	102	0.00	16.47
112	M	1,2,4-trimethylbenzene	2.922	3.039	-4.0	103	0.00	16.42
113	M	sec-butylbenzene	3.583	3.710	-3.5	101	0.00	16.57
114	M	1,3-dichlorobenzene	1.894	1.902	-0.4	101	0.00	16.77
115	M	p-isopropyltoluene	3.123	3.298	-5.6	103	0.00	16.68
116	M	1,4-dichlorobenzene	1.922	1.939	-0.9	102	0.00	16.85
117	M	1,2-dichlorobenzene	1.833	1.892	-3.2	102	0.00	17.23
118	M	benzyl chloride	1.667	1.619	2.9	98	0.00	16.96
119	M	n-butylbenzene	1.589	1.641	-3.3	102	0.00	17.08
120	M	1,2-dibromo-3-chloropropa	0.164	0.165	-0.6	101	0.00	18.01
121		1,3,5-TRICHLOROBENZENE	1.680	1.782	-6.1	103	0.00	18.18
122	M	1,2,4-trichlorobenzene	1.583	1.678	-6.0	104	0.00	18.83
123	M	hexachlorobutadiene	0.780	0.827	-6.0	102	0.00	18.93
124	M	naphthalene	2.839	2.994	-5.5	101	0.00	19.13
125	M	1,2,3-trichlorobenzene	1.436	1.484	-3.3	100	0.00	19.37
126	M	hexachloroethane	0.646	0.690	-6.8	103	0.00	17.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2A164695.D M2A7005.M Fri Jan 15 13:04:31 2016 MS2A

6.9.2 6

Continuing Calibration Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V2A7042-CC7005
Lab FileID: 2A165582.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\2A165582.D Vial: 3
Acq On : 13 Feb 2016 10:30 am Operator: tracyk
Sample : cc7005-20 Inst : Instrumen
Misc : MS98332,V2A7042,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7005.M (RTE Integrator)
Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jan 25 12:37:27 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	96	0.00	8.33
2	M	tertiary butyl alcohol	1.171	1.210	-3.3	98	-0.01	8.46
3	m	Ethanol	0.091	0.100	-9.9	99	0.00	6.89
4	M	1,4-dioxane	0.093	0.107	-15.1	111	0.00	12.38
5	I	pentafluorobenzene	1.000	1.000	0.0	98	0.00	10.75
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.398	0.333	16.3	77	0.00	4.34
8	M	dichlorodifluoromethane	0.509	0.463	9.0	85	0.00	4.31
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.551	0.506	8.2	94	-0.01	4.72
11	M	vinyl chloride	0.429	0.499	-16.3	107	0.00	5.03
12	M	bromomethane	0.288	0.340	-18.1	115	0.00	5.80
13	M	chloroethane	0.203	0.260	-28.1#	118	0.00	6.00
14	M	trichlorofluoromethane	0.564	0.694	-23.0#	110	-0.01	6.53
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.174	0.202	-16.1	112	0.00	7.02
17		FREON 141B		----------NA----------				
18	M	acrolein	0.064	0.064	0.0	98	0.00	7.34
19	M	1,1-dichloroethene	0.507	0.545	-7.5	100	0.00	7.51
20	M	acetone	0.105	0.101	3.8	92	0.00	7.60
21	M	allyl chloride	0.200	0.211	-5.5	96	0.00	8.13
22	M	acetonitrile	0.037	0.025	32.4#	64	0.00	8.12
23	M	iodomethane	0.662	0.758	-14.5	107	0.00	7.84
24	M	iso-butyl alcohol	0.012	0.012	0.0	93	0.00	11.31
25	M	carbon disulfide	1.050	1.194	-13.7	107	-0.01	7.96
26	M	methylene chloride	0.391	0.401	-2.6	99	0.00	8.36
27	M	methyl acetate	0.048	0.052	-8.3	98	0.00	8.12
28	M	methyl tert butyl ether	1.068	1.066	0.2	96	0.00	8.70
29	M	trans-1,2-dichloroethene	0.548	0.541	1.3	91	0.00	8.77
30	M	di-isopropyl ether	1.303	1.037	20.4#	76	0.00	9.36
31	M	2-butanone	0.038	0.039	-2.6	94	0.00	10.18
32	M	1,1-dichloroethane	0.696	0.675	3.0	89	0.00	9.41
33	M	chloroprene	0.553	0.500	9.6	85	0.00	9.51
34	M	acrylonitrile	0.126	0.114	9.5	86	0.00	8.76
35	M	vinyl acetate	0.065	0.066	-1.5	95	0.00	9.39
36	M	ethyl tert-butyl ether	1.233	1.101	10.7	86	0.00	9.86
37	M	ethyl acetate	0.048	0.039	18.8	83	0.00	10.19
38	M	2,2-dichloropropane	0.589	0.661	-12.2	104	-0.01	10.19
39	M	cis-1,2-dichloroethene	0.445	0.453	-1.8	99	0.00	10.21
40		methylacrylate	0.050	0.050	0.0	92	0.00	10.28
41	M	propionitrile	0.048	0.046	4.2	87	0.00	10.31

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V2A7042-CC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A165582.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane	0.219	0.246	-12.3	106	0.00	10.55
43	M	tetrahydrofuran	0.116	0.100	13.8	79	0.00	10.58
44	M	chloroform	0.453	0.480	-6.0	100	0.00	10.61
45		t-butyl formate		----------NA----------				
46	S	dibromofluoromethane (s)	0.365	0.383	-4.9	102	0.00	10.82
47	S	1,2-dichloroethane-d4 (s)	0.419	0.399	4.8	93	0.00	11.25
48	M	freon 113	0.241	0.295	-22.4#	118	0.00	7.46
49	M	methacrylonitrile	0.231	0.181	21.6#	76	0.00	10.50
50	M	1,1,1-trichloroethane	0.601	0.652	-8.5	100	0.00	10.85
51	M	Cyclohexane	0.528	0.550	-4.2	94	0.00	10.91
52	I	1,4-difluorobenzene	1.000	1.000	0.0	99	0.00	11.68
53	M	epichlorohydrin	0.028	0.026	7.1	91	0.00	12.90
54	M	n-butyl alcohol	0.008	0.008#	0.0	92	0.00	11.82
55	M	carbon tetrachloride	0.524	0.573	-9.4	100	0.00	11.05
56	M	1,1-dichloropropene	0.477	0.472	1.0	95	0.00	11.03
57	M	hexane	0.373	0.320	14.2	82	0.00	9.07
58		TERT AMYL ALCOHOL		----------NA----------				
59		2,2,4-TRIMETHYLPENTANE	1.151	1.012	12.1	85	0.00	11.27
60	M	benzene	1.435	1.377	4.0	97	0.00	11.31
61	M	tert-amyl methyl ether	0.244	0.234	4.1	95	0.00	11.33
62	M	heptane	0.222	0.201	9.5	88	0.00	11.44
63	M	isopropyl acetate	0.769	0.622	19.1	78	0.00	11.23
64	M	1,2-dichloroethane	0.524	0.493	5.9	91	0.00	11.34
65	M	Ethyl Acrylate		----------NA----------				
66	M	trichloroethene	0.362	0.378	-4.4	101	0.00	12.01
67		TERT-AMYL ETHYL ETHER		----------NA----------				
68	M	methyl methacrylate	0.075	0.081	-8.0	103	0.00	12.27
69	M	2-nitropropane	0.128	0.113	11.7	85	0.00	12.77
70	M	2-chloroethyl vinyl ether	0.182	0.171	6.0	94	0.00	12.77
71	M	1,2-dichloropropane	0.354	0.329	7.1	88	0.00	12.27
72	M	dibromomethane	0.222	0.226	-1.8	99	0.00	12.43
73	M	methylcyclohexane	0.510	0.492	3.5	94	0.00	12.20
74	M	bromodichloromethane	0.494	0.511	-3.4	99	0.00	12.55
75	M	cis-1,3-dichloropropene	0.571	0.577	-1.1	96	0.00	12.98
76	S	toluene-d8 (s)	1.113	1.152	-3.5	104	0.00	13.24
77	M	4-methyl-2-pentanone	0.108	0.099	8.3	87	-0.01	13.06
78	M	toluene	0.808	0.826	-2.2	99	0.00	13.31
79	M	3-methyl-1-butanol	0.013	0.013	0.0	94	0.00	13.09
80	M	trans-1,3-dichloropropene	0.520	0.537	-3.3	99	0.00	13.51
81	M	ethyl methacrylate	0.376	0.354	5.9	92	0.00	13.48
82	M	1,1,2-trichloroethane	0.244	0.249	-2.0	102	0.00	13.71
83	M	2-hexanone	0.099	0.085	14.1	77	0.00	13.86
84	I	chlorobenzene-d5	1.000	1.000	0.0	103	0.00	14.67
85	M	tetrachloroethene	0.392	0.421	-7.4	104	0.00	13.86
86	M	1,3-dichloropropane	0.608	0.576	5.3	95	0.00	13.88
87	M	butyl acetate	0.230	0.189	17.8	86	0.00	13.91
88		3,3-dimethyl-1-butanol	0.035	0.033	5.7	91	0.00	14.02
89	M	dibromochloromethane	0.486	0.519	-6.8	106	0.00	14.14
90	M	1,2-dibromoethane	0.375	0.404	-7.7	107	0.00	14.28
91	M	chlorobenzene	1.161	1.177	-1.4	104	0.00	14.69
92	M	1,1,1,2-tetrachloroethane	0.461	0.506	-9.8	108	0.00	14.75
93	M	ethylbenzene	1.930	1.896	1.8	100	0.00	14.73
94	M	m,p-xylene	0.718	0.742	-3.3	102	0.00	14.83
95	M	o-xylene	0.694	0.728	-4.9	103	0.00	15.22
96	M	styrene	1.199	1.232	-2.8	103	0.00	15.24
97	M	bromoform	0.338	0.367	-8.6	110	0.00	15.50
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	101	0.00	16.83

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V2A7042-CC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A165582.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

99	M	isopropylbenzene	3.478	3.584	-3.0	103	0.00	15.53
100	S	4-bromofluorobenzene (s)	0.921	0.936	-1.6	104	0.00	15.74
101		cyclohexanone	0.012	0.029	-141.7#	227#	0.00	15.72
102	M	bromobenzene	1.000	1.064	-6.4	104	0.00	15.93
103	M	1,1,2,2-tetrachloroethane	0.815	0.826	-1.3	102	0.00	15.84
104	M	trans-1,4-dichloro-2-bute	0.239	0.215	10.0	84	0.00	15.87
105	M	1,2,3-trichloropropane	0.218	0.231	-6.0	104	0.00	15.91
106	M	n-propylbenzene	0.872	0.955	-9.5	107	0.00	15.92
107	M	2-chlorotoluene	0.877	0.930	-6.0	105	0.00	16.06
108	M	4-chlorotoluene	0.895	0.946	-5.7	106	0.00	16.15
109	M	1,3,5-trimethylbenzene	2.851	3.095	-8.6	106	0.00	16.05
110	M	tert-butylbenzene	2.482	2.665	-7.4	104	0.00	16.38
111	M	pentachloroethane	0.667	0.726	-8.8	109	0.00	16.47
112	M	1,2,4-trimethylbenzene	2.922	3.127	-7.0	105	0.00	16.42
113	M	sec-butylbenzene	3.583	3.853	-7.5	105	0.00	16.57
114	M	1,3-dichlorobenzene	1.894	2.041	-7.8	106	0.00	16.77
115	M	p-isopropyltoluene	3.123	3.432	-9.9	106	0.00	16.68
116	M	1,4-dichlorobenzene	1.922	2.041	-6.2	107	0.00	16.85
117	M	1,2-dichlorobenzene	1.833	1.982	-8.1	107	0.00	17.23
118	M	benzyl chloride	1.667	1.799	-7.9	110	0.00	16.96
119	M	n-butylbenzene	1.589	1.679	-5.7	101	0.00	17.08
120	M	1,2-dibromo-3-chloropropa	0.164	0.173	-5.5	105	0.00	18.01
121		1,3,5-TRICHLOROBENZENE	1.680	1.867	-11.1	110	0.00	18.18
122	M	1,2,4-trichlorobenzene	1.583	1.709	-8.0	109	0.00	18.83
123	M	hexachlorobutadiene	0.780	0.949	-21.7#	119	0.00	18.93
124	M	naphthalene	2.839	3.153	-11.1	110	0.00	19.13
125	M	1,2,3-trichlorobenzene	1.436	1.538	-7.1	107	0.00	19.37
126	M	hexachloroethane	0.646	0.693	-7.3	109	0.00	17.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2A164694.D M2A7005.M Mon Feb 15 15:33:09 2016 MS2A

6.9.3 6

Continuing Calibration Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7043-CC7005
Lab FileID: 2A165607.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\2A165607.D Vial: 2
Acq On : 15 Feb 2016 9:30 am Operator: tracyk
Sample : cc7005-20 Inst : Instrumen
Misc : MS98364,V2A7043,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M2A7005.M (RTE Integrator)
Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
Last Update : Mon Jan 25 12:37:27 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	81	-0.02	8.32
2	M	tertiary butyl alcohol	1.171	1.196	-2.1	83	-0.02	8.45
3	m	Ethanol	0.091	0.114	-25.3#	97	-0.02	6.87
4	M	1,4-dioxane	0.093	0.114	-22.6#	101	0.00	12.38
5	I	pentafluorobenzene	1.000	1.000	0.0	97	0.00	10.75
6		FREON 143A		----------NA----------				
7	M	chlorodifluoromethane	0.398	0.334	16.1	77	-0.01	4.34
8	M	dichlorodifluoromethane	0.509	0.441	13.4	80	-0.01	4.30
9		FREON 142B		----------NA----------				
10	M	chloromethane	0.551	0.481	12.7	89	-0.01	4.72
11	M	vinyl chloride	0.429	0.474	-10.5	101	-0.01	5.02
12	M	bromomethane	0.288	0.321	-11.5	107	-0.01	5.79
13	M	chloroethane	0.203	0.248	-22.2#	111	0.00	6.00
14	M	trichlorofluoromethane	0.564	0.652	-15.6	103	-0.01	6.53
15		PENTANE		----------NA----------				
16	M	ethyl ether	0.174	0.191	-9.8	104	0.00	7.01
17		FREON 141B		----------NA----------				
18	M	acrolein	0.064	0.064	0.0	97	-0.01	7.34
19	M	1,1-dichloroethene	0.507	0.491	3.2	89	0.00	7.50
20	M	acetone	0.105	0.090	14.3	82	-0.02	7.59
21	M	allyl chloride	0.200	0.211	-5.5	95	0.00	8.13
22	M	acetonitrile	0.037	0.025	32.4#	63	0.00	8.12
23	M	iodomethane	0.662	0.700	-5.7	98	0.00	7.83
24	M	iso-butyl alcohol	0.012	0.012	0.0	90	0.00	11.31
25	M	carbon disulfide	1.050	1.013	3.5	89	-0.01	7.96
26	M	methylene chloride	0.391	0.401	-2.6	99	0.00	8.35
27	M	methyl acetate	0.048	0.049	-2.1	92	-0.01	8.12
28	M	methyl tert butyl ether	1.068	1.034	3.2	93	0.00	8.70
29	M	trans-1,2-dichloroethene	0.548	0.510	6.9	85	0.00	8.76
30	M	di-isopropyl ether	1.303	1.038	20.3#	75	0.00	9.36
31	M	2-butanone	0.038	0.034	10.5	82	0.00	10.19
32	M	1,1-dichloroethane	0.696	0.664	4.6	87	0.00	9.40
33	M	chloroprene	0.553	0.494	10.7	83	0.00	9.51
34	M	acrylonitrile	0.126	0.107	15.1	80	0.00	8.75
35	M	vinyl acetate	0.065	0.064	1.5	91	0.00	9.39
36	M	ethyl tert-butyl ether	1.233	1.108	10.1	86	0.00	9.86
37	M	ethyl acetate	0.048	0.035	27.1#	73	0.00	10.19
38	M	2,2-dichloropropane	0.589	0.635	-7.8	99	-0.01	10.19
39	M	cis-1,2-dichloroethene	0.445	0.440	1.1	95	0.00	10.21
40		methylacrylate	0.050	0.049	2.0	90	-0.01	10.27
41	M	propionitrile	0.048	0.041	14.6	77	0.00	10.30

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V2A7043-CC7005
Account: UTC United Technologies Corporation **Lab FileID:** 2A165607.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42	M	bromochloromethane	0.219	0.231	-5.5	99	0.00	10.55
43	M	tetrahydrofuran	0.116	0.090	22.4#	70	0.00	10.58
44	M	chloroform	0.453	0.473	-4.4	98	0.00	10.60
45		t-butyl formate		----------NA----------				
46	S	dibromofluoromethane (s)	0.365	0.379	-3.8	100	0.00	10.82
47	S	1,2-dichloroethane-d4 (s)	0.419	0.400	4.5	92	0.00	11.25
48	M	freon 113	0.241	0.304	-26.1#	120	0.00	7.46
49	M	methacrylonitrile	0.231	0.173	25.1#	72	0.00	10.49
50	M	1,1,1-trichloroethane	0.601	0.618	-2.8	94	0.00	10.85
51	M	Cyclohexane	0.528	0.501	5.1	85	0.00	10.91
52	I	1,4-difluorobenzene	1.000	1.000	0.0	97	0.00	11.68
53	M	epichlorohydrin	0.028	0.023	17.9	80	0.00	12.90
54	M	n-butyl alcohol	0.008	0.007#	12.5	74	0.00	11.82
55	M	carbon tetrachloride	0.524	0.565	-7.8	97	0.00	11.05
56	M	1,1-dichloropropene	0.477	0.450	5.7	89	0.00	11.03
57	M	hexane	0.373	0.323	13.4	82	0.00	9.07
58		TERT AMYL ALCOHOL		----------NA----------				
59		2,2,4-TRIMETHYLPENTANE	1.151	1.017	11.6	84	0.00	11.27
60	M	benzene	1.435	1.357	5.4	93	0.00	11.30
61	M	tert-amyl methyl ether	0.244	0.240	1.6	96	0.00	11.32
62	M	heptane	0.222	0.203	8.6	88	0.00	11.44
63	M	isopropyl acetate	0.769	0.619	19.5	76	0.00	11.22
64	M	1,2-dichloroethane	0.524	0.503	4.0	91	-0.01	11.33
65	M	Ethyl Acrylate		----------NA----------				
66	M	trichloroethene	0.362	0.368	-1.7	96	0.00	12.01
67		TERT-AMYL ETHYL ETHER		----------NA----------				
68	M	methyl methacrylate	0.075	0.078	-4.0	97	0.00	12.26
69	M	2-nitropropane	0.128	0.109	14.8	81	0.00	12.77
70	M	2-chloroethyl vinyl ether	0.182	0.176	3.3	95	0.00	12.77
71	M	1,2-dichloropropane	0.354	0.327	7.6	86	0.00	12.27
72	M	dibromomethane	0.222	0.224	-0.9	96	0.00	12.43
73	M	methylcyclohexane	0.510	0.495	2.9	93	0.00	12.20
74	M	bromodichloromethane	0.494	0.506	-2.4	96	0.00	12.55
75	M	cis-1,3-dichloropropene	0.571	0.574	-0.5	94	0.00	12.98
76	S	toluene-d8 (s)	1.113	1.159	-4.1	103	0.00	13.24
77	M	4-methyl-2-pentanone	0.108	0.092	14.8	79	-0.01	13.06
78	M	toluene	0.808	0.812	-0.5	96	0.00	13.31
79	M	3-methyl-1-butanol	0.013	0.010	23.1#	71	0.00	13.09
80	M	trans-1,3-dichloropropene	0.520	0.530	-1.9	96	0.00	13.51
81	M	ethyl methacrylate	0.376	0.338	10.1	86	0.00	13.48
82	M	1,1,2-trichloroethane	0.244	0.246	-0.8	98	0.00	13.71
83	M	2-hexanone	0.099	0.081	18.2	72	0.00	13.86
84	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	14.67
85	M	tetrachloroethene	0.392	0.399	-1.8	97	0.00	13.86
86	M	1,3-dichloropropane	0.608	0.567	6.7	92	0.00	13.88
87	M	butyl acetate	0.230	0.176	23.5#	79	0.00	13.91
88		3,3-dimethyl-1-butanol	0.035	0.025	28.6#	67	0.00	14.02
89	M	dibromochloromethane	0.486	0.534	-9.9	107	0.00	14.13
90	M	1,2-dibromoethane	0.375	0.389	-3.7	102	0.00	14.27
91	M	chlorobenzene	1.161	1.173	-1.0	102	0.00	14.69
92	M	1,1,1,2-tetrachloroethane	0.461	0.505	-9.5	106	0.00	14.75
93	M	ethylbenzene	1.930	1.872	3.0	97	0.00	14.73
94	M	m,p-xylene	0.718	0.734	-2.2	99	0.00	14.83
95	M	o-xylene	0.694	0.724	-4.3	101	0.00	15.22
96	M	styrene	1.199	1.220	-1.8	100	0.00	15.23
97	M	bromoform	0.338	0.363	-7.4	107	0.00	15.50
98	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	16.83

Continuing Calibration Summary

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V2A7043-CC7005
Lab FileID: 2A165607.D

99	M	isopropylbenzene	3.478	3.514	-1.0	100	0.00	15.53
100	S	4-bromofluorobenzene (s)	0.921	0.931	-1.1	102	0.00	15.74
101		cyclohexanone	0.012	0.021	-75.0#	163	0.00	15.72
102	M	bromobenzene	1.000	1.075	-7.5	104	0.00	15.92
103	M	1,1,2,2-tetrachloroethane	0.815	0.801	1.7	98	0.00	15.84
104	M	trans-1,4-dichloro-2-bute	0.239	0.211	11.7	82	0.00	15.87
105	M	1,2,3-trichloropropane	0.218	0.220	-0.9	97	0.00	15.91
106	M	n-propylbenzene	0.872	0.913	-4.7	101	0.00	15.91
107	M	2-chlorotoluene	0.877	0.930	-6.0	104	0.00	16.06
108	M	4-chlorotoluene	0.895	0.936	-4.6	104	0.00	16.15
109	M	1,3,5-trimethylbenzene	2.851	3.038	-6.6	103	0.00	16.05
110	M	tert-butylbenzene	2.482	2.585	-4.1	100	0.00	16.38
111	M	pentachloroethane	0.667	0.728	-9.1	108	0.00	16.47
112	M	1,2,4-trimethylbenzene	2.922	3.081	-5.4	102	0.00	16.42
113	M	sec-butylbenzene	3.583	3.702	-3.3	100	0.00	16.57
114	M	1,3-dichlorobenzene	1.894	2.028	-7.1	104	0.00	16.77
115	M	p-isopropyltoluene	3.123	3.317	-6.2	101	0.00	16.68
116	M	1,4-dichlorobenzene	1.922	2.044	-6.3	106	0.00	16.85
117	M	1,2-dichlorobenzene	1.833	1.981	-8.1	106	0.00	17.23
118	M	benzyl chloride	1.667	1.745	-4.7	106	0.00	16.96
119	M	n-butylbenzene	1.589	1.634	-2.8	97	0.00	17.08
120	M	1,2-dibromo-3-chloropropa	0.164	0.152	7.3	91	0.00	18.01
121		1,3,5-TRICHLOROBENZENE	1.680	1.845	-9.8	107	0.00	18.18
122	M	1,2,4-trichlorobenzene	1.583	1.691	-6.8	106	0.00	18.83
123	M	hexachlorobutadiene	0.780	0.894	-14.6	110	0.00	18.93
124	M	naphthalene	2.839	2.995	-5.5	104	0.00	19.12
125	M	1,2,3-trichlorobenzene	1.436	1.532	-6.7	105	0.00	19.37
126	M	hexachloroethane	0.646	0.700	-8.4	109	0.00	17.47

(#) = Out of Range SPCC's out = 0 CCC's out = 0
2A164694.D M2A7005.M Mon Feb 15 15:01:01 2016 MS2A

6.9.4

6

Initial Calibration Summary

Job Number: JC14083 **Sample:** V3D4991-ICC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116729.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Factor Report MS3D

```
Method        : C:\msdchem\1\METHODS\M3D4991.M (RTE Integrator)
Title         : Method SW846 8260B, ZB 624 60m x 0.25mm x 1.4 um
Last Update   : Wed Jan 27 12:05:42 2016
Response via  : Initial Calibration

Calibration Files
5   =3D116726.D  0.5 =3D116723.D  2   =3D116725.D  50  =3D116729.D
100 =3D116730.D  1   =3D116724.D  200 =3D116731.D  20  =3D116728.D
10  =3D116727.D  0.2 =3D116722.D      =                =

Compound
        5     0.5   2     50    100   1     200   20    10    0.2    Avg   %RSD
-------------------------------------------------------------------------------

1) I   Tert Butyl Alcohol-d9 ----------------ISTD---------------------
2)  1,4-dioxane
     0.089       0.095 0.102 0.095       0.100 0.097 0.094        0.096    4.32
3)  tertiary butyl alcohol
     1.116       1.431 1.104 1.032 0.960 1.044 1.118 1.095        1.112   12.53

4) I   pentafluorobenzene    ----------------ISTD---------------------
5)  FREON 115
                                                                  0.000#  -1.00
6)  FREON 152A
                                                                  0.000#  -1.00
7)  chlorotrifluoroethene
                                                                  0.000#  -1.00
8)  chlorodifluoromethane
     0.973 0.736 0.923 0.977 0.870 0.902 0.893 0.949 0.912        0.904    8.00
9)  dichlorodifluoromethane
     1.085       1.053 1.069 0.946 0.961 0.941 1.055 1.014        1.015    5.76
10)  chloromethane
     1.203 1.317 1.169 1.272 1.124 1.228 1.200 1.226 1.082        1.202    5.97
11)  vinyl chloride
     1.214 1.097 1.249 1.209 1.070 1.150 1.107 1.187 1.124        1.156    5.31
12)  bromomethane
     0.639 0.644 0.634 0.652 0.574 0.665 0.535 0.653 0.597        0.621    6.97
13)  chloroethane
     0.391 0.338 0.390 0.420 0.381 0.406 0.380 0.421 0.369        0.388    6.71
14)  1,3-butadiene
                                                                  0.000#  -1.00
15)  vinyl bromide
                                                                  0.000#  -1.00
16)  trichlorofluoromethane
     0.932 0.541 0.879 0.949 0.850 0.782 0.880 0.946 0.885        0.849   14.95
17)  pentane
                                                                  0.000#  -1.00
18)  ethyl ether
     0.234       0.229 0.224 0.201 0.229 0.219 0.232 0.214        0.223    4.98
19)  freon 123a
                                                                  0.000#  -1.00
20)  FREON 123
                                                                  0.000#  -1.00
21)  acrolein
     0.123       0.114 0.113 0.111 0.116       0.120 0.114        0.116    3.68
22)  1,1-dichloroethene
     0.764 0.600 0.761 0.743 0.673 0.728 0.701 0.765 0.683        0.713    7.70
23)  acetone
```

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Initial Calibration Summary

Job Number: JC14083 **Sample:** V3D4991-ICC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116729.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.044		0.045	0.041		0.047	0.048	0.040			0.044	7.02
24)	allyl chloride											
	0.287	0.262	0.283	0.252	0.224	0.280	0.299	0.269			0.269	8.72
25)	acetonitrile											
	0.054		0.050	0.045		0.049	0.052	0.052			0.050	6.17
26)	acetaldehyde											
											0.000#	-1.00
27)	iodomethane											
	0.977	0.756	0.945	0.964	0.876	0.839	0.939	1.002	0.887	0.761	0.895	9.74
28)	iso-butyl alcohol											
	0.021		0.018	0.016		0.019	0.018	0.018			0.018	9.01
29)	carbon disulfide											
	1.886	1.585	1.829	1.822	1.654	1.803	1.701	1.885	1.712	1.997	1.787	6.94
30)	methylene chloride											
	0.531	0.445	0.501	0.504	0.455	0.463	0.490	0.529	0.472		0.488	6.41
31)	methyl acetate											
	0.361	0.387	0.311	0.280		0.308	0.325	0.325			0.328	10.89
32)	methyl tert butyl ether											
	1.501	1.315	1.411	1.423	1.278	1.355	1.401	1.485	1.347	1.344	1.386	5.17
33)	trans-1,2-dichloroethene											
	0.684	0.484	0.652	0.634	0.571	0.613	0.600	0.667	0.606		0.612	9.73
34)	di-isopropyl ether											
	1.586	1.483	1.522	1.577	1.422	1.578	1.528	1.622	1.486	1.586	1.539	4.00
35)	ethyl tert-butyl ether											
	1.488	1.284	1.462	1.528	1.381	1.400	1.512	1.557	1.420	1.434	1.447	5.60
36)	2-butanone											
	0.036		0.048	0.044		0.050	0.042	0.040			0.043	12.00
37)	1,1-dichloroethane											
	0.823	0.594	0.768	0.770	0.688	0.729	0.733	0.811	0.730	0.625	0.727	10.20
38)	chloroprene											
	0.578	0.454	0.537	0.576	0.523	0.503	0.545	0.591	0.543		0.539	7.89
39)	acrylonitrile											
	0.187	0.139	0.175	0.180	0.161	0.158	0.178	0.189	0.178		0.172	9.41
40)	vinyl acetate											
			0.072	0.065		0.073	0.062	0.057			0.066	10.25
41)	ethyl acetate											
	0.040		0.063	0.054		0.055	0.059	0.051			0.054	14.73
42)	2,2-dichloropropane											
	0.802	0.710	0.775	0.736	0.659	0.768	0.690	0.773	0.690	0.736	0.734	6.28
43)	cis-1,2-dichloroethene											
	0.519	0.501	0.491	0.487	0.440	0.495	0.476	0.514	0.460		0.487	5.17
44)	propionitrile											
	0.075	0.065	0.072	0.065	0.058	0.074	0.073	0.068			0.069	8.23
45)	methyl acrylate											
											0.000#	-1.00
46)	bromochloromethane											
	0.249	0.222	0.241	0.220	0.220	0.244	0.253	0.231			0.235	5.75
47)	tetrahydrofuran											
	0.157	0.187	0.153	0.137		0.153	0.158	0.159			0.158	9.49
48)	chloroform											
	0.771	0.605	0.735	0.725	0.656	0.702	0.708	0.757	0.696	0.708	0.706	6.82
49)	Tert-Butyl Formate											
	0.444	0.368	0.439	0.467	0.429	0.426	0.481	0.471	0.432		0.440	7.65
50)	dibromofluoromethane (s)											
	0.421	0.425	0.428	0.428	0.419	0.429	0.435	0.436	0.422	0.428	0.427	1.29
51)	1,2-dichloroethane-d4 (s)											
	0.413	0.410	0.419	0.412	0.397	0.417	0.421	0.419	0.410	0.415	0.413	1.70
52)	freon 113											
	0.493	0.455	0.491	0.445	0.400	0.450	0.492	0.461			0.461	6.87
53)	methacrylonitrile											

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Initial Calibration Summary

Job Number: JC14083 **Sample:** V3D4991-ICC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116729.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.236        0.212 0.240 0.223        0.253 0.239 0.228        0.233    5.76
54)  1,1,1-trichloroethane
      0.733 0.566 0.718 0.727 0.662 0.624 0.710 0.747 0.663        0.683    8.73
55)  tert amyl alcohol
                                                                   0.000#  -1.00
56)  2,2,4-Trimethylpentane
      1.777        1.666 2.018 1.906 1.567 1.971 1.902 1.733        1.818    8.65
57)  tert-amyl methyl ether
      1.454 1.495 1.477 1.478 1.355 1.527 1.503 1.504 1.386 1.587  1.477    4.51

58) I   1,4-difluorobenzene   ----------------ISTD--------------------
59)  epichlorohydrin
      0.035        0.039 0.036 0.032        0.036 0.036 0.036        0.036    5.40
60)  n-butyl alcohol
      0.011        0.014 0.013 0.012        0.013 0.012 0.012        0.012    9.01
61)  cyclohexane
      0.739        0.713 0.695 0.627 0.667 0.637 0.691 0.658        0.678    5.62
62)  carbon tetrachloride
      0.592 0.408 0.554 0.569 0.515 0.491 0.533 0.583 0.537        0.531   10.64
63)  1,1-dichloropropene
      0.468 0.317 0.435 0.445 0.401 0.420 0.411 0.452 0.425        0.419   10.44
64)  hexane
      0.448 0.324 0.407 0.414 0.372 0.380 0.358 0.428 0.419        0.394    9.87
65)  benzene
      1.514 1.255 1.436 1.395 1.267 1.271 1.337 1.453 1.322 1.461  1.371    6.78
66)  heptane
      0.266        0.239 0.254 0.228 0.231 0.222 0.256 0.245        0.242    6.29
67)  isopropyl acetate
      0.604        0.691 0.630 0.586        0.646 0.621 0.591        0.624    5.87
68)  1,2-dichloroethane
      0.444        0.410 0.411 0.371 0.379 0.397 0.429 0.400        0.405    5.92
69)  trichloroethene
      0.355 0.267 0.316 0.341 0.310 0.311 0.327 0.349 0.320        0.322    8.17
70)  ethyl acrylate
                                                                   0.000#  -1.00
71)  tert amyl ethyl ether
                                                                   0.000#  -1.00
72)  2-nitropropane
      0.124              0.112 0.102        0.110 0.118 0.118        0.114    6.87
73)  2-chloroethyl vinyl ether
      0.214 0.146 0.209 0.214 0.192 0.186 0.208 0.218 0.209        0.199   11.35
74)  methyl methacrylate
      0.207        0.178 0.214 0.194        0.219 0.210 0.189        0.202    7.38
75)  1,2-dichloropropane
      0.384        0.363 0.368 0.330 0.301 0.354 0.374 0.340        0.352    7.70
76)  methylcyclohexane
      0.728        0.673 0.710 0.656 0.659 0.664 0.723 0.685        0.687    4.24
77)  dibromomethane
      0.242        0.225 0.224 0.204 0.188 0.219 0.232 0.216        0.219    7.60
78)  bromodichloromethane
      0.449 0.382 0.439 0.437 0.405 0.413 0.443 0.442 0.413 0.464  0.429    5.77
79)  cis-1,3-dichloropropene
      0.537 0.370 0.501 0.529 0.481 0.493 0.525 0.529 0.485 0.447  0.490   10.36
80)  toluene-d8 (s)
      1.172 1.174 1.164 1.181 1.174 1.171 1.196 1.170 1.170 1.165  1.174    0.78
81)  4-methyl-2-pentanone
      0.142        0.125 0.146 0.137        0.156 0.147 0.138        0.142    6.89
82)  toluene
      0.818 0.666 0.750 0.792 0.722 0.789 0.774 0.803 0.726 0.637  0.748    8.05
83)  3-methyl-1-butanol
```

6.9.5

6

Initial Calibration Summary

Job Number: JC14083 **Sample:** V3D4991-ICC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116729.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
      0.010        0.012 0.011 0.011        0.012 0.011 0.011        0.011    7.21
 84)  trans-1,3-dichloropropene
      0.457 0.304 0.415 0.458 0.415 0.421 0.450 0.460 0.426        0.423   11.43
 85)  ethyl methacrylate
      0.405        0.329 0.403 0.368        0.411 0.402 0.373        0.385    7.72
 86)  1,1,2-trichloroethane
      0.264        0.234 0.249 0.226 0.249 0.246 0.257 0.235        0.245    5.17
 87)  2-hexanone
      0.098        0.075 0.122 0.103        0.118 0.121 0.111        0.107   15.78

 88) I   chlorobenzene-d5        ----------------ISTD---------------------
 89)  tetrachloroethene
      0.464 0.286 0.407 0.444 0.410 0.386 0.416 0.446 0.415        0.408   12.65
 90)  1,3-dichloropropane
      0.577 0.452 0.541 0.554 0.507 0.556 0.529 0.567 0.538 0.552  0.537    6.67
 91)  butyl acetate
      0.183        0.181 0.240 0.231        0.249 0.232 0.207        0.218   12.65
 92)  3,3-Dimethyl-1-Butanol
      0.054 0.051 0.070 0.057 0.058 0.059 0.065 0.053 0.056        0.058   10.35
 93)  dibromochloromethane
      0.443        0.396 0.431 0.406 0.411 0.432 0.429 0.396        0.418    4.29
 94)  1,2-dibromoethane
      0.388        0.357 0.370 0.342 0.337 0.357 0.378 0.350        0.360    4.95
 95)  n-Butyl Ether
      1.860 1.261 1.709 1.743 1.606 1.697 1.618 1.818 1.663        1.664   10.40
 96)  chlorobenzene
      1.114 0.934 1.007 1.030 0.956 1.052 0.989 1.056 0.992 1.129  1.026    6.18
 97)  1,1,1,2-tetrachloroethane
      0.480 0.362 0.444 0.488 0.465 0.439 0.486 0.489 0.444 0.547  0.464   10.32
 98)  ethylbenzene
      1.864 1.436 1.732 1.797 1.656 1.749 1.696 1.827 1.702 2.001  1.746    8.48
 99)  m,p-xylene
      0.722 0.529 0.672 0.693 0.640 0.649 0.653 0.720 0.659 0.663  0.660    8.19
100)  o-xylene
      0.775 0.495 0.662 0.740 0.687 0.654 0.713 0.746 0.688 0.719  0.688   11.29
101)  styrene
      1.156 0.806 1.034 1.134 1.049 1.070 1.081 1.156 1.069 1.002  1.056    9.62
102)  Butyl Acrylate
                                                                   0.000#  -1.00
103)  bromoform
      0.313        0.290 0.310 0.294 0.322 0.318 0.304 0.290        0.305    4.13

104) I   1,4-dichlorobenzene-d ----------------ISTD---------------------
105)  isopropylbenzene
      3.697 2.704 3.457 3.794 3.613 3.371 3.564 3.689 3.267 3.908  3.506    9.74
106)  4-bromofluorobenzene (s)
      0.895 0.885 0.896 0.923 0.924 0.896 0.896 0.904 0.897 0.872  0.899    1.73
107)  bromobenzene
      0.943 0.621 0.865 0.895 0.837 0.883 0.848 0.888 0.810        0.843   10.87
108)  cyclohexanone
      0.118 0.118 0.122 0.089 0.080 0.097 0.075 0.099 0.106        0.100   16.90
109)  1,1,2,2-tetrachloroethane
      1.077 0.959 1.139 1.015 0.949 1.149 0.969 1.024 0.950 1.236  1.047    9.56
110)  trans-1,4-dichloro-2-butene
      0.222        0.147 0.195 0.190        0.191 0.190 0.210        0.192   12.02
111)  1,2,3-trichloropropane
      0.243        0.228 0.222 0.206 0.192 0.209 0.226 0.208        0.217    7.35
112)  n-propylbenzene
      4.101 3.279 3.867 3.993 3.742 3.917 3.655 3.997 3.718 4.715  3.898    9.48
113)  4-Ethyltoluene
```

6.9.5 6

Initial Calibration Summary

Job Number: JC14083 **Sample:** V3D4991-ICC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116729.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

```
                                                                          0.000#  -1.00
114)  2-chlorotoluene
       0.873 0.584 0.784 0.866 0.810 0.811 0.809 0.862 0.784              0.798   10.94
115)  4-chlorotoluene
       0.834 0.524 0.774 0.804 0.750 0.729 0.751 0.789 0.748              0.745   11.95
116)  1,3,5-trimethylbenzene
       3.103 2.258 2.867 3.176 3.026 2.938 3.049 3.105 2.835 3.511        2.987   10.67
117)  tert-butylbenzene
       2.531 1.966 2.344 2.749 2.651 2.370 2.683 2.596 2.307 2.729        2.493    9.86
118)  pentachloroethane
       0.674 0.480 0.695 0.753 0.736 0.651 0.768 0.696 0.612              0.674   13.07
119)  1,2,4-trimethylbenzene
       3.097 2.321 2.852 3.083 2.921 2.963 2.985 3.101 2.819 3.363        2.951    9.16
120)  sec-butylbenzene
       4.257 3.053 3.833 4.426 4.232 3.819 4.199 4.278 3.842 4.674        4.061   11.06
121)  1,3-dichlorobenzene
       1.790 1.491 1.765 1.709 1.622 1.772 1.634 1.733 1.627 2.048        1.719    8.57
122)  p-isopropyltoluene
       3.510 2.676 3.222 3.588 3.431 3.127 3.440 3.531 3.152 3.923        3.360   10.00
123)  1,4-dichlorobenzene
       1.908 1.720 1.941 1.744 1.636 2.012 1.645 1.783 1.670              1.784    7.71
124)  1,2-dichlorobenzene
       1.938 1.525 1.954 1.855 1.739 1.994 1.769 1.873 1.732 2.087        1.847    8.74
125)  1,4-Diethylbenzene
                                                                          0.000#  -1.00
126)  n-butylbenzene
       1.862 1.289 1.727 1.871 1.749 1.686 1.730 1.867 1.712 1.690        1.718    9.76
127)  1,2,4,5-Tetramethylbenzene
                                                                          0.000#  -1.00
128)  1,2-dibromo-3-chloropropane
       0.266       0.283 0.265 0.257 0.264 0.277 0.270 0.255              0.267    3.49
129)  1,3,5-trichlorobenzene
       2.052 1.665 2.067 1.974 1.876 2.004 1.948 1.941 1.820 2.420        1.977    9.91
130)  1,2,4-trichlorobenzene
       2.111 1.744 2.090 2.020 1.911 2.011 1.961 2.006 1.873 2.420        2.015    8.86
131)  hexachlorobutadiene
       0.988 0.780 0.936 0.985 0.959 0.917 0.989 0.948 0.881 1.066        0.945    8.07
132)  naphthalene
       4.781 4.015 4.865 4.627 4.389 4.437 4.493 4.523 4.385 5.434        4.595    8.20
133)  1,2,3-trichlorobenzene
       2.175 1.791 2.164 2.097 1.958 2.116 1.984 2.006 1.919 2.636        2.084   10.91
134)  hexachloroethane
       0.639       0.589 0.739 0.750 0.577 0.789 0.671 0.589              0.668   12.40
135)  Benzyl chloride
       1.775 1.889 2.230 1.770 1.680 2.045 1.685 1.774 1.730 1.980        1.856    9.66
 ---------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          M3D4991.M          Wed Jan 27 12:08:58 2016   3D
```

6.9.5

6

Initial Calibration Verification

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D4991-ICV4991
Lab FileID: 3D116734.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3d116734.d Vial: 14
Acq On : 20 Jan 2016 5:29 pm Operator: XimenaC
Sample : ICV4991-50 Inst : MS3D
Misc : MS96688,V3D4991,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D4991.M (RTE Integrator)
Title : Method SW846 8260B, ZB 624 60m x 0.25mm x 1.4 um
Last Update : Wed Jan 27 12:05:42 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	106	0.00	7.16
2		1,4-dioxane	0.096	0.097	-1.0	101	0.00	11.02
3	M	tertiary butyl alcohol	1.112	1.081	2.8	104	0.00	7.27
4	I	pentafluorobenzene	1.000	1.000	0.0	103	0.00	9.38
5		FREON 115		----------NA----------				
6		FREON 152A		----------NA----------				
7		chlorotrifluoroethene		----------NA----------				
8		chlorodifluoromethane	0.904	0.768	15.0	81	0.00	3.85
9		dichlorodifluoromethane	1.015	0.750	26.1	72	0.00	3.84
10		chloromethane	1.202	1.045	13.1	84	0.00	4.18
11		vinyl chloride	1.156	1.042	9.9	88	0.00	4.44
12		bromomethane	0.621	0.587	5.5	92	0.00	5.05
13		chloroethane	0.388	0.411	-5.9	100	0.00	5.21
14		1,3-butadiene		----------NA----------				
15		vinyl bromide		----------NA----------				
16		trichlorofluoromethane	0.849	0.830	2.2	90	0.00	5.67
17		pentane		----------NA----------				
18		ethyl ether	0.223	0.219	1.8	101	0.00	6.06
19		freon 123a		----------NA----------				
20		FREON 123		----------NA----------				
21		acrolein	0.116	0.116	0.0	106	0.00	6.30
22		1,1-dichloroethene	0.713	0.685	3.9	95	0.00	6.47
23		acetone	0.044	0.045	-2.3	103	0.00	6.52
24		allyl chloride	0.269	0.251	6.7	91	0.00	6.99
25		acetonitrile	0.050	0.049	2.0	100	-0.01	6.95
26	m	acetaldehyde		----------NA----------				
27		iodomethane	0.895	0.888	0.8	94	0.00	6.74
28		iso-butyl alcohol	0.018	0.017	5.6	100	0.00	9.67
29		carbon disulfide	1.787	1.736	2.9	98	0.00	6.87
30		methylene chloride	0.488	0.472	3.3	96	0.00	7.18
31		methyl acetate	0.328	0.289	11.9	95	0.00	6.98
32		methyl tert butyl ether	1.386	1.383	0.2	100	0.00	7.51
33		trans-1,2-dichloroethene	0.612	0.589	3.8	95	0.00	7.56
34		di-isopropyl ether	1.539	1.572	-2.1	102	0.00	8.11
35		ethyl tert-butyl ether	1.447	1.507	-4.1	101	0.00	8.57
36		2-butanone	0.043	0.046	-7.0	97	0.00	8.83
37	M	1,1-dichloroethane	0.727	0.750	-3.2	100	0.00	8.12
38		chloroprene	0.539	0.476	11.7	85	0.00	8.23
39		acrylonitrile	0.172	0.175	-1.7	100	0.00	7.51
40		vinyl acetate	0.066	0.065	1.5	93	0.00	8.12
41		ethyl acetate	0.054	0.056	-3.7	93	0.00	8.85

Initial Calibration Verification

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V3D4991-ICV4991
Lab FileID: 3D116734.D

42		2,2-dichloropropane	0.734	0.740	-0.8	103	0.00	8.86
43		cis-1,2-dichloroethene	0.487	0.456	6.4	96	0.00	8.86
44		propionitrile	0.069	0.068	1.4	97	0.00	8.92
45		methyl acrylate		----------NA----------				
46		bromochloromethane	0.235	0.228	3.0	97	0.00	9.17
47		tetrahydrofuran	0.158	0.144	8.9	97	0.00	9.21
48		chloroform	0.706	0.687	2.7	97	0.00	9.23
49		Tert-Butyl Formate	0.440	0.388	11.8	85	0.00	9.26
50	S	dibromofluoromethane (s)	0.427	0.432	-1.2	104	0.00	9.43
51	S	1,2-dichloroethane-d4 (s)	0.413	0.405	1.9	101	0.00	9.85
52		freon 113	0.461	0.420	8.9	88	0.00	6.44
53		methacrylonitrile	0.233	0.227	2.6	97	0.00	9.11
54		1,1,1-trichloroethane	0.683	0.718	-5.1	101	0.00	9.48
55		tert amyl alcohol		----------NA----------				
56		2,2,4-Trimethylpentane	1.818	1.750	3.7	89	0.00	9.92
57		tert-amyl methyl ether	1.477	1.484	-0.5	103	0.00	9.95
58	I	1,4-difluorobenzene	1.000	1.000	0.0	102	0.00	10.30
59		epichlorohydrin	0.036	0.034	5.6	98	0.00	11.56
60		n-butyl alcohol	0.012	0.012	0.0	99	0.00	10.42
61	M	cyclohexane	0.678	0.635	6.3	94	0.00	9.56
62		carbon tetrachloride	0.531	0.535	-0.8	96	0.00	9.68
63		1,1-dichloropropene	0.419	0.438	-4.5	101	0.00	9.66
64		hexane	0.394	0.261	33.8#	65	0.00	7.86
65	M	benzene	1.371	1.321	3.6	97	0.00	9.92
66		heptane	0.242	0.211	12.8	85	0.00	10.09
67		isopropyl acetate	0.624	0.682	-9.3	111	0.00	9.84
68		1,2-dichloroethane	0.405	0.390	3.7	97	0.00	9.94
69		trichloroethene	0.322	0.319	0.9	96	0.00	10.64
70		ethyl acrylate		----------NA----------				
71		tert amyl ethyl ether		----------NA----------				
72		2-nitropropane	0.114	0.109	4.4	100	0.00	11.41
73		2-chloroethyl vinyl ether	0.199	0.212	-6.5	102	0.00	11.44
74		methyl methacrylate	0.202	0.208	-3.0	99	0.00	10.91
75		1,2-dichloropropane	0.352	0.348	1.1	97	0.00	10.90
76		methylcyclohexane	0.687	0.619	9.9	89	0.00	10.86
77		dibromomethane	0.219	0.207	5.5	95	0.00	11.06
78		bromodichloromethane	0.429	0.416	3.0	97	0.00	11.19
79		cis-1,3-dichloropropene	0.490	0.501	-2.2	97	0.00	11.66
80	S	toluene-d8 (s)	1.174	1.188	-1.2	103	0.00	11.95
81		4-methyl-2-pentanone	0.142	0.143	-0.7	101	0.00	11.75
82		toluene	0.748	0.743	0.7	96	0.00	12.02
83		3-methyl-1-butanol	0.011	0.011	0.0	101	0.00	11.77
84		trans-1,3-dichloropropene	0.423	0.418	1.2	93	0.00	12.22
85		ethyl methacrylate	0.385	0.386	-0.3	98	0.00	12.21
86		1,1,2-trichloroethane	0.245	0.237	3.3	97	0.00	12.43
87		2-hexanone	0.107	0.104	2.8	87	0.00	12.60
88	I	chlorobenzene-d5	1.000	1.000	0.0	105	0.00	13.46
89		tetrachloroethene	0.408	0.415	-1.7	98	0.00	12.61
90		1,3-dichloropropane	0.537	0.505	6.0	95	0.00	12.62
91		butyl acetate	0.218	0.239	-9.6	104	0.00	12.68
92		3,3-Dimethyl-1-Butanol	0.058	0.054	6.9	99	0.00	12.77
93		dibromochloromethane	0.418	0.392	6.2	95	0.00	12.88
94		1,2-dibromoethane	0.360	0.342	5.0	97	0.00	13.03
95		n-Butyl Ether	1.664	1.822	-9.5	109	0.00	13.41
96		chlorobenzene	1.026	0.962	6.2	98	0.00	13.49
97		1,1,1,2-tetrachloroethane	0.464	0.444	4.3	95	0.00	13.55
98		ethylbenzene	1.746	1.667	4.5	97	0.00	13.55
99		m,p-xylene	0.660	0.647	2.0	98	0.00	13.65

Initial Calibration Verification

Job Number: JC14083 **Sample:** V3D4991-ICV4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116734.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		o-xylene	0.688	0.708	-2.9	100	0.00	14.07
101		styrene	1.056	1.056	0.0	97	0.00	14.08
102		Butyl Acrylate		----------NA----------				
103		bromoform	0.305	0.288	5.6	97	0.00	14.35
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	108	0.00	15.78
105		isopropylbenzene	3.506	3.397	3.1	97	0.00	14.41
106	S	4-bromofluorobenzene (s)	0.899	0.899	0.0	105	0.00	14.62
107		bromobenzene	0.843	0.804	4.6	97	0.00	14.81
108		cyclohexanone	0.100	0.106	-6.0	129	0.00	14.57
109		1,1,2,2-tetrachloroethane	1.047	0.915	12.6	97	0.00	14.71
110		trans-1,4-dichloro-2-bute	0.192	0.187	2.6	103	0.00	14.76
111		1,2,3-trichloropropane	0.217	0.203	6.5	99	0.00	14.79
112		n-propylbenzene	3.898	3.699	5.1	100	0.00	14.82
113		4-Ethyltoluene		----------NA----------				
114		2-chlorotoluene	0.798	0.773	3.1	96	0.00	14.97
115		4-chlorotoluene	0.745	0.727	2.4	97	0.00	15.07
116		1,3,5-trimethylbenzene	2.987	2.858	4.3	97	0.00	14.97
117		tert-butylbenzene	2.493	2.426	2.7	95	0.00	15.32
118		pentachloroethane	0.674	0.678	-0.6	97	0.00	15.40
119		1,2,4-trimethylbenzene	2.951	2.840	3.8	99	0.00	15.36
120		sec-butylbenzene	4.061	3.949	2.8	96	0.00	15.53
121		1,3-dichlorobenzene	1.719	1.556	9.5	98	0.00	15.72
122		p-isopropyltoluene	3.360	3.309	1.5	99	0.00	15.65
123		1,4-dichlorobenzene	1.784	1.596	10.5	99	0.00	15.80
124		1,2-dichlorobenzene	1.847	1.707	7.6	99	0.00	16.18
125		1,4-Diethylbenzene		----------NA----------				
126		n-butylbenzene	1.718	1.684	2.0	97	0.00	16.05
127		1,2,4,5-Tetramethylbenzen		----------NA----------				
128		1,2-dibromo-3-chloropropa	0.267	0.248	7.1	101	0.00	16.91
129		1,3,5-trichlorobenzene	1.977	1.800	9.0	98	0.00	17.08
130		1,2,4-trichlorobenzene	2.015	1.842	8.6	98	0.00	17.65
131		hexachlorobutadiene	0.945	0.882	6.7	97	0.00	17.75
132		naphthalene	4.595	4.161	9.4	97	0.00	17.88
133		1,2,3-trichlorobenzene	2.084	1.872	10.2	96	0.00	18.09
134		hexachloroethane	0.668	0.652	2.4	95	0.00	16.43
135		Benzyl chloride	1.856	1.857	-0.1	113	0.00	15.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D116729.D M3D4991.M Wed Jan 27 12:08:32 2016 3D

6.9.6

Initial Calibration Verification

Job Number: JC14083
Account: UTC United Technologies Corporation
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL
Sample: V3D4991-ICV4991
Lab FileID: 3D116737.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\3D116737.D Vial: 17
Acq On : 21 Jan 2016 11:19 am Operator: XimenaC
Sample : ICV4991-50 Inst : MS3D
Misc : MS96688,V3D4991,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D4991.M (RTE Integrator)
Title : Method SW846 8260B, ZB 624 60m x 0.25mm x 1.4 um
Last Update : Thu Jan 21 11:25:53 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	117	0.00	7.15
2		1,4-dioxane		----------NA----------				
3	M	tertiary butyl alcohol		----------NA----------				
4	I	pentafluorobenzene	1.000	1.000	0.0	109	0.00	9.38
5		FREON 115		----------NA----------				
6		FREON 152A		----------NA----------				
7		chlorotrifluoroethene		----------NA----------				
8		chlorodifluoromethane		----------NA----------				
9		dichlorodifluoromethane		----------NA----------				
10		chloromethane		----------NA----------				
11		vinyl chloride		----------NA----------				
12		bromomethane		----------NA----------				
13		chloroethane		----------NA----------				
14		1,3-butadiene		----------NA----------				
15		vinyl bromide		----------NA----------				
16		trichlorofluoromethane		----------NA----------				
17		pentane		----------NA----------				
18		ethyl ether		----------NA----------				
19		freon 123a		----------NA----------				
20		FREON 123		----------NA----------				
21		acrolein		----------NA----------				
22		1,1-dichloroethene		----------NA----------				
23		acetone		----------NA----------				
24		allyl chloride		----------NA----------				
25		acetonitrile		----------NA----------				
26	m	acetaldehyde		----------NA----------				
27		iodomethane		----------NA----------				
28		iso-butyl alcohol		----------NA----------				
29		carbon disulfide		----------NA----------				
30		methylene chloride		----------NA----------				
31		methyl acetate		----------NA----------				
32		methyl tert butyl ether		----------NA----------				
33		trans-1,2-dichloroethene		----------NA----------				
34		di-isopropyl ether		----------NA----------				
35		ethyl tert-butyl ether		----------NA----------				
36		2-butanone		----------NA----------				
37	M	1,1-dichloroethane		----------NA----------				
38		chloroprene		----------NA----------				
39		acrylonitrile		----------NA----------				
40		vinyl acetate		----------NA----------				
41		ethyl acetate		----------NA----------				

Initial Calibration Verification

Job Number: JC14083 **Sample:** V3D4991-ICV4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116737.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		2,2-dichloropropane		----------NA----------				
43		cis-1,2-dichloroethene		----------NA----------				
44		propionitrile		----------NA----------				
45		methyl acrylate		----------NA----------				
46		bromochloromethane		----------NA----------				
47		tetrahydrofuran		----------NA----------				
48		chloroform		----------NA----------				
49		Tert-Butyl Formate		----------NA----------				
50	S	dibromofluoromethane (s)	0.427	0.433	-1.4	110	0.00	9.43
51	S	1,2-dichloroethane-d4 (s)	0.413	0.429	-3.9	113	0.00	9.85
52		freon 113		----------NA----------				
53		methacrylonitrile		----------NA----------				
54		1,1,1-trichloroethane		----------NA----------				
55		tert amyl alcohol		----------NA----------				
56		2,2,4-Trimethylpentane		----------NA----------				
57		tert-amyl methyl ether		----------NA----------				
58	I	1,4-difluorobenzene	1.000	1.000	0.0	107	0.00	10.30
59		epichlorohydrin		----------NA----------				
60		n-butyl alcohol		----------NA----------				
61	M	cyclohexane		----------NA----------				
62		carbon tetrachloride		----------NA----------				
63		1,1-dichloropropene		----------NA----------				
64		hexane	0.394	0.378	4.1	97	0.00	7.87
65	M	benzene		----------NA----------				
66		heptane		----------NA----------				
67		isopropyl acetate		----------NA----------				
68		1,2-dichloroethane		----------NA----------				
69		trichloroethene		----------NA----------				
70		ethyl acrylate		----------NA----------				
71		tert amyl ethyl ether		----------NA----------				
72		2-nitropropane		----------NA----------				
73		2-chloroethyl vinyl ether		----------NA----------				
74		methyl methacrylate		----------NA----------				
75		1,2-dichloropropane		----------NA----------				
76		methylcyclohexane		----------NA----------				
77		dibromomethane		----------NA----------				
78		bromodichloromethane		----------NA----------				
79		cis-1,3-dichloropropene		----------NA----------				
80	S	toluene-d8 (s)	1.174	1.163	0.9	105	0.00	11.95
81		4-methyl-2-pentanone		----------NA----------				
82		toluene		----------NA----------				
83		3-methyl-1-butanol		----------NA----------				
84		trans-1,3-dichloropropene		----------NA----------				
85		ethyl methacrylate		----------NA----------				
86		1,1,2-trichloroethane		----------NA----------				
87		2-hexanone		----------NA----------				
88	I	chlorobenzene-d5	1.000	1.000	0.0	108	0.00	13.46
89		tetrachloroethene		----------NA----------				
90		1,3-dichloropropane		----------NA----------				
91		butyl acetate		----------NA----------				
92		3,3-Dimethyl-1-Butanol		----------NA----------				
93		dibromochloromethane		----------NA----------				
94		1,2-dibromoethane		----------NA----------				
95		n-Butyl Ether		----------NA----------				
96		chlorobenzene		----------NA----------				
97		1,1,1,2-tetrachloroethane		----------NA----------				
98		ethylbenzene		----------NA----------				
99		m,p-xylene		----------NA----------				

6.9.7 6

Initial Calibration Verification

Job Number: JC14083 **Sample:** V3D4991-ICV4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D116737.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		o-xylene		----------NA----------				
101		styrene		----------NA----------				
102		Butyl Acrylate		----------NA----------				
103		bromoform		----------NA----------				
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	15.78
105		isopropylbenzene		----------NA----------				
106	S	4-bromofluorobenzene (s)	0.899	0.888	1.2	107	0.00	14.62
107		bromobenzene		----------NA----------				
108		cyclohexanone		----------NA----------				
109		1,1,2,2-tetrachloroethane		----------NA----------				
110		trans-1,4-dichloro-2-bute		----------NA----------				
111		1,2,3-trichloropropane		----------NA----------				
112		n-propylbenzene		----------NA----------				
113		4-Ethyltoluene		----------NA----------				
114		2-chlorotoluene		----------NA----------				
115		4-chlorotoluene		----------NA----------				
116		1,3,5-trimethylbenzene		----------NA----------				
117		tert-butylbenzene		----------NA----------				
118		pentachloroethane		----------NA----------				
119		1,2,4-trimethylbenzene		----------NA----------				
120		sec-butylbenzene		----------NA----------				
121		1,3-dichlorobenzene		----------NA----------				
122		p-isopropyltoluene		----------NA----------				
123		1,4-dichlorobenzene		----------NA----------				
124		1,2-dichlorobenzene		----------NA----------				
125		1,4-Diethylbenzene		----------NA----------				
126		n-butylbenzene		----------NA----------				
127		1,2,4,5-Tetramethylbenzen		----------NA----------				
128		1,2-dibromo-3-chloropropa		----------NA----------				
129		1,3,5-trichlorobenzene		----------NA----------				
130		1,2,4-trichlorobenzene		----------NA----------				
131		hexachlorobutadiene		----------NA----------				
132		naphthalene		----------NA----------				
133		1,2,3-trichlorobenzene		----------NA----------				
134		hexachloroethane		----------NA----------				
135		Benzyl chloride		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D116729.D M3D4991.M Thu Jan 21 11:40:11 2016 3D

6.9.7

6

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V3D5014-CC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D117214.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\data\3D\3D117214.D Vial: 3
Acq On : 12 Feb 2016 9:41 am Operator: XimenaC
Sample : cc4991-20 Inst : MS3D
Misc : MS98170,V3D5014,5,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\msdchem\1\METHODS\M3D4991.M (RTE Integrator)
Title : Method SW846 8260B, ZB 624 60m x 0.25mm x 1.4 um
Last Update : Thu Jan 21 11:22:06 2016
Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.30min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	107	0.00	7.16
2		1,4-dioxane	0.096	0.104	-8.3	115	0.00	11.02
3	M	tertiary butyl alcohol	1.112	1.173	-5.5	112	0.01	7.28
4	I	pentafluorobenzene	1.000	1.000	0.0	117	0.00	9.38
5		FREON 115		----------NA----------				
6		FREON 152A		----------NA----------				
7		chlorotrifluoroethene		----------NA----------				
8		chlorodifluoromethane	0.904	0.868	4.0	107	-0.01	3.85
9		dichlorodifluoromethane	1.015	0.825	18.7	92	0.00	3.84
10		chloromethane	1.202	1.084	9.8	104	0.00	4.19
11		vinyl chloride	1.156	1.080	6.6	107	0.00	4.44
12		bromomethane	0.621	0.577	7.1	104	0.00	5.06
13		chloroethane	0.388	0.414	-6.7	115	-0.01	5.20
14		1,3-butadiene		----------NA----------				
15		vinyl bromide		----------NA----------				
16		trichlorofluoromethane	0.849	0.932	-9.8	115	0.00	5.67
17		pentane		----------NA----------				
18		ethyl ether	0.223	0.249	-11.7	125	0.00	6.06
19		freon 123a		----------NA----------				
20		FREON 123		----------NA----------				
21		acrolein	0.116	0.103	11.2	101	0.00	6.30
22		1,1-dichloroethene	0.713	0.820	-15.0	126	0.00	6.47
23		acetone	0.044	0.051	-15.9	126	0.01	6.53
24		allyl chloride	0.269	0.270	-0.4	106	0.00	6.99
25		acetonitrile	0.050	0.049	2.0	109	0.00	6.97
26	m	acetaldehyde		----------NA----------				
27		iodomethane	0.895	1.030	-15.1	120	0.00	6.75
28		iso-butyl alcohol	0.018	0.017	5.6	114	0.00	9.67
29		carbon disulfide	1.787	1.956	-9.5	122	0.00	6.87
30		methylene chloride	0.488	0.548	-12.3	121	0.00	7.18
31		methyl acetate	0.328	0.297	9.5	107	0.00	6.99
32		methyl tert butyl ether	1.386	1.365	1.5	108	0.00	7.51
33		trans-1,2-dichloroethene	0.612	0.659	-7.7	116	0.00	7.56
34		di-isopropyl ether	1.539	1.338	13.1	97	0.00	8.11
35		ethyl tert-butyl ether	1.447	1.338	7.5	101	0.00	8.57
36		2-butanone	0.043	0.042	2.3	116	0.01	8.85
37	M	1,1-dichloroethane	0.727	0.778	-7.0	112	0.00	8.12
38		chloroprene	0.539	0.483	10.4	96	0.00	8.23
39		acrylonitrile	0.172	0.182	-5.8	113	0.00	7.51
40		vinyl acetate	0.066	0.062	6.1	117	0.00	8.13
41		ethyl acetate	0.054	0.045	16.7	90	0.00	8.86

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V3D5014-CC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D117214.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

42		2,2-dichloropropane	0.734	0.770	-4.9	117	0.00	8.86
43		cis-1,2-dichloroethene	0.487	0.506	-3.9	115	0.00	8.86
44		propionitrile	0.069	0.068	1.4	110	0.00	8.92
45		methyl acrylate		----------NA----------				
46		bromochloromethane	0.235	0.264	-12.3	123	0.00	9.17
47		tetrahydrofuran	0.158	0.141	10.8	104	0.00	9.22
48		chloroform	0.706	0.768	-8.8	119	0.00	9.23
49		Tert-Butyl Formate	0.440	0.374	15.0	93	0.00	9.26
50	S	dibromofluoromethane (s)	0.427	0.468	-9.6	126	0.00	9.42
51	S	1,2-dichloroethane-d4 (s)	0.413	0.439	-6.3	123	0.00	9.84
52		freon 113	0.461	0.478	-3.7	114	0.00	6.45
53		methacrylonitrile	0.233	0.201	13.7	98	0.00	9.11
54		1,1,1-trichloroethane	0.683	0.744	-8.9	117	0.00	9.48
55		tert amyl alcohol		----------NA----------				
56		2,2,4-Trimethylpentane	1.818	1.542	15.2	95	0.00	9.92
57		tert-amyl methyl ether	1.477	1.381	6.5	108	0.00	9.95
58	I	1,4-difluorobenzene	1.000	1.000	0.0	112	0.00	10.30
59		epichlorohydrin	0.034	0.033	2.9	101	0.00	11.56
60		n-butyl alcohol	0.012	0.011	8.3	100	0.00	10.43
61	M	cyclohexane	0.678	0.698	-2.9	113	0.00	9.56
62		carbon tetrachloride	0.531	0.617	-16.2	118	0.00	9.69
63		1,1-dichloropropene	0.419	0.450	-7.4	111	0.00	9.66
64		hexane	0.394	0.300	23.9#	78	0.00	7.86
65	M	benzene	1.371	1.469	-7.1	113	0.00	9.92
66		heptane	0.242	0.207	14.5	90	0.00	10.10
67		isopropyl acetate	0.631	0.549	13.0	99	0.00	9.85
68		1,2-dichloroethane	0.405	0.450	-11.1	117	0.00	9.94
69		trichloroethene	0.322	0.352	-9.3	113	0.00	10.64
70		ethyl acrylate		----------NA----------				
71		tert amyl ethyl ether		----------NA----------				
72		2-nitropropane	0.114	0.117	-2.6	110	0.01	11.42
73		2-chloroethyl vinyl ether	0.199	0.199	0.0	102	0.00	11.44
74		methyl methacrylate	0.194	0.185	4.6	98	0.00	10.92
75		1,2-dichloropropane	0.352	0.365	-3.7	109	0.00	10.91
76		methylcyclohexane	0.687	0.638	7.1	99	0.00	10.86
77		dibromomethane	0.219	0.244	-11.4	117	0.00	11.07
78		bromodichloromethane	0.429	0.459	-7.0	116	0.00	11.19
79		cis-1,3-dichloropropene	0.490	0.504	-2.9	106	0.00	11.66
80	S	toluene-d8 (s)	1.174	1.215	-3.5	116	0.00	11.95
81		4-methyl-2-pentanone	0.142	0.130	8.5	98	0.00	11.75
82		toluene	0.748	0.782	-4.5	109	0.00	12.02
83		3-methyl-1-butanol	0.011	0.010#	9.1	101	0.00	11.78
84		trans-1,3-dichloropropene	0.423	0.443	-4.7	107	0.00	12.22
85		ethyl methacrylate	0.385	0.317	17.7	88	0.00	12.22
86		1,1,2-trichloroethane	0.245	0.248	-1.2	108	0.00	12.43
87		2-hexanone	0.107	0.092	14.0	84	0.00	12.61
88	I	chlorobenzene-d5	1.000	1.000	0.0	112	0.00	13.46
89		tetrachloroethene	0.408	0.454	-11.3	114	0.00	12.61
90		1,3-dichloropropane	0.537	0.541	-0.7	107	0.00	12.62
91		butyl acetate	0.218	0.198	9.2	95	0.00	12.69
92		3,3-Dimethyl-1-Butanol	0.058	0.045	22.4#	95	0.00	12.77
93		dibromochloromethane	0.418	0.444	-6.2	116	0.00	12.88
94		1,2-dibromoethane	0.360	0.363	-0.8	107	0.00	13.03
95		n-Butyl Ether	1.690	1.366	19.2	84	0.00	13.41
96		chlorobenzene	1.026	1.034	-0.8	109	0.00	13.49
97		1,1,1,2-tetrachloroethane	0.464	0.500	-7.8	114	0.00	13.55
98		ethylbenzene	1.746	1.702	2.5	104	0.00	13.55
99		m,p-xylene	0.660	0.674	-2.1	104	0.00	13.65

6.9.8

6

Continuing Calibration Summary

Job Number: JC14083 **Sample:** V3D5014-CC4991
Account: UTC United Technologies Corporation **Lab FileID:** 3D117214.D
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

100		o-xylene	0.688	0.687	0.1	103	0.00	14.07
101		styrene	1.056	0.999	5.4	97	0.00	14.08
102		Butyl Acrylate		----------NA----------				
103		bromoform	0.305	0.311	-2.0	114	0.00	14.35
104	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	111	0.00	15.77
105		isopropylbenzene	3.506	3.343	4.6	100	0.00	14.41
106	S	4-bromofluorobenzene (s)	0.899	0.896	0.3	110	0.00	14.61
107		bromobenzene	0.843	0.906	-7.5	113	0.00	14.81
108		cyclohexanone	0.100	0.039	61.0#	44#	0.00	14.57
109		1,1,2,2-tetrachloroethane	1.047	0.973	7.1	105	0.00	14.71
110		trans-1,4-dichloro-2-bute	0.192	0.176	8.3	103	0.00	14.76
111		1,2,3-trichloropropane	0.217	0.229	-5.5	112	0.00	14.79
112		n-propylbenzene	3.898	3.669	5.9	102	0.00	14.82
113		4-Ethyltoluene		----------NA----------				
114		2-chlorotoluene	0.798	0.841	-5.4	108	0.00	14.96
115		4-chlorotoluene	0.745	0.775	-4.0	109	0.00	15.07
116		1,3,5-trimethylbenzene	2.987	2.871	3.9	102	0.00	14.97
117		tert-butylbenzene	2.493	2.284	8.4	97	0.00	15.32
118		pentachloroethane	0.674	0.705	-4.6	112	0.00	15.39
119		1,2,4-trimethylbenzene	2.951	2.856	3.2	102	0.00	15.36
120		sec-butylbenzene	4.061	3.851	5.2	100	0.00	15.53
121		1,3-dichlorobenzene	1.719	1.769	-2.9	113	0.00	15.72
122		p-isopropyltoluene	3.360	3.222	4.1	101	0.00	15.65
123		1,4-dichlorobenzene	1.784	1.781	0.2	111	0.00	15.80
124		1,2-dichlorobenzene	1.847	1.892	-2.4	112	0.00	16.18
125		1,4-Diethylbenzene		----------NA----------				
126		n-butylbenzene	1.718	1.649	4.0	98	0.00	16.05
127		1,2,4,5-Tetramethylbenzen		----------NA----------				
128		1,2-dibromo-3-chloropropa	0.267	0.227	15.0	93	0.00	16.90
129		1,3,5-trichlorobenzene	1.977	1.960	0.9	112	0.00	17.08
130		1,2,4-trichlorobenzene	2.015	1.924	4.5	106	0.00	17.65
131		hexachlorobutadiene	0.945	0.934	1.2	109	0.00	17.75
132		naphthalene	4.595	4.227	8.0	103	0.00	17.88
133		1,2,3-trichlorobenzene	2.084	2.012	3.5	111	0.00	18.09
134		hexachloroethane	0.668	0.642	3.9	106	0.00	16.43
135		Benzyl chloride	1.856	1.810	2.5	113	0.00	15.91

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3D116728.D M3D4991.M Mon Feb 15 11:24:09 2016

6.9.8

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165598.D
Acq On : 13 Feb 2016 6:30 pm
Operator : tracyk
Sample : jc14083-1
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 13:20:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.32	65	72450	500.00 ug/L	-0.02
5) pentafluorobenzene	10.75	168	268385	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.67	114	290443	50.00 ug/L	0.00
84) chlorobenzene-d5	14.66	117	233487	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	124877	50.00 ug/L	0.00

System Monitoring Compounds					
46) dibromofluoromethane (s)	10.82	113	102335	52.23 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.46%		
47) 1,2-dichloroethane-d4 (s)	11.25	65	106829	47.54 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 95.08%		
76) toluene-d8 (s)	13.24	98	328973	50.90 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 101.80%		
100) 4-bromofluorobenzene (s)	15.73	95	118862	51.65 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.30%		

Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

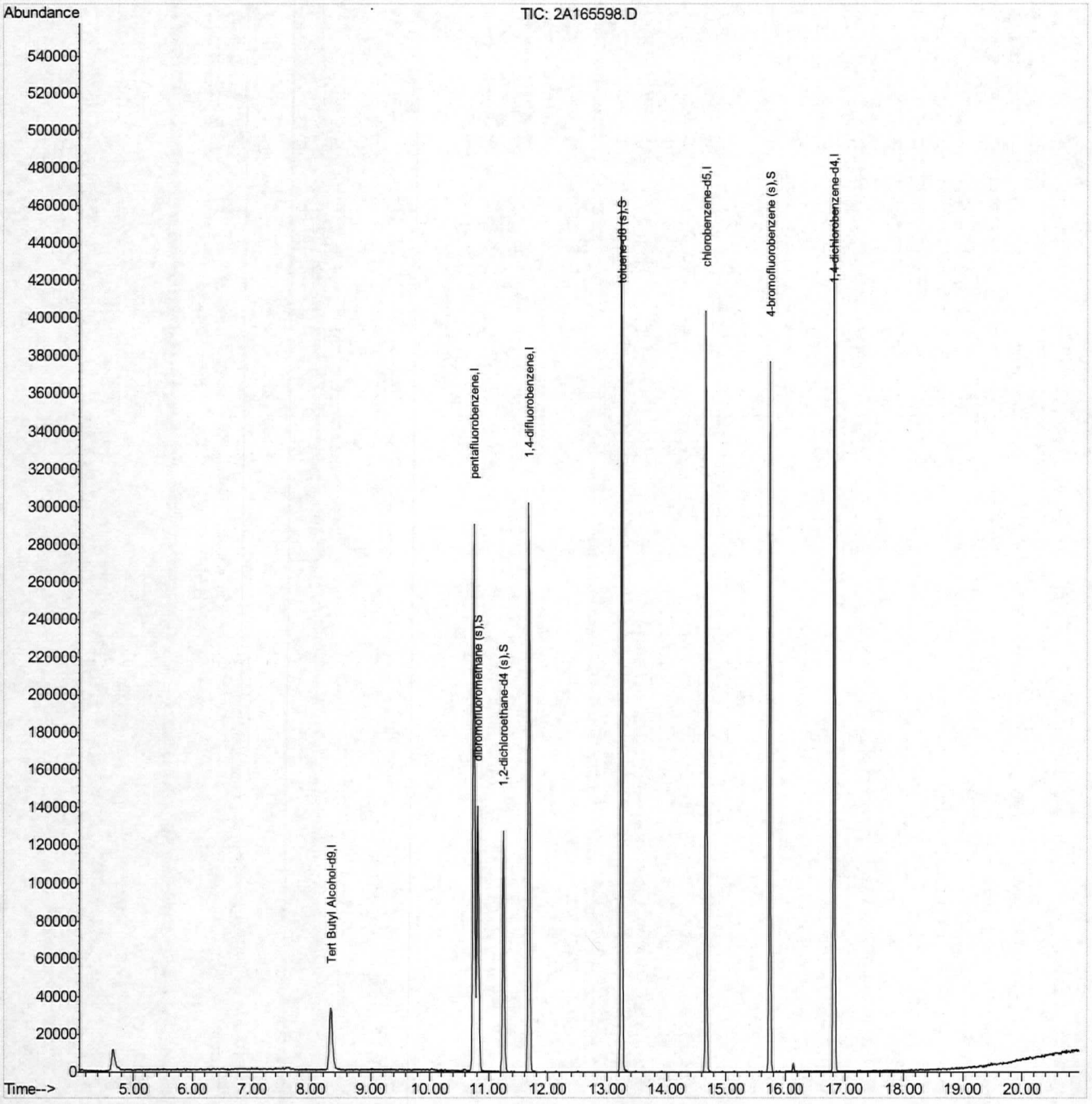
7.1.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165598.D
Acq On : 13 Feb 2016 6:30 pm
Operator : tracyk
Sample : jc14083-1
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Feb 17 13:20:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration



M2A7005.M Wed Feb 17 13:21:05 2016 MS2A

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A165587.D
Acq On : 13 Feb 2016 1:05 pm
Operator : tracyk
Sample : jc14083-2
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 17 13:10:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.33	65	69955	500.00	ug/L	-0.01
5) pentafluorobenzene	10.75	168	267384	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.68	114	287186	50.00	ug/L	0.00
84) chlorobenzene-d5	14.66	117	232878	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	124139	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.82	113	101258	51.87	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 103.74%			
47) 1,2-dichloroethane-d4 (s)	11.25	65	105227	47.00	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 94.00%			
76) toluene-d8 (s)	13.24	98	331704	51.90	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.80%			
100) 4-bromofluorobenzene (s)	15.74	95	116138	50.77	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.54%			
Target Compounds						Qvalue
19) 1,1-dichloroethene	7.52	61	1399	0.52	ug/L	76
29) trans-1,2-dichloroethene	8.77	61	2091	0.71	ug/L	93
32) 1,1-dichloroethane	9.40	63	37484	10.07	ug/L	96
39) cis-1,2-dichloroethene	10.21	96	169607	71.33	ug/L #	82
50) 1,1,1-trichloroethane	10.85	97	55907	17.39	ug/L	95
66) trichloroethene	12.00	95	12281	5.91	ug/L	95
85) tetrachloroethene	13.86	164	95167	52.06	ug/L	95

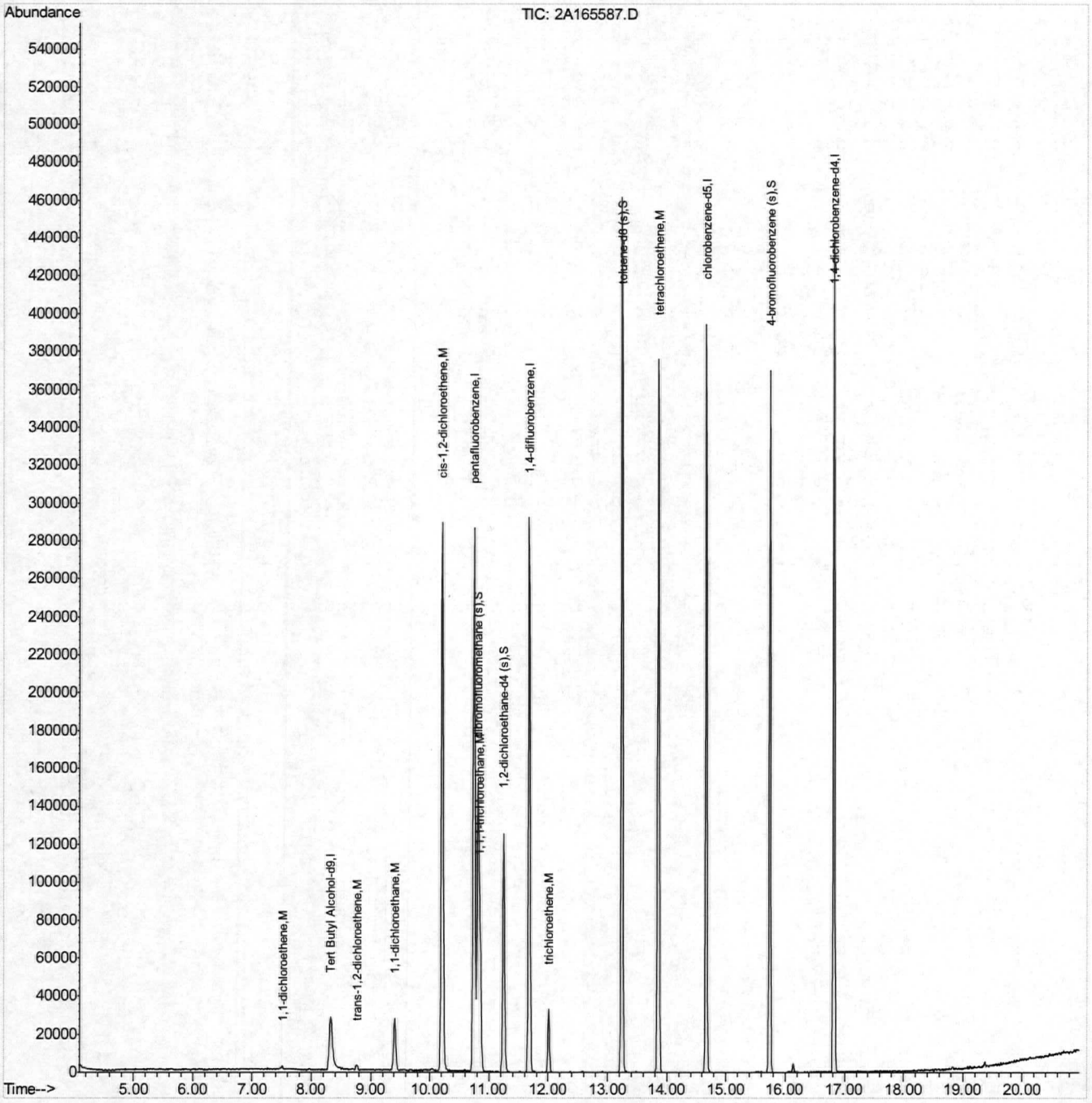
(#) = qualifier out of range (m) = manual integration (+) = signals summed

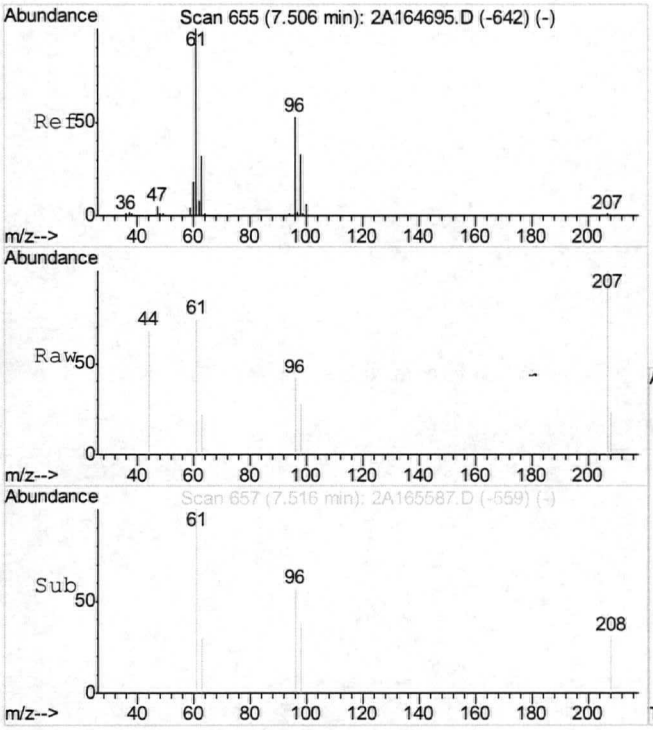
7.1.2 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\
Data File : 2A165587.D
Acq On : 13 Feb 2016 1:05 pm
Operator : tracyk
Sample : jc14083-2
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 17 13:10:09 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

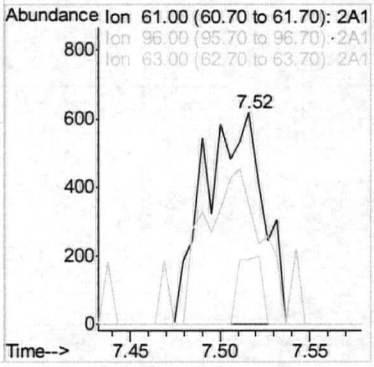


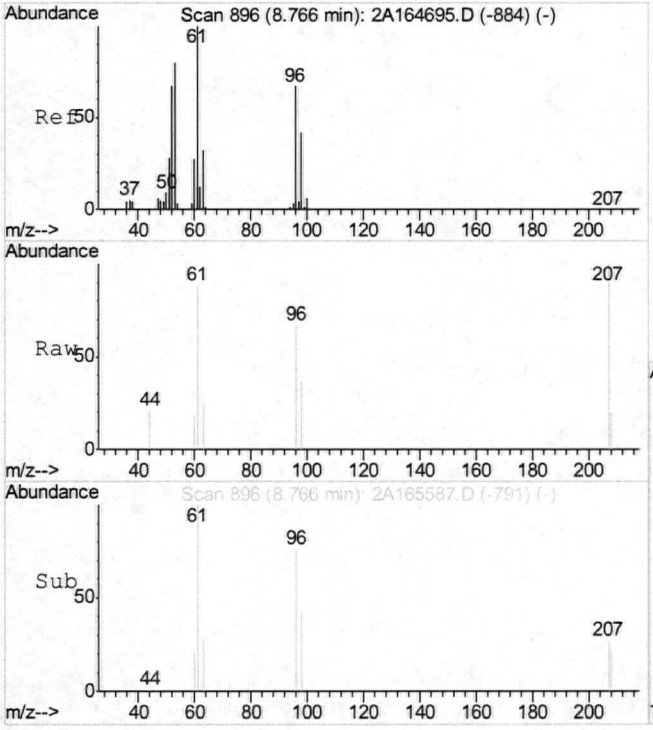


#19
1,1-dichloroethene
Concen: 0.52 ug/L
RT: 7.52 min Scan# 657
Delta R.T. 0.01 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion: 61 Resp: 1399

Ion	Ratio	Lower	Upper
61	100		
96	26.7	22.9	82.9
63	30.4	1.6	61.6

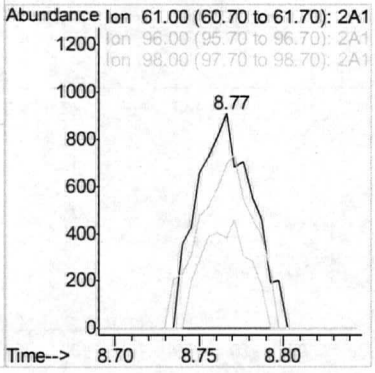




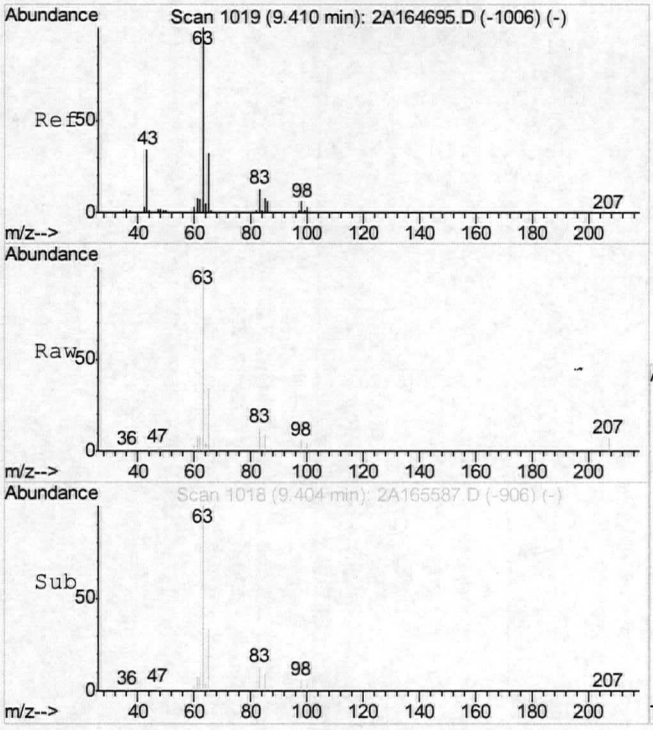
#29
trans-1,2-dichloroethene
Concen: 0.71 ug/L
RT: 8.77 min Scan# 896
Delta R.T. -0.00 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion: 61 Resp: 2091

Ion	Ratio	Lower	Upper
61	100		
96	76.3	36.8	96.8
98	42.2	11.9	71.9



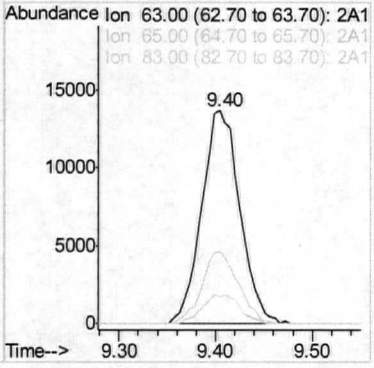
7.1.2 7

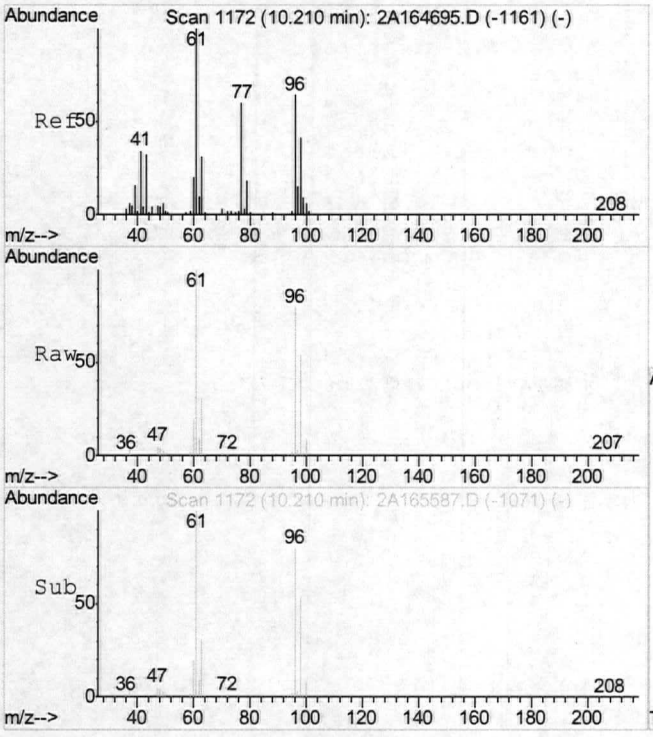


#32
1,1-dichloroethane
Concen: 10.07 ug/L
RT: 9.40 min Scan# 1018
Delta R.T. -0.01 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion: 63 Resp: 37484

Ion	Ratio	Lower	Upper
63	100		
65	34.0	1.6	61.6
83	12.7	0.0	43.4

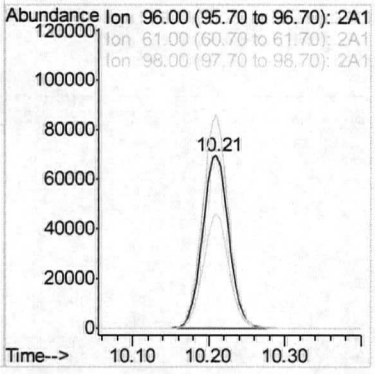




#39
cis-1,2-dichloroethene
Concen: 71.33 ug/L
RT: 10.21 min Scan# 1172
Delta R.T. -0.00 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

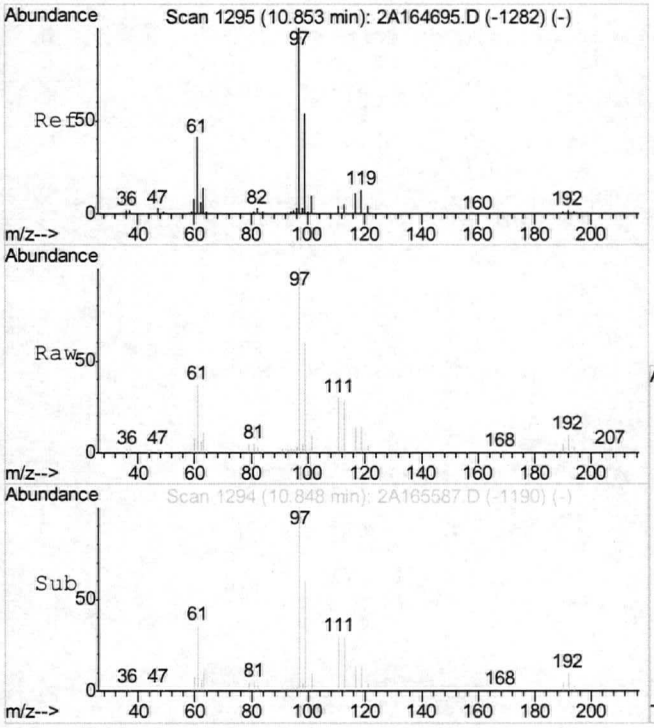
Tgt Ion: 96 Resp: 169607

Ion	Ratio	Lower	Upper
96	100		
61	124.4	126.1	186.1#
98	66.8	34.1	94.1



7.1.2

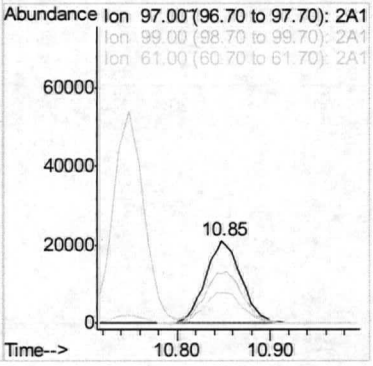
7

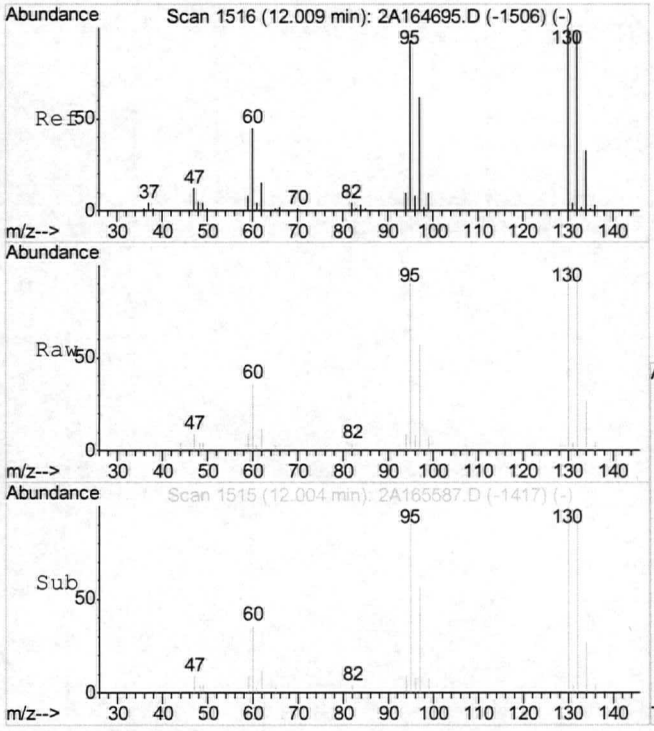


#50
1,1,1-trichloroethane
Concen: 17.39 ug/L
RT: 10.85 min Scan# 1294
Delta R.T. -0.01 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion: 97 Resp: 55907

Ion	Ratio	Lower	Upper
97	100		
99	60.2	33.9	93.9
61	37.3	11.2	71.2

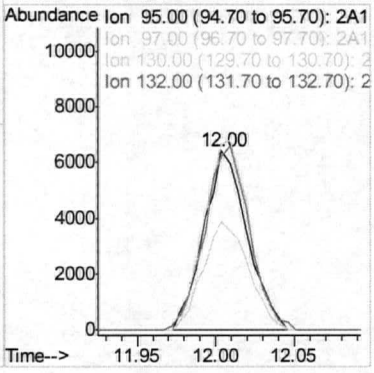




#66
trichloroethene
Concen: 5.91 ug/L
RT: 12.00 min Scan# 1515
Delta R.T. -0.01 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion: 95 Resp: 12281

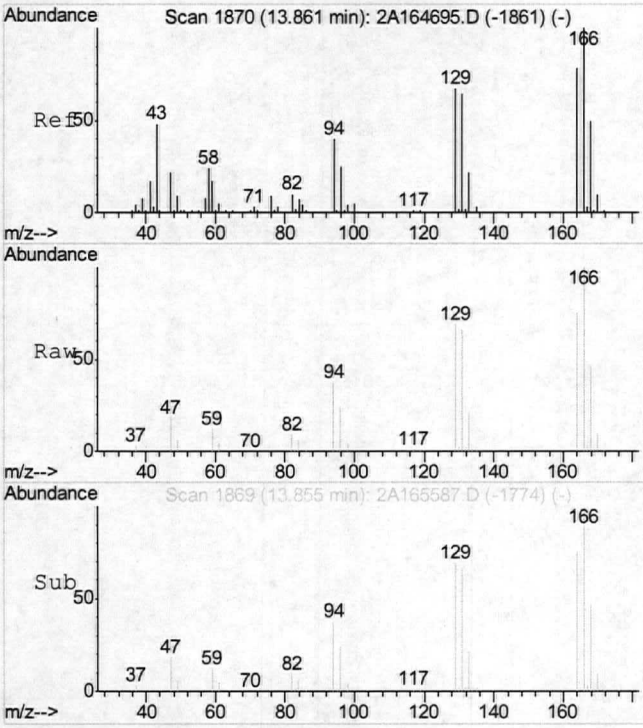
Ion	Ratio	Lower	Upper
95	100		
97	60.3	36.7	96.7
130	104.9	77.5	137.5
132	97.4	74.4	134.4



7.1.2

7

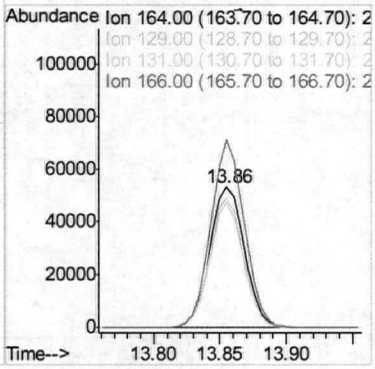
SGS ACCUTEST JC14083



#85
tetrachloroethene
Concen: 52.06 ug/L
RT: 13.86 min Scan# 1869
Delta R.T. -0.01 min
Lab File: 2A165587.D
Acq: 13 Feb 2016 1:05 pm

Tgt Ion:164 Resp: 95167

Ion	Ratio	Lower	Upper
164	100		
129	91.7	56.5	116.5
131	88.7	52.3	112.3
166	133.6	98.9	158.9



7.1.2

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165588.D
Acq On : 13 Feb 2016 1:35 pm
Operator : tracyk
Sample : jc14083-3
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 17 13:11:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.33	65	73301	500.00	ug/L	-0.01
5) pentafluorobenzene	10.75	168	267762	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.68	114	287805	50.00	ug/L	0.00
84) chlorobenzene-d5	14.66	117	232433	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	124538	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.82	113	102111	52.23	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.46%			
47) 1,2-dichloroethane-d4 (s)	11.25	65	106186	47.36	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 94.72%			
76) toluene-d8 (s)	13.24	98	330987	51.68	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.36%			
100) 4-bromofluorobenzene (s)	15.74	95	117346	51.13	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.26%			
Target Compounds						Qvalue
29) trans-1,2-dichloroethene	8.77	61	1097	0.37	ug/L	85
32) 1,1-dichloroethane	9.40	63	33328	8.94	ug/L	99
39) cis-1,2-dichloroethene	10.22	96	4887	2.05	ug/L #	65
50) 1,1,1-trichloroethane	10.85	97	15824	4.91	ug/L	95
66) trichloroethene	12.00	95	2698	1.30	ug/L	93
85) tetrachloroethene	13.86	164	37548	20.58	ug/L	94

(#) = qualifier out of range (m) = manual integration (+) = signals summed

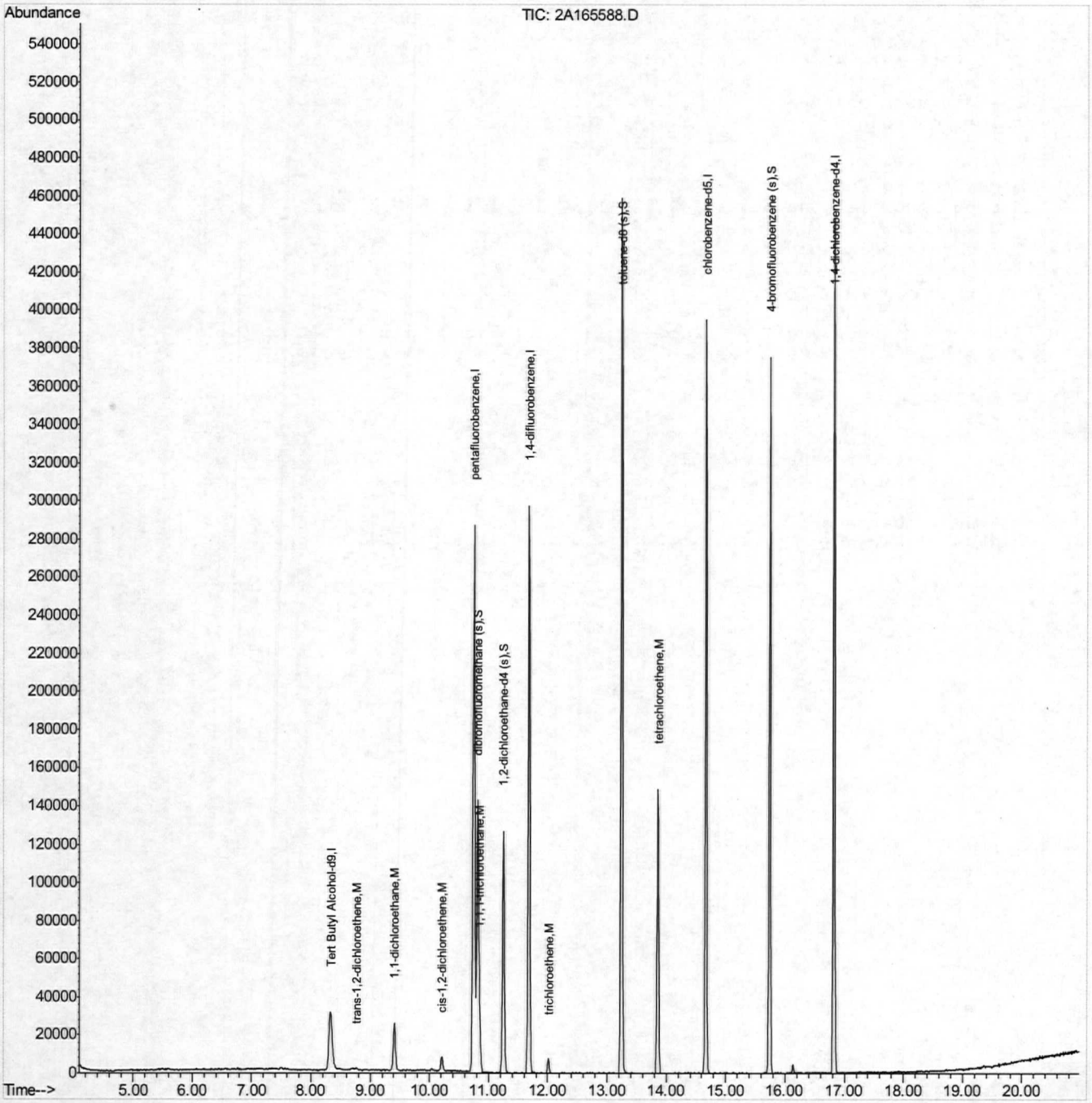
7.1.3

7

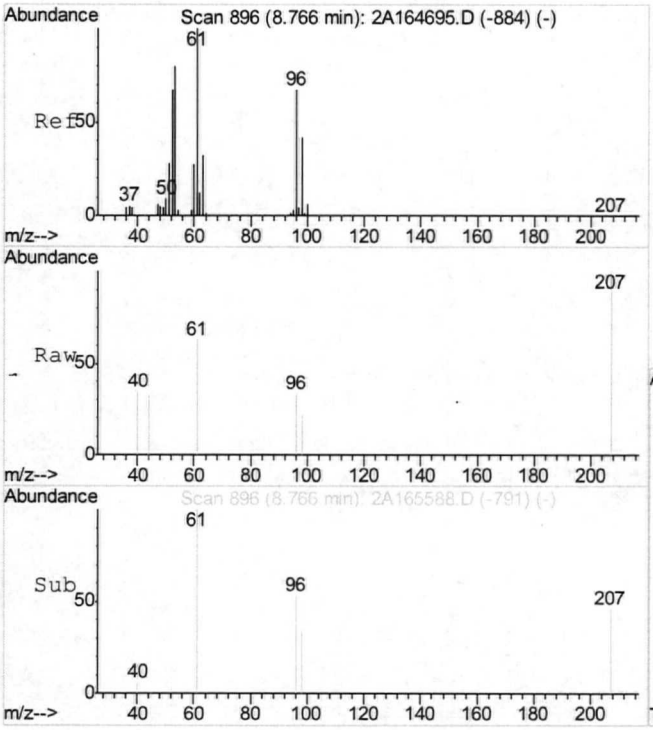
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165588.D
Acq On : 13 Feb 2016 1:35 pm
Operator : tracyk
Sample : jc14083-3
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 17 13:11:26 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration



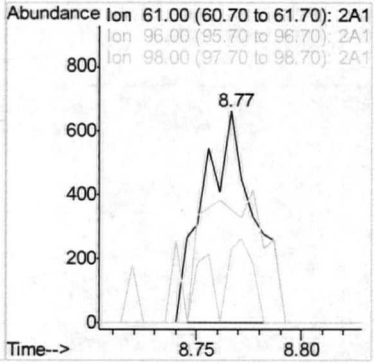
M2A7005.M Wed Feb 17 13:11:57 2016 MS2A

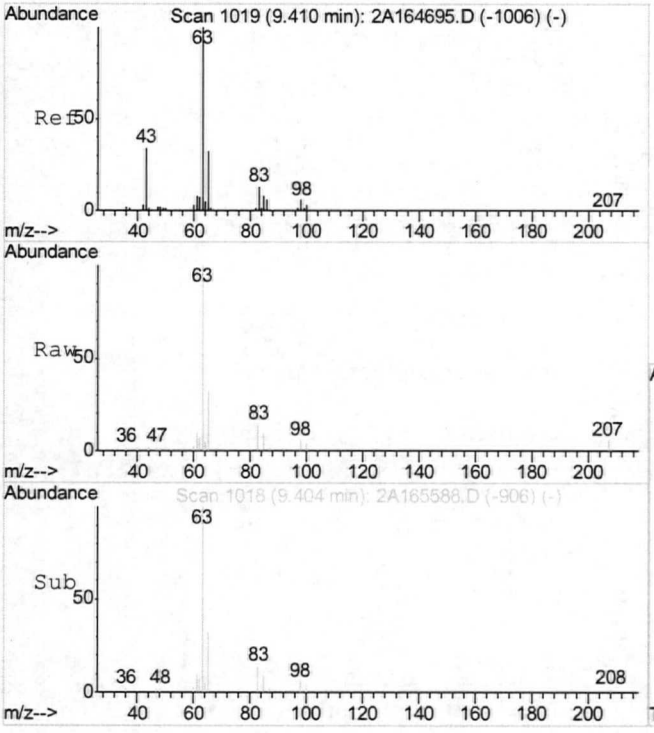


#29
trans-1,2-dichloroethene
Concen: 0.37 ug/L
RT: 8.77 min Scan# 896
Delta R.T. 0.00 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

Tgt Ion: 61 Resp: 1097

Ion	Ratio	Lower	Upper
61	100		
96	53.0	36.8	96.8
98	34.4	11.9	71.9

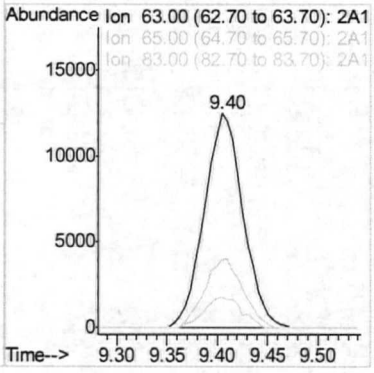




#32
1,1-dichloroethane
Concen: 8.94 ug/L
RT: 9.40 min Scan# 1018
Delta R.T. -0.01 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

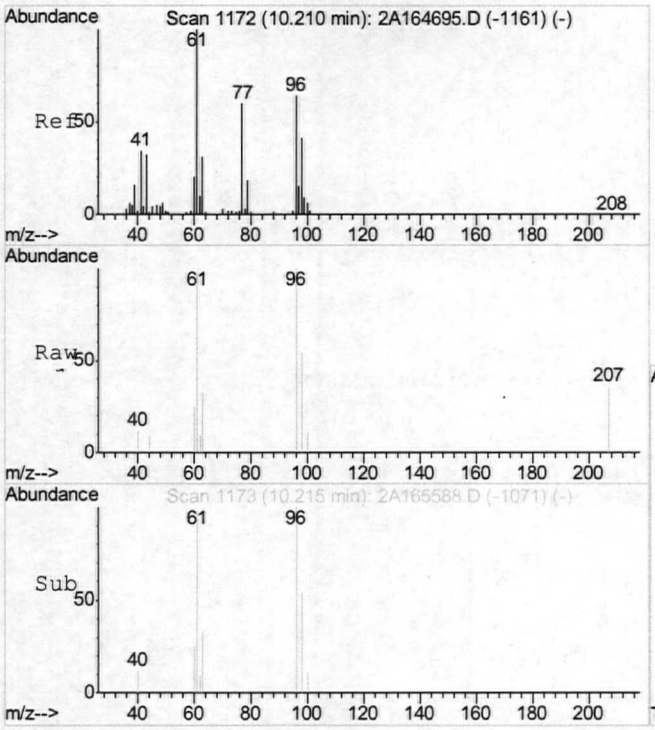
Tgt Ion: 63 Resp: 33328

Ion	Ratio	Lower	Upper
63	100		
65	31.6	1.6	61.6
83	14.3	0.0	43.4



7.1.3

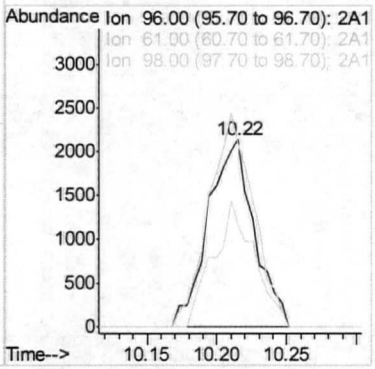
7

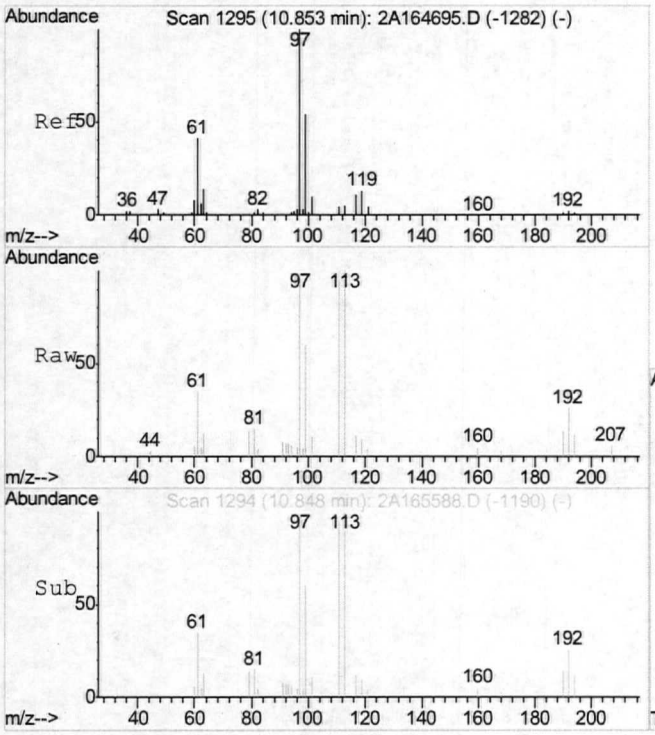


#39
cis-1,2-dichloroethene
Concen: 2.05 ug/L
RT: 10.22 min Scan# 1173
Delta R.T. 0.01 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

Tgt Ion: 96 Resp: 4887

Ion	Ratio	Lower	Upper
96	100		
61	97.9	126.1	186.1#
98	54.2	34.1	94.1

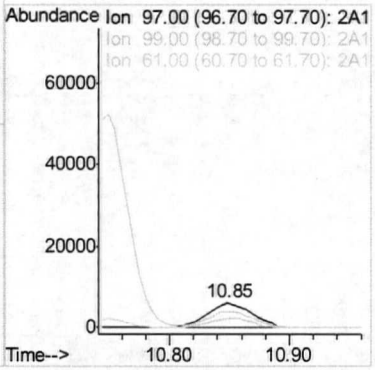




#50
1,1,1-trichloroethane
Concen: 4.91 ug/L
RT: 10.85 min Scan# 1294
Delta R.T. -0.01 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

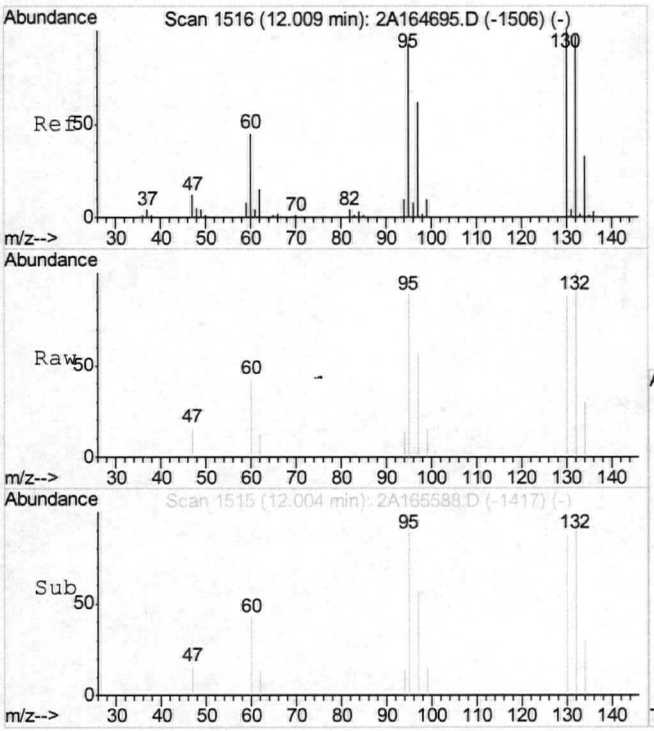
Tgt Ion: 97 Resp: 15824

Ion	Ratio	Lower	Upper
97	100		
99	61.7	33.9	93.9
61	35.9	11.2	71.2



7.1.3

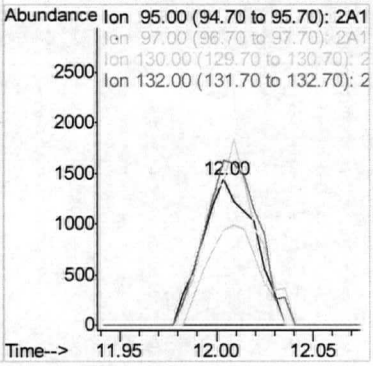
7

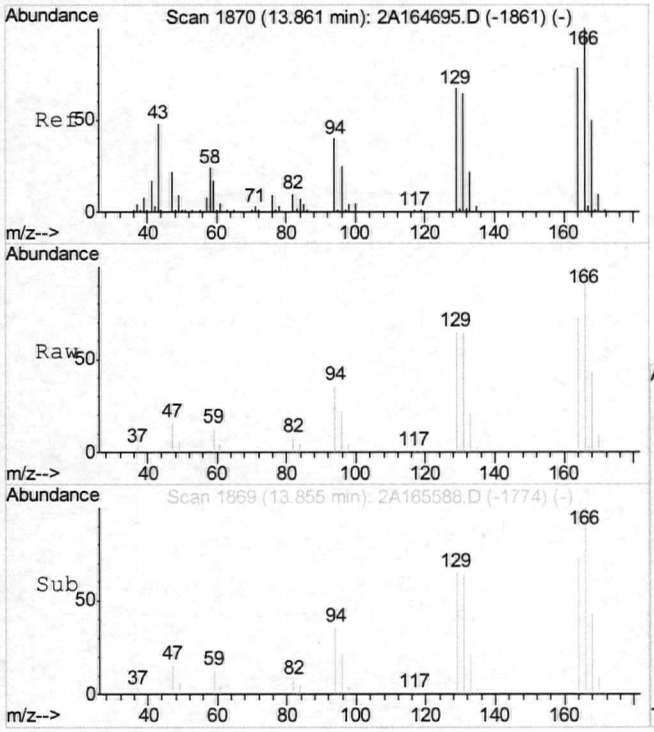


#66
trichloroethene
Concen: 1.30 ug/L
RT: 12.00 min Scan# 1515
Delta R.T. -0.01 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

Tgt Ion: 95 Resp: 2698

Ion	Ratio	Lower	Upper
95	100		
97	64.7	36.7	96.7
130	97.9	77.5	137.5
132	112.8	74.4	134.4

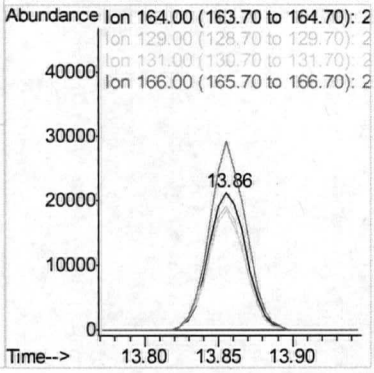




#85
tetrachloroethene
Concen: 20.58 ug/L
RT: 13.86 min Scan# 1869
Delta R.T. -0.01 min
Lab File: 2A165588.D
Acq: 13 Feb 2016 1:35 pm

Tgt Ion:164 Resp: 37548

Ion	Ratio	Lower	Upper
164	100		
129	89.8	56.5	116.5
131	87.7	52.3	112.3
166	137.7	98.9	158.9



7.1.3

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165589.D
Acq On : 13 Feb 2016 2:04 pm
Operator : tracyk
Sample : jc14083-4
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 17 13:12:27 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.32	65	83235	500.00 ug/L	-0.02
5) pentafluorobenzene	10.75	168	280429	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.67	114	303268	50.00 ug/L	0.00
84) chlorobenzene-d5	14.66	117	246188	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	130190	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.82	113	107227	52.37 ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 104.74%		
47) 1,2-dichloroethane-d4 (s)	11.25	65	111033	47.29 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 94.58%		
76) toluene-d8 (s)	13.24	98	350046	51.87 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.74%		
100) 4-bromofluorobenzene (s)	15.74	95	123550	51.50 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 103.00%		
Target Compounds					Qvalue
50) 1,1,1-trichloroethane	10.85	97	7373	2.19 ug/L	90
85) tetrachloroethene	13.86	164	7711	3.99 ug/L	91

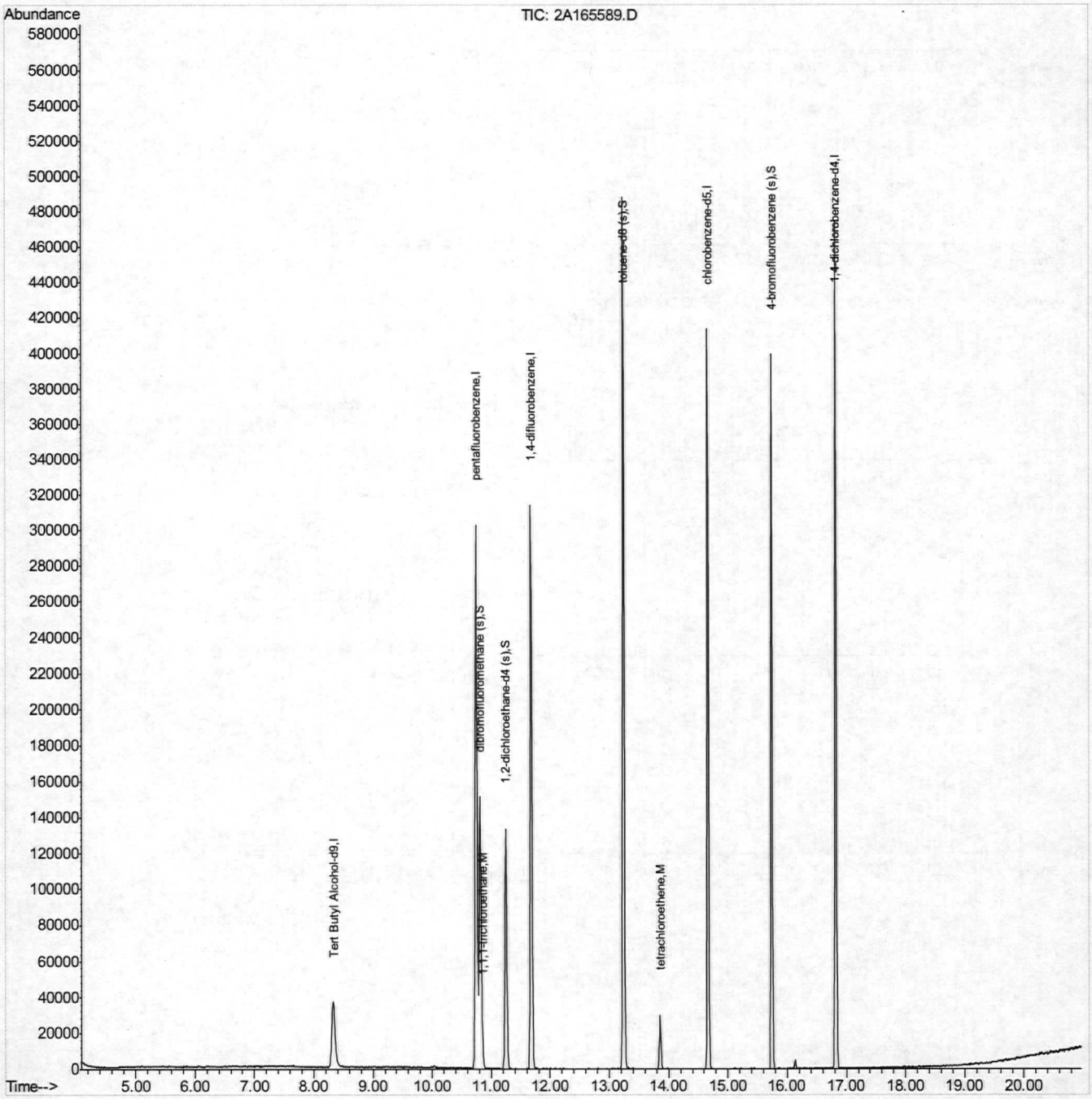
(#) = qualifier out of range (m) = manual integration (+) = signals summed

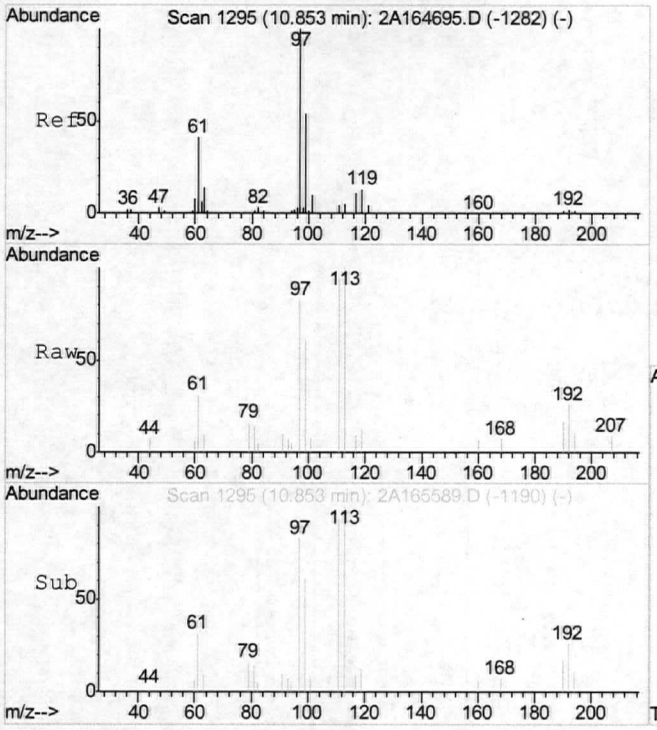
7.1.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165589.D
Acq On : 13 Feb 2016 2:04 pm
Operator : tracyk
Sample : jc14083-4
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Feb 17 13:12:27 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

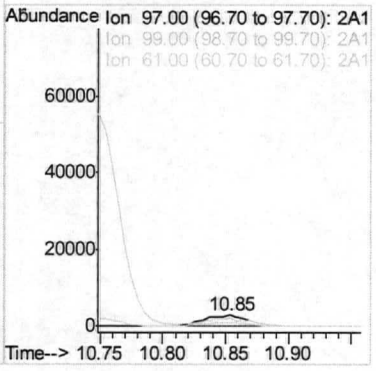


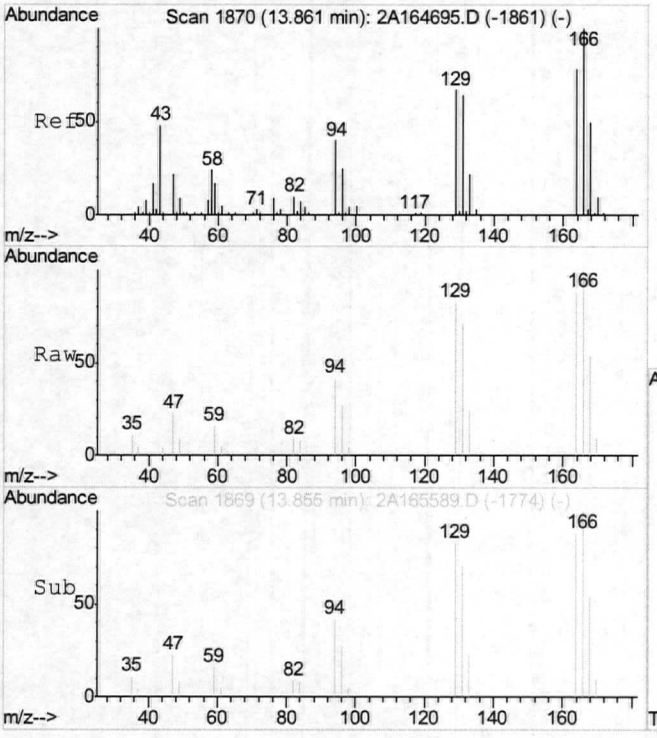


#50
1,1,1-trichloroethane
Concen: 2.19 ug/L
RT: 10.85 min Scan# 1295
Delta R.T. -0.00 min
Lab File: 2A165589.D
Acq: 13 Feb 2016 2:04 pm

Tgt Ion: 97 Resp: 7373

Ion	Ratio	Lower	Upper
97	100		
99	73.3	33.9	93.9
61	37.1	11.2	71.2

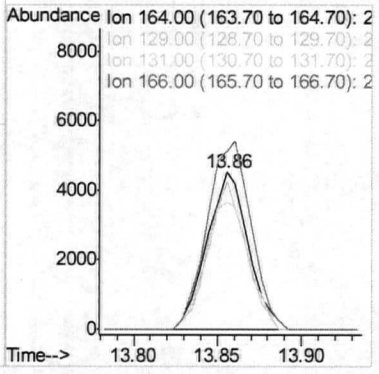




#85
tetrachloroethene
Concen: 3.99 ug/L
RT: 13.86 min Scan# 1869
Delta R.T. -0.01 min
Lab File: 2A165589.D
Acq: 13 Feb 2016 2:04 pm

Tgt Ion:164 Resp: 7711

Ion	Ratio	Lower	Upper
164	100		
129	94.4	56.5	116.5
131	81.2	52.3	112.3
166	113.5	98.9	158.9



7.1.4 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165600.D
Acq On : 13 Feb 2016 7:28 pm
Operator : tracyk
Sample : jc14083-5
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 13:22:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.33	65	75746	500.00	ug/L	-0.01
5) pentafluorobenzene	10.75	168	268352	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.67	114	290566	50.00	ug/L	0.00
84) chlorobenzene-d5	14.66	117	232824	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	126142	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.82	113	104130	53.15	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 106.30%			
47) 1,2-dichloroethane-d4 (s)	11.25	65	107889	48.02	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 96.04%			
76) toluene-d8 (s)	13.24	98	332224	51.38	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.76%			
100) 4-bromofluorobenzene (s)	15.74	95	118501	50.98	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.96%			
Target Compounds						Qvalue
50) 1,1,1-trichloroethane	10.84	97	1301	0.40	ug/L	85
85) tetrachloroethene	13.86	164	1299	0.71	ug/L	92

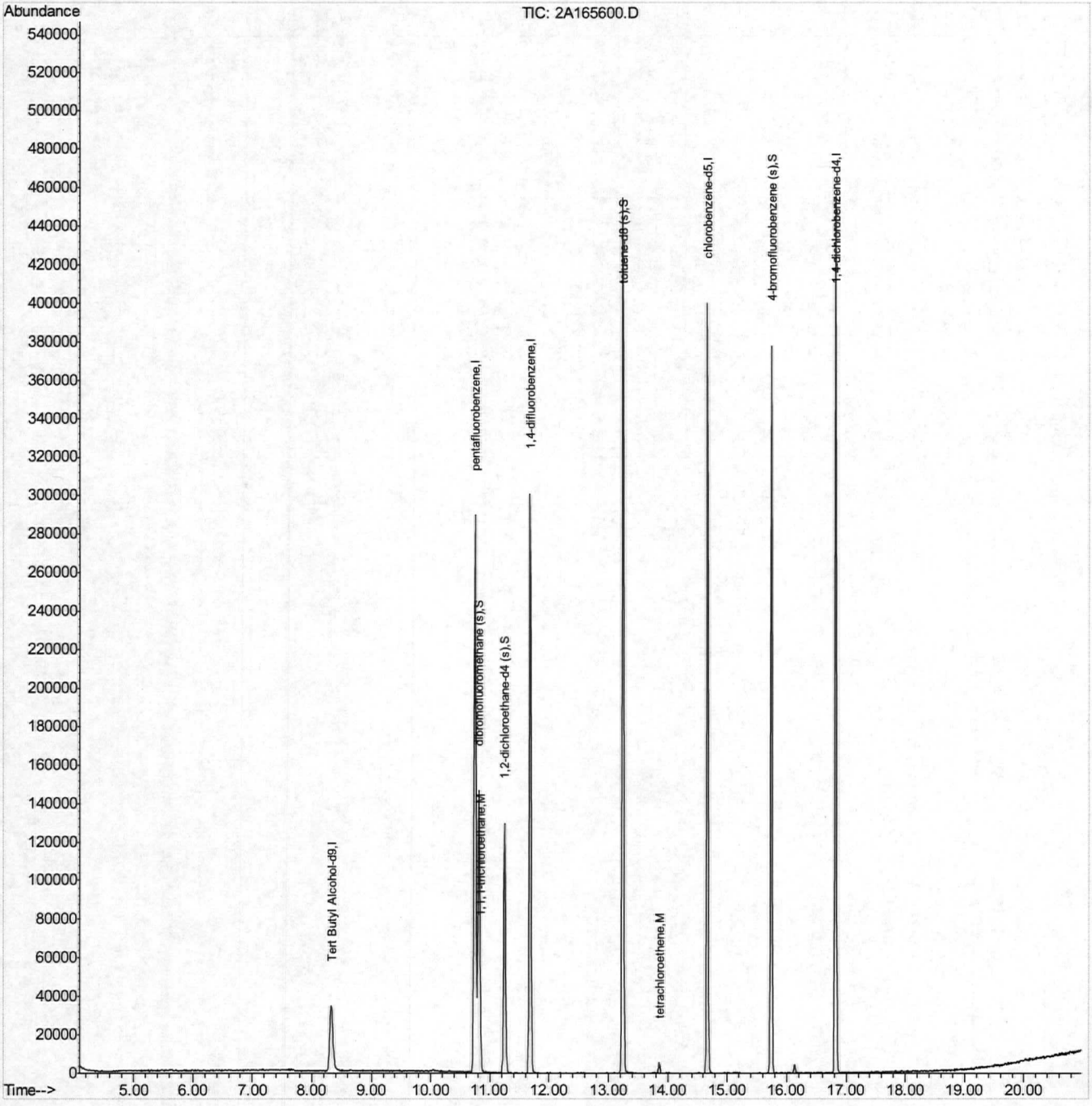
(#) = qualifier out of range (m) = manual integration (+) = signals summed

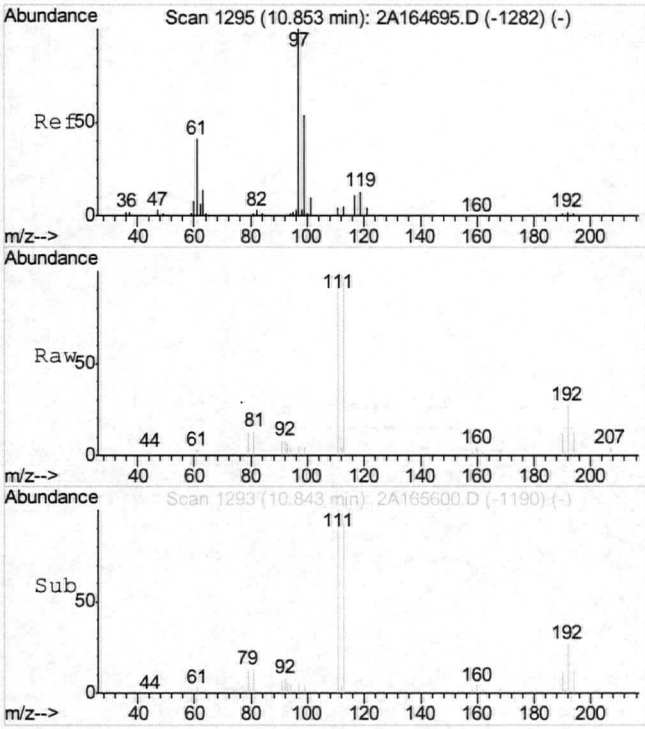
7.1.5 7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165600.D
Acq On : 13 Feb 2016 7:28 pm
Operator : tracyk
Sample : jc14083-5
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Feb 17 13:22:15 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

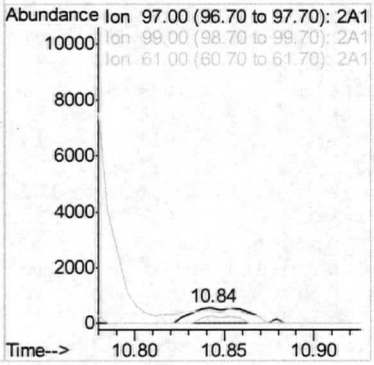


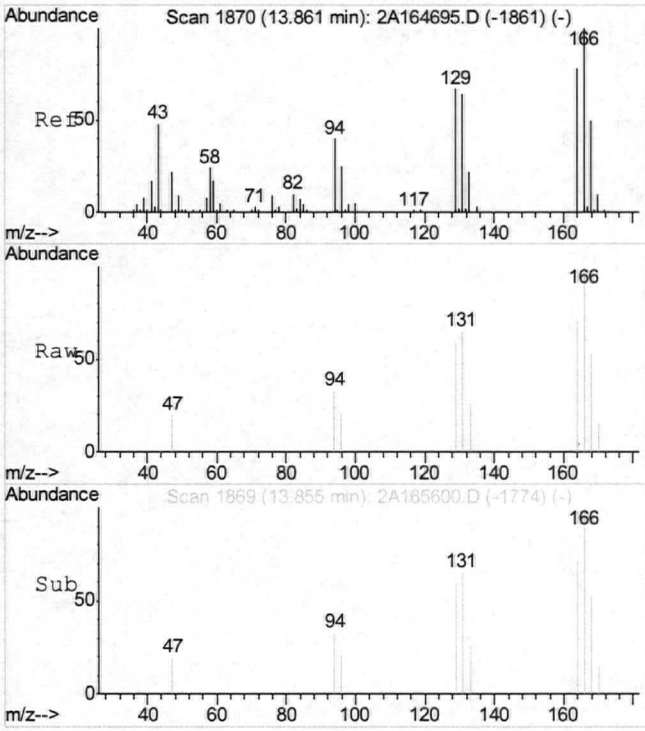


#50
1,1,1-trichloroethane
Concen: 0.40 ug/L
RT: 10.84 min Scan# 1293
Delta R.T. -0.01 min
Lab File: 2A165600.D
Acq: 13 Feb 2016 7:28 pm

Tgt Ion: 97 Resp: 1301

Ion	Ratio	Lower	Upper
97	100		
99	76.1	33.9	93.9
61	49.8	11.2	71.2

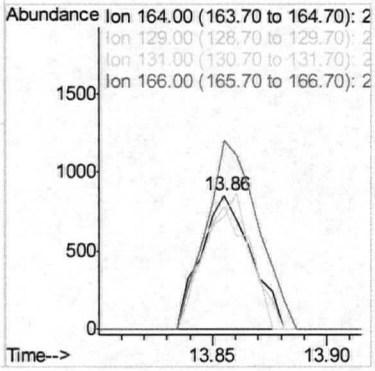




#85
tetrachloroethene
Concen: 0.71 ug/L
RT: 13.86 min Scan# 1869
Delta R.T. -0.01 min
Lab File: 2A165600.D
Acq: 13 Feb 2016 7:28 pm

Tgt Ion:164 Resp: 1299

Ion	Ratio	Lower	Upper
164	100		
129	84.4	56.5	116.5
131	91.3	52.3	112.3
166	141.0	98.9	158.9



7.1.5

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165590.D
Acq On : 13 Feb 2016 2:33 pm
Operator : tracyk
Sample : jc14083-6
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 17 13:14:51 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.33	65	67776	500.00	ug/L	-0.01
5) pentafluorobenzene	10.75	168	259713	50.00	ug/L	0.00
52) 1,4-difluorobenzene	11.67	114	282077	50.00	ug/L	0.00
84) chlorobenzene-d5	14.67	117	227044	50.00	ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	120082	50.00	ug/L	0.00
System Monitoring Compounds						
46) dibromofluoromethane (s)	10.82	113	100202	52.84	ug/L	0.00
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.68%			
47) 1,2-dichloroethane-d4 (s)	11.25	65	103627	47.65	ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 95.30%			
76) toluene-d8 (s)	13.24	98	320707	51.09	ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 102.18%			
100) 4-bromofluorobenzene (s)	15.73	95	113614	51.34	ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 102.68%			
Target Compounds						Qvalue
85) tetrachloroethene	13.86	164	8711	4.89	ug/L	98

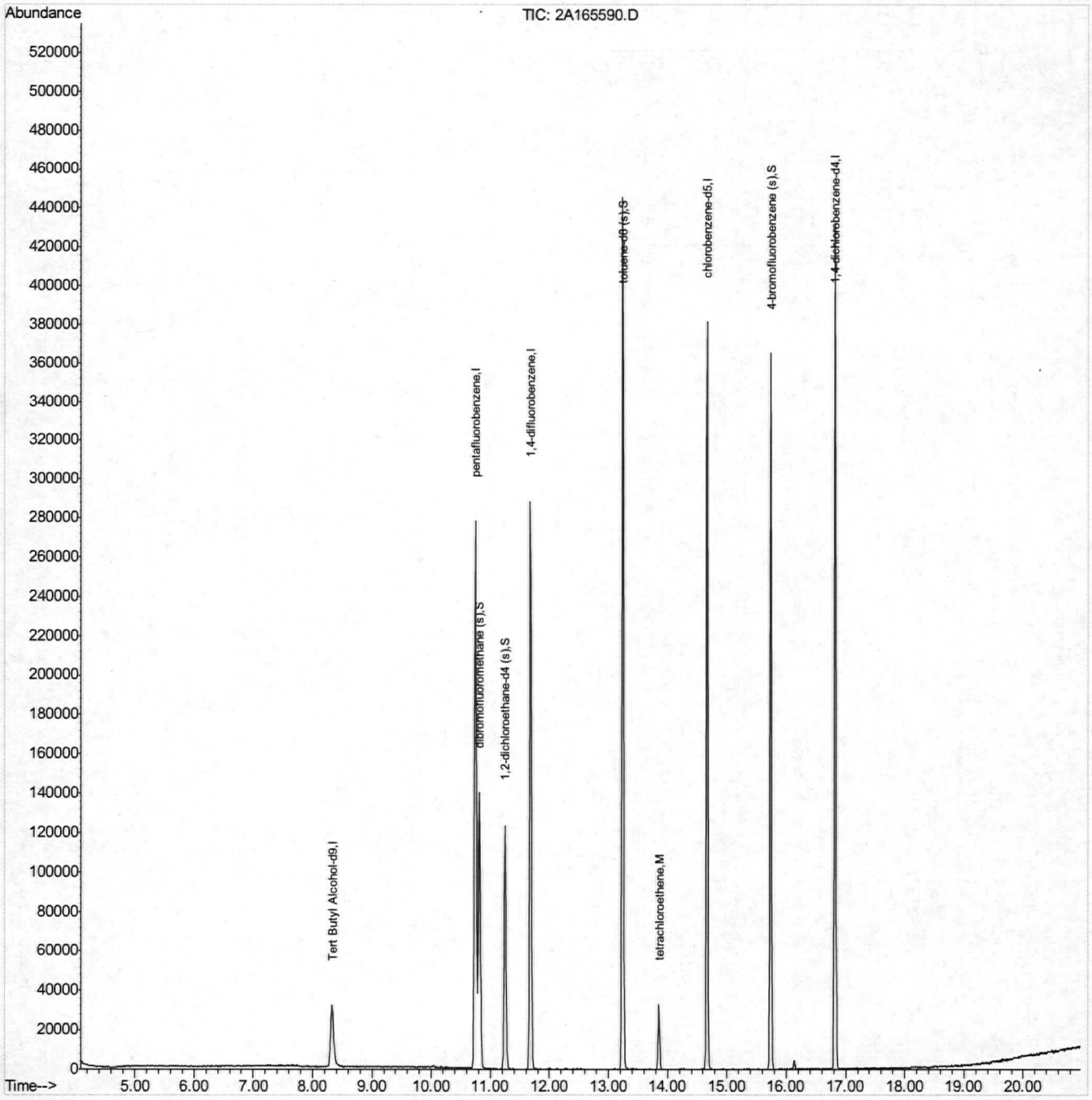
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.6 7

Quantitation Report (QT Reviewed)

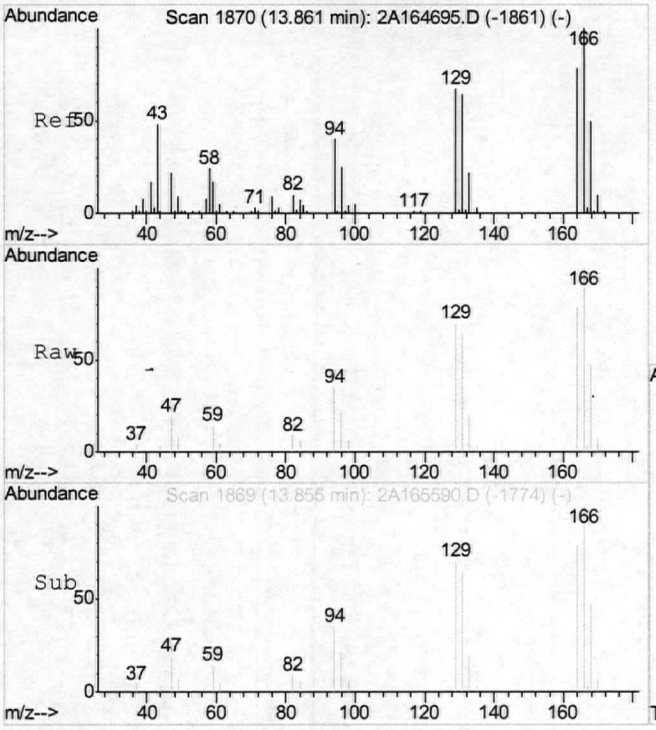
Data Path : C:\MSDChem\1\DATA\
Data File : 2A165590.D
Acq On : 13 Feb 2016 2:33 pm
Operator : tracyk
Sample : jc14083-6
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 17 13:14:51 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration



7.1.6

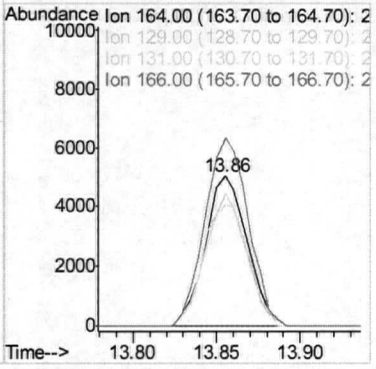
7



#85
tetrachloroethene
Concen: 4.89 ug/L
RT: 13.86 min Scan# 1869
Delta R.T. -0.01 min
Lab File: 2A165590.D
Acq: 13 Feb 2016 2:33 pm

Tgt Ion:164 Resp: 8711

Ion	Ratio	Lower	Upper
164	100		
129	88.6	56.5	116.5
131	80.5	52.3	112.3
166	125.8	98.9	158.9



7.1.6

7

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\
Data File : 2A165591.D
Acq On : 13 Feb 2016 3:03 pm
Operator : tracyk
Sample : jc14083-7
Misc : MS98364,V2A7042,5.0,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 17 13:15:28 2016
Quant Method : C:\MSDCHEM\1\METHODS\M2A7005.M
Quant Title : SW846 V8260C, ZB624 60mx0.25mmx1.4um
QLast Update : Mon Jan 25 12:37:27 2016
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Tert Butyl Alcohol-d9	8.32	65	69047	500.00 ug/L	-0.02
5) pentafluorobenzene	10.75	168	261297	50.00 ug/L	0.00
52) 1,4-difluorobenzene	11.67	114	280541	50.00 ug/L	0.00
84) chlorobenzene-d5	14.66	117	226876	50.00 ug/L	0.00
98) 1,4-dichlorobenzene-d4	16.82	152	121656	50.00 ug/L	0.00
System Monitoring Compounds					
46) dibromofluoromethane (s)	10.81	113	100328	52.59 ug/L	-0.01
Spiked Amount 50.000	Range 76 - 120		Recovery = 105.18%		
47) 1,2-dichloroethane-d4 (s)	11.25	65	104122	47.59 ug/L	0.00
Spiked Amount 50.000	Range 73 - 122		Recovery = 95.18%		
76) toluene-d8 (s)	13.24	98	322449	51.65 ug/L	0.00
Spiked Amount 50.000	Range 84 - 119		Recovery = 103.30%		
100) 4-bromofluorobenzene (s)	15.74	95	114151	50.92 ug/L	0.00
Spiked Amount 50.000	Range 78 - 117		Recovery = 101.84%		
Target Compounds					Qvalue
50) 1,1,1-trichloroethane	10.85	97	5341	1.70 ug/L	93
85) tetrachloroethene	13.86	164	1871	1.05 ug/L	84

(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.7

7