Supporting Information for

Assessing the combinatorial potential of the RiPP cyanobactin *tru* pathway

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Table S1. Successfully expressed mutants described in this study. *duplicate sequences obtained and correctly expressed twice but not counted twice in statistics.

TSIAPFC

XXIAPFC	TSIXPXC	TSXXPFC	XSXXPXC
#sequences: 41 (37 unique)	#sequences: 45 (42 unique)	#sequences: 64 (63 unique)	#sequences: 9
APIAPFC	TSIAPNC	TSAEPFC	DSEVPTC
EFIAPFC	TSIAPSC	TSAPPFC	ESADPLC
EGIAPFC	TSIAPVC	TSASPFC	HSTIPLC
FGIAPFC	TSIAPYC	TSAVPFC	QSWGPTC
GAIAPFC	TSIDPIC	TSDGPFC	TSPYPLC
GEIAPFC	TSIFPWC	TSDLPFC	VSEAPLC
GFIAPFC	TSIGPLC	TSDQPFC	WSNLPQC
GGIAPFC	TSIGPTC	TSEFPFC	YSTIPMC
GIIAPFC	TSIGPVC*	TSEKPFC	YSTTPLC
GLIAPFC	TSIGPVC*	TSEQPFC	
GPIAPFC	TSIGPYC	TSESPFC	
GVIAPFC	TSIHPLC	TSETPFC	
GYIAPFC	TSIHPVC	TSFLPFC	
HDIAPFC	TSIIPAC	TSFSPFC	
HLIAPFC*	TSILPLC	TSFVPFC	
HLIAPFC*	TSILPSC	TSGSPFC	
HSIAPFC*	TSILPTC	TSHGPFC	
HSIAPFC*	TSILPWC	TSHPPFC	
ISIAPFC	TSINPWC	TSIHPFC	
LAIAPFC	TSIPPLC	TSIIPFC	
LDIAPFC	TSIPPVC	TSIQPFC	
NLIAPFC	TSIPPYC	TSIRPFC	
NVIAPFC	TSIQPLC	TSISPFC	
NYIAPFC	TSIQPNC	TSKQPFC	
PLIAPFC	TSIQPQC	TSKVPFC	
QLIAPFC	TSISPIC	TSLMPFC	
SDIAPFC	TSISPLC	TSLNPFC	
SNIAPFC*	TSISPNC	TSLPPFC	
SNIAPFC*	TSISPQC	TSLSPFC	
STIAPFC	TSISPTC	TSLVPFC	
SVIAPFC	TSITPLC	TSMEPFC	
SYIAPFC	TSITPMC	TSMTPFC	
TNIAPFC	TSITPQC	TSMYPFC	
TQIAPFC*	TSITPVC	TSNSPFC	
TQIAPFC*	TSIVPAC	TSNVPFC	
VLIAPFC	TSIVPHC	TSQAPFC	
VYIAPFC	TSIVPLC*	TSQDPFC	
WGIAPFC	TSIVPLC*	TSQEPFC	
WSIAPFC	TSIVPVC	TSQGPFC	

YAIAPFC	TSIVPWC*	TSRDPFC
YQIAPFC	TSIVPWC*	TSRFPFC
	TSIWPLC	TSRQPFC
	TSIWPVC	TSRSPFC
	TSIYPFC	TSRTPFC
	TSIYPSC	TSRVPFC
		TSRYPFC
		TSSIPFC
		TSSLPFC
		TSSSPFC*
		TSSSPFC*
		TSTFPFC
		TSTNPFC
		TSTPPFC
		TSTSPFC
		TSTTPFC
		TSVDPFC
		TSVMPFC
		TSVPPFC
		TSVQPFC
		TSVRPFC
		TSVTPFC
		TSVWPFC
		TSWNPFC
		TSWSPFC

Mutations accepted(#)

Position 7	Position 4	Position 5	Position 7
A(1)	A(4)	A(4)	D(1)
E(2)	D(1)	D(3)	E(1)
F(1)	F(1)	E(5)	H(1)
G(9)	G(4)	F(3)	Q(1)
H(3)	H(2)	G(1)	T(2)
I(1)	I(1)	H(2)	V(1)
L(2)	L(4)	I(5)	W(1)
N(3)	N(1)	K(2)	Y(2)
P(1)	P(3)	L(5)	Postion 5
Q(1)	Q(3)	M(3)	A(1)
S(5)	S(5)	N(2)	E(2)
T(2)	T(4)	Q(4)	N(1)
V(2)	V(5)	R(7)	P(1)
W(2)	W(2)	S(3)	T(3)
Y(2)	Y(2)	T(5)	W(1)
Position 6	Position 2	V(7)	Position 4
A(3)	A(2)	W(2)	A(1)
D(3)	F(1)	Position 4	D(1)
E(1)	H(1)	A(1)	G(1)
F(2)	I(2)	D(3)	I(2)

G(4)
I(1)
L(6)
N(2)
P(2)
Q(2)
S(3)
T(1)
V(3)
Y(4)

L(9)
M(1)
N(3)
Q(3)
S(3)
T(3)
V(7)
W(4)
Y(3)

E(3)
F(3)
G(3)
H(1)
I(2)
K(1)
L(3)
M(2)
N(3)
P(5)
Q(6)
R(2)
S(11)
T(5)
V(6)
W(1)
Y(2)

L(1)
T(1)
V(1)
Y(1)
Position 2
L(5)
M(1)
Q(1)
T(2)

Table S2. Sequences tested but for which products could not be detected. The rules here are: no Cys any position; no Arg/Lys in positions 7,6, or 2; no Asp/Glu/Pro in position 2.

TSIAPFC

XXIAPFC	TSIXPXC	TSXXPFC	XSXXPXC
#sequences: 31	#sequences: 23	#sequences: 56 (55 unique)	#sequences: 56
Follow rules	Follow rules	Follow rules	Follow rules
HHIAPFC	TSIKPWC	TSGYPFC	SSENPTC
MNIAPFC	TSIRPTC	TSRKPFC	DSNSPSC
MSIAPFC	TSIRPGC	TSRAPFC	SSMGPSC
DIIAPFC	TSIRPLC	TSRPPFC	ASAHPSC
ITIAPFC	TSISPGC	TSLRPFC	NSVHPSC
NYIAPFC	TSIMPGC	TSRRPFC	YSFSPYC
PIIAPFC	TSIDPSC	TSRGPFC	NSYEPLC
PNIAPFC	TSIGPWC	TSRHPFC	FSGLPHC
QPIAPFC		TSRGPFC	GSNPPQC
	Break rules	TSRDPFC	GSNYPQC
Break rules	TSIPPCC	TSRHPFC	SSSGPMC
DRIAPFC	TSISPCC	TSRFPFC	ASGLPWC
VRIAPFC	TSIHPCC	TSRSPFC	WSNNPSC
RPIAPFC	TSIRPCC	TSQRPFC	PSPAPLC
CRIAPFC	TSIFPCC	TSHRPFC	NSPAPLC
RTIAPFC	TSITPPC	TSMRPFC	
RRIAPFC	TSILPPC	TSYRPFC	Break rules
RGIAPFC	TSIQPPC	TSHTPFC	ESWCPLC
REIAPFC	TSIRPPC	TSHHPFC	CSALPLC
ARIAPFC	TSIGPPC	TSHPPFC	TSECLSC
TRIAPFC	TSIAPEC	TSHLPFC	KSKMPHC
REIAPFC	TSIVPDC	TSHVPFC	KSHPPMC
IKIAPFC	TSILPDC	TSKVPFC	KSLKPWC
LKIAPFC	TSILPDC	TSKLPFC	ISSKPYC
KCIAPFC	TSIVPRC	TSKHPFC	ISAIPKC
SKIAPFC		TSKFPFC	NSDWPKC
KHIAPFC		TSKGPFC	TSTKPIC
DKIAPFC		TSTKPFC*	GSTKPSC
KQIAPFC		TSTKPFC*	DSFKPLC
IKIAPFC		TSLKPFC	NSKPPHC
CLIAPFC		TSNKPFC	VSKVPLC
CGIAPFC		TSPWPFC	ASEKPIC
MCIAPFC		TSPLPFC	RSKVPAC
		TSPIPFC	RSTAPSC
		TSPGPFC	SSRQPTC
		TSPTPFC	WSRHPPC
		TSPSPFC	ASGVPRC
		TSTDPFC	RSPEPIC

		TSSDPFC	YSRSPTC
		TSNDPFC	ASRTPLC
		TSDWPFC	KSLQPRC
		TSFEPFC	RSTVPAC
		TSFIPFC	MSSRPSC
		TSQSPFC	ASRFPGC
		TSNMPFC	YSRHPTC
		TSGQPFC	ASRRPDC
		TSGGPFC	SSGRPVC
			QSSLPGC
		Break rules	TSSRPGC
		TSRCPFC	YSNSPGC
		TSDCPFC	HSSNPEC
		TSCDPFC	NSSYPEC
		TSCLPFC	GSTNPEC
		TSECPFC	TSPGPDC
		TSCVPFC	ISDWPPC
		TSCGPFC	LSDYPPC
		TSVCPFC	WSLAPPC
		TSSCPFC	GSYEPPC
		TSPCPFC	
Mutations not found / break rules (#)			
Position 7	Position 4	Position 5	Position 7
A(1)	A(1)	C(4)	A(5)
C(3)	F(1)	D(1)	C(1)
D(2)	G(1)	E(1)	D(1)
I(2)	H(1)	P(1)	E(1)
K(3)	L(3)	R(1)	G(3)
L(1)	M(1)	S(1)	H(1)
M(1)	P(1)	V(1)	I(3)
Q(1)	Q(1)	Position 4	K(4)
R(6)	R(2)	C(6)	M(1)
S(1)	S(1)	D(1)	N(3)
T(1)	T(1)	G(1)	Q(1)
V(1)	V(2)	H(4)	R(4)
Position 6	Position 2	L(1)	S(2)
C(2)	C(5)	V(1)	T(4)
E(2)	D(3)		V(1)
G(2)	E(1)		W(2)
H(1)	P(5)		Y(3)
K(5)	R(2)		Position 5
L(1)			A(2)
P(1)			D(3)
Q(1)			E(2)
R(6)			F(1)
T(1)			G(2)

H(1)
K(4)
L(3)
N(1)
P(2)
R(7)
S(6)
T(5)
W(1)
Y(1)
Position 4
A(2)
C(2)
E(2)
F(1)
G(1)
H(2)
I(1)
K(6)
L(2)
M(1)
N(2)
P(2)
Q(2)
R(4)
S(2)
T(1)
V(4)
W(1)
Y(2)
Position 2
A(2)
D(2)
G(4)
H(2)
I(3)
K(2)
L(5)
M(1)
P(5)
R(2)
S(4)
T(3)
V(1)
W(1)
Y(1)

Mutations not found / follow rules (#)

Position 7	Position 4	Position 5	Position 7
D(1)	D(1)	D(1)	A(2)
H(1)	G(1)	F(2)	D(1)
I(1)	K(1)	G(3)	F(1)
M(2)	M(1)	H(6)	G(2)
N(1)	R(3)	K(5)	N(3)
P(2)	S(1)	L(2)	P(1)
Q(1)	Position 2	M(1)	S(3)
Position 6	G(3)	N(3)	W(1)
H(1)	L(1)	P(6)	Y(1)
I(2)	S(1)	Q(2)	Position 5
N(2)	T(1)	R(11)	A(1)
P(1)	W(2)	S(1)	E(1)
S(1)		T(2)	F(1)
T(1)		Y(1)	G(2)
Y(1)		Position 4	M(1)
		A(1)	N(4)
		D(4)	P(2)
		E(1)	S(1)
		F(2)	V(1)
		G(5)	Y(1)
		H(4)	Position 4
		I(2)	A(2)
		K(4)	E(1)
		L(3)	G(2)
		M(1)	H(2)
		P(2)	L(2)
		Q(1)	N(1)
		R(6)	P(1)
		S(3)	S(2)
		T(2)	Y(1)
		V(2)	Position 2
		W(2)	H(1)
		Y(1)	L(3)
			M(1)
			Q(2)
			S(5)
			T(1)
			W(1)
			Y(1)

Table S3A. Summary of selectivity data. Numbers "a,b,c" indicate: a, the total number of times that amino acid mutation was observed in products; b, the total number of times the amino acid mutation was observed in a sequence that did not lead to an observable product, when the rules were followed; c, the total number of times the amino acid mutation was observed in a sequence that did not lead to an observable product, when the rules were broken. Positions are indicated by numbers in the top row; if only the number is shown, this number results only from the double mutant library. If they are followed by "(all)" this is the quadruple + double mutant libraries combined. For example, for the amino acid in position 7, Ala was observed a total of once in a product, although it was also seen twice in sequences that followed the rules without leading to a product. It was seen six times in this position in rule breaking sequences. In position 6, "na" refers to the fact that the quadruple mutant library was not varied in that position.

pos	7	7(all)	6	6(all)	5	5(all)	4	4(all)	2	2(all)
A	1,0,1	1,2,6	3,0,0	na	4,0,0	5,1,2	5,1,1	6,3,3	2,0,0	2,0,2
C	0,0,3	0,0,4	0,0,2	na	0,0,4	0,0,4	0,0,6	0,0,8	0,0,5	0,0,5
D	0,1,2	1,2,3	3,0,0	na	3,1,1	3,1,4	4,5,1	5,5,1	0,0,3	0,0,5
E	2,0,0	3,0,1	1,0,2	na	5,0,1	7,1,3	3,1,0	3,2,2	0,0,1	0,0,1
F	1,0,0	1,1,0	2,0,0	na	3,2,0	3,3,1	4,2,1	4,2,2	1,0,0	1,0,0
G	9,0,0	9,2,3	4,0,2	na	1,3,0	1,5,2	7,6,2	8,8,3	0,3,0	0,3,4
H	3,1,0	4,1,1	0,1,1	na	2,6,0	2,6,1	3,4,5	3,6,7	1,0,0	1,1,2
I	1,1,2	1,1,5	1,2,0	na	5,0,0	5,0,0	3,2,0	5,2,1	2,0,0	2,0,3
K	0,0,3	0,0,7	0,0,5	na	2,5,0	2,5,4	1,5,0	1,5,6	0,0,0	0,0,2
L	2,0,1	2,0,1	6,0,1	na	5,2,0	5,2,3	7,3,4	8,5,6	9,1,0	14,4,5
M	0,2,1	0,2,2	0,0,0	na	3,1,0	3,2,0	2,2,1	2,2,2	1,0,0	2,1,1
N	3,1,0	3,4,3	2,2,0	na	2,3,0	3,7,1	4,0,0	4,1,2	3,0,0	3,0,0
P	1,2,0	1,3,0	2,1,1	na	0,6,1	1,8,3	8,2,1	8,3,3	0,0,5	0,0,10
Q	1,1,1	2,1,2	2,0,1	na	4,2,0	4,2,0	9,1,1	9,1,3	3,0,0	4,2,0
R	0,0,6	0,0,10	0,0,6	na	7,11,1	7,11,7	2,9,2	2,9,6	0,0,2	0,0,4
S	5,0,1	5,3,3	3,1,0	na	3,1,1	3,2,7	16,4,1	16,6,3	3,1,0	3,6,4
T	2,0,1	4,0,5	1,1,1	na	5,2,0	8,2,5	9,2,1	10,2,2	3,1,0	5,2,3
V	2,0,1	3,0,2	3,0,0	na	7,0,1	7,1,1	11,2,3	12,2,7	7,0,0	7,0,1
W	2,0,0	3,1,2	0,0,0	na	2,0,0	3,0,1	3,2,0	3,2,1	4,2,0	4,3,1
Y	2,0,0	4,1,3	4,1,0	na	0,1,0	0,1,1	4,1,0	5,2,2	3,0,0	3,1,1

Table S3B. Percent success rate for each amino acid. Amino acids behave similarly as groups, within the limitations of the number of sequences screened, where some amino acids co-occur with disfavored amino acids more frequently at random. For example, D occurs in 12 rule-breaking sequences, while E occurs in 9. Some amino acids, such as Asp/Glu or Arg/Lys, share specific forbidden positions, making them similar.

Amino acid	# successful / # appearances	Success rate
A	17/37	46%
I	14/29	48%
L	35/59	59%
V	32/44	73%
N	17/35	49%
Q	21/33	64%
S	30/65	46%
T	28/51	55%
F	11/20	55%
H	10/37	27%
W	13/25	52%
Y	16/30	53%
D	12/32	38%
E	14/26	54%
G	22/54	41%
M	7/19	37%
P	12/45	27%
K	3/37	8%
R	9/62	15%
C	0/23	0%

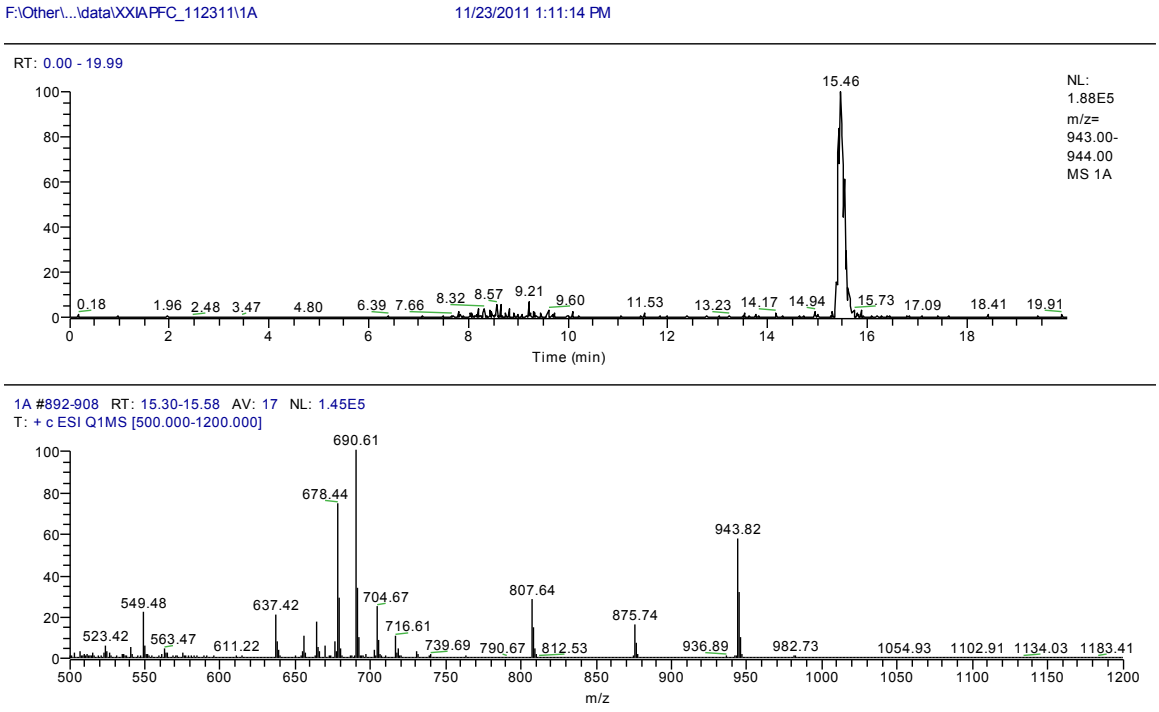
Table S3C. Percent acceptance of each amino acid at each position, when rules are followed. Note that -1 indicates a forbidden position, while -2 indicates that no sequence encoded the amino acid in that position. These percentages further reinforce the grouping of amino acids by type.

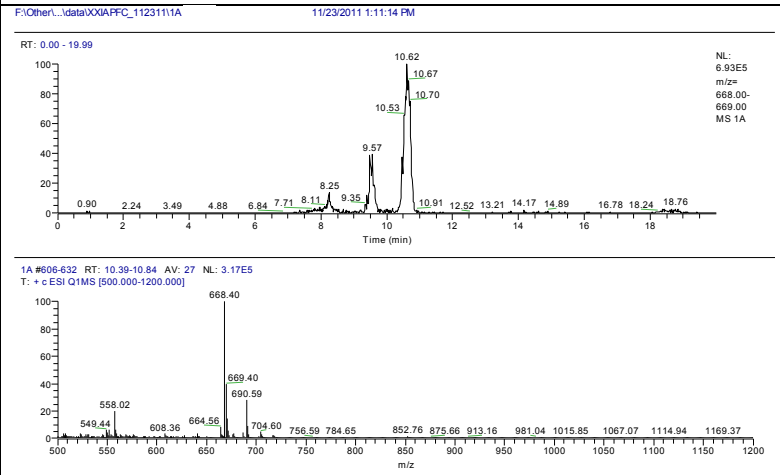
	7	6	5	4	2
A	33.3	100.0	83.3	66.7	100.0
D	50.0	100.0	75.0	50.0	-1.0
E	100.0	100.0	87.5	60.0	-1.0
F	50.0	100.0	50.0	66.7	100.0
G	81.8	100.0	33.3	50.0	0.0
H	80.0	0.0	25.0	33.3	50.0
I	50.0	50.0	100.0	71.4	100.0
K	-1.0	-1.0	28.6	16.7	-1.0
L	100.0	100.0	50.0	61.5	77.8
M	0.0	-2.0	60.0	50.0	66.7
N	42.9	50.0	30.0	80.0	100.0
P	40.0	66.7	11.1	72.7	-1.0
Q	66.7	100.0	66.7	90.0	66.7
R	-1.0	-1.0	38.9	18.2	-1.0
S	62.5	75.0	60.0	72.7	33.3
T	100.0	50.0	80.0	83.3	71.4
V	100.0	100.0	87.5	85.7	100.0
W	75.0	-2.0	100.0	66.7	57.1
Y	80.0	80.0	0.0	85.7	75.0

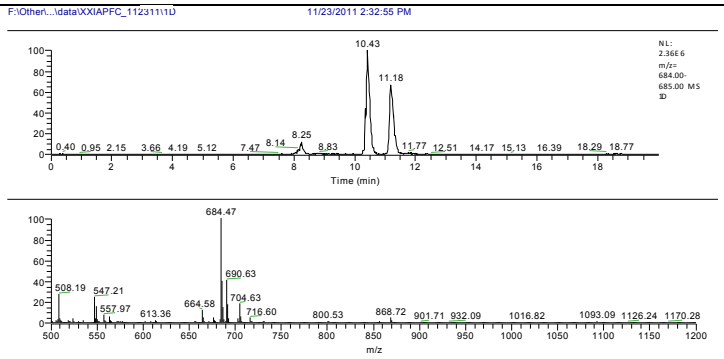
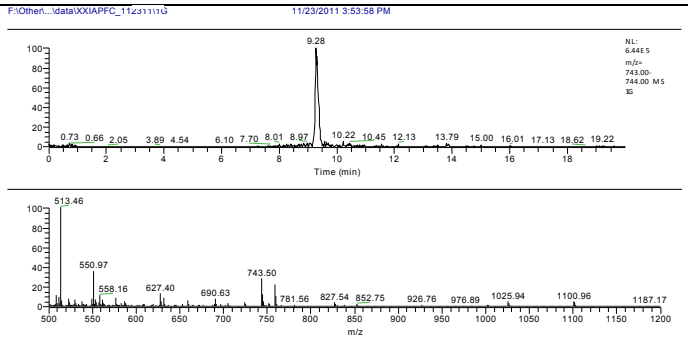
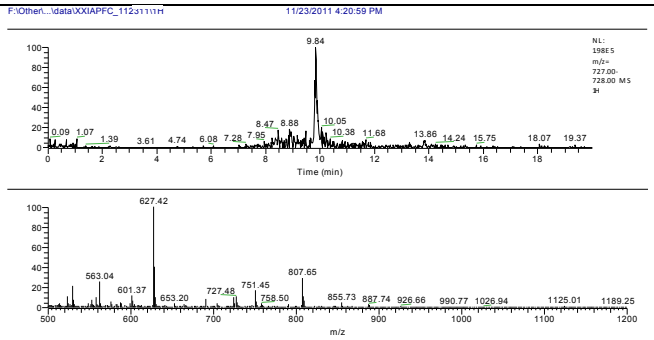
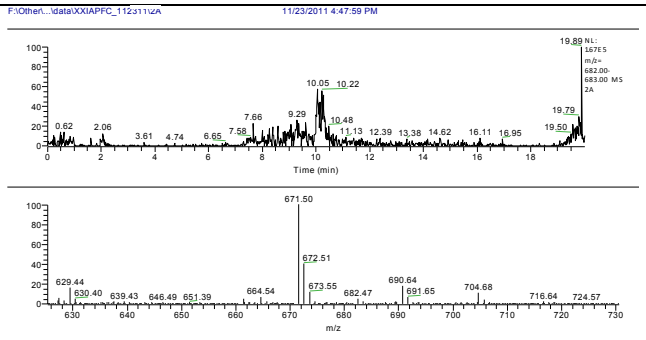
Table S4. Mass spectral analysis of libraries. These represent extracted ion chromatograms for synthesized compounds. The precursor peptide was sequenced, and the sequence was used to generate a table of possible cyanobactin derivatives that might be made. The resulting *m/z* values were manually sought. When found, adjacent spectra were examined to ensure that the peak was specifically correlated with the compound. Often, two isobaric peaks are present. These are either: 1) regioisomers of isoprenylation; or 2) D and L isomers adjacent to thiazoline. For the second possibility, an identical pattern is seen with the standard, trunkamide. In some cases, the products are not prenylated, while in others products are prenylated as indicated. Finally, isoprene is readily lost by fragmentation, so that searching for the base mass of a compound (without isoprene) often leads to identification of all of the prenylated variants.

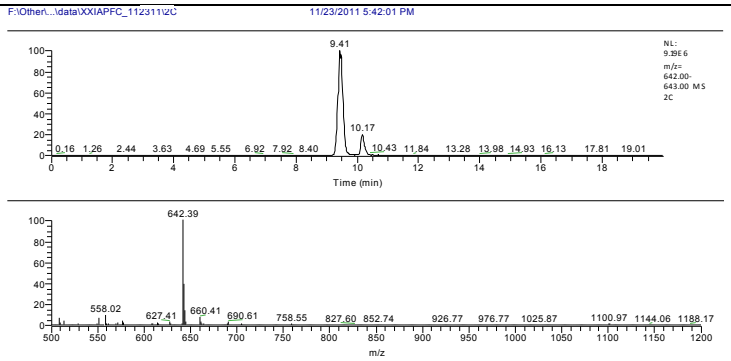
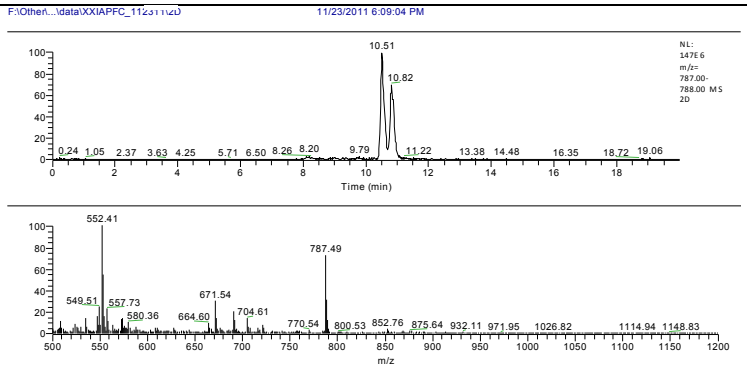
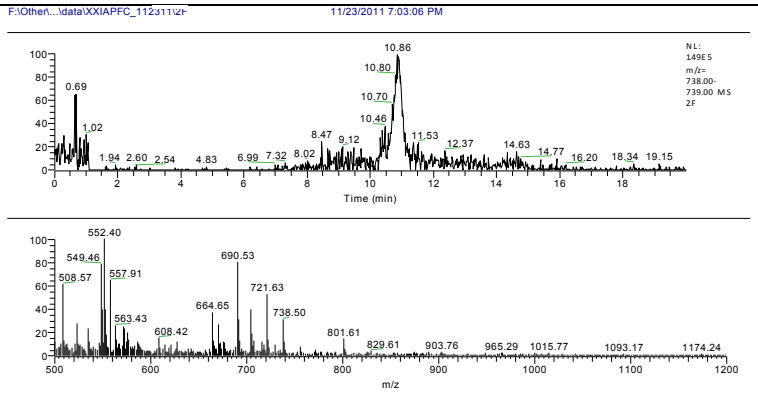
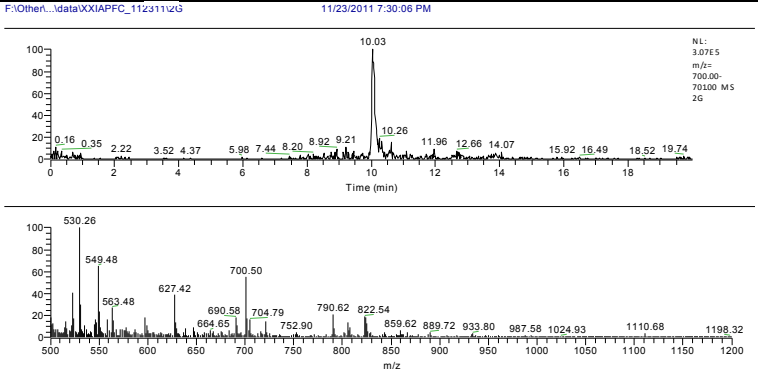
S4A. XXIAPFC

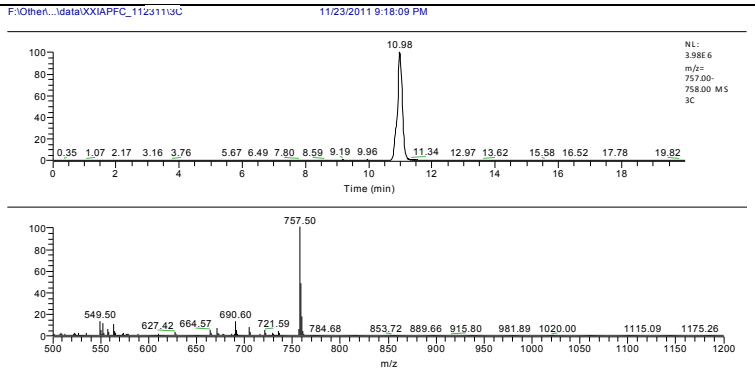
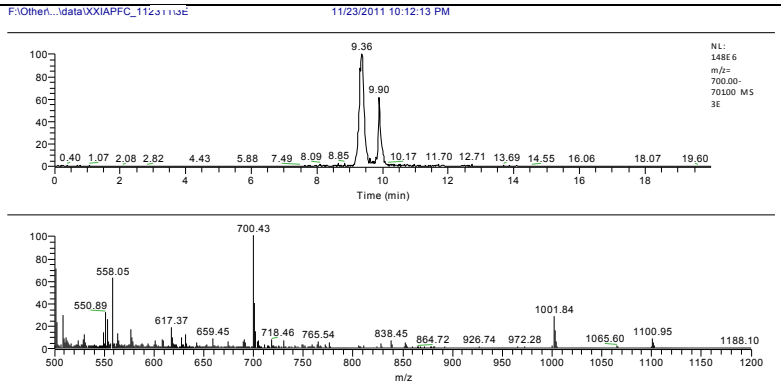
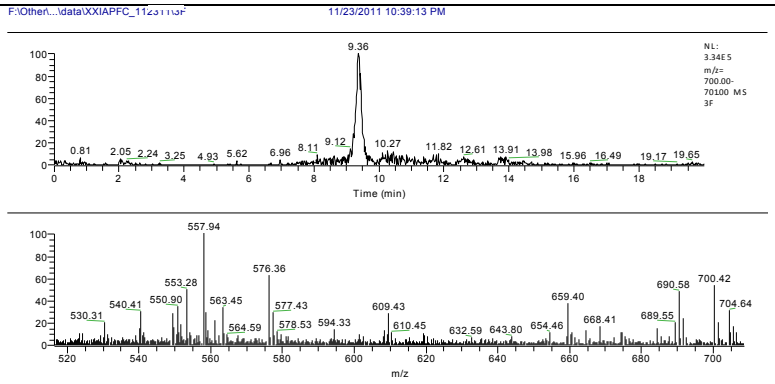
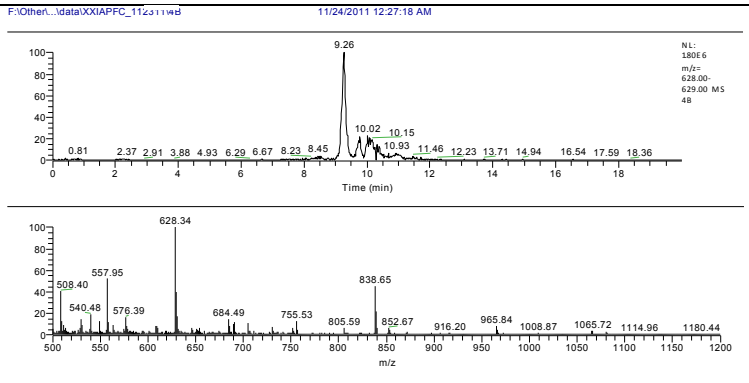
Top: Representative control spectrum for *m/z* = 943, patellin 3 standard. This standard is an internal control that is present in all runs shown below. If patellin 3 is found in an extract, it is highly likely that the new compound will also be found, while if patellin 3 is absent the new compound is universally absent in runs.

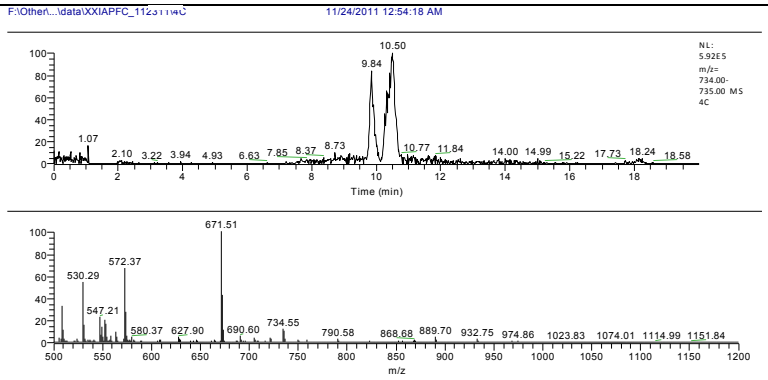
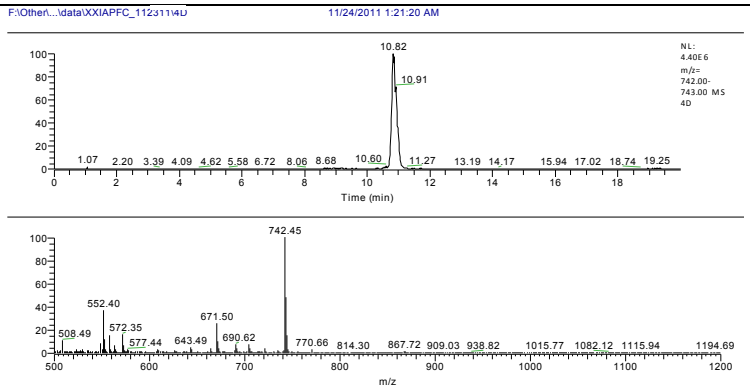
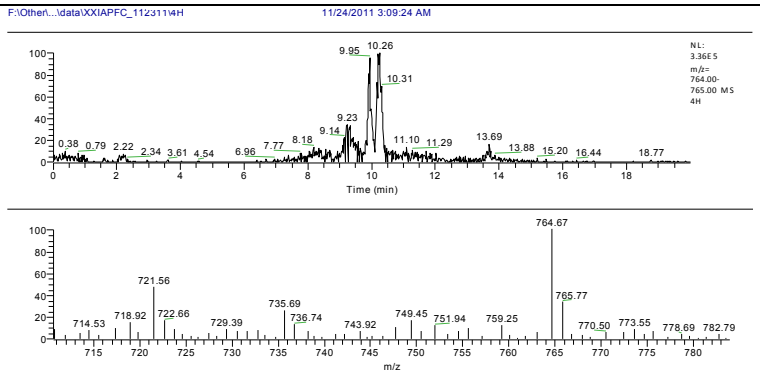
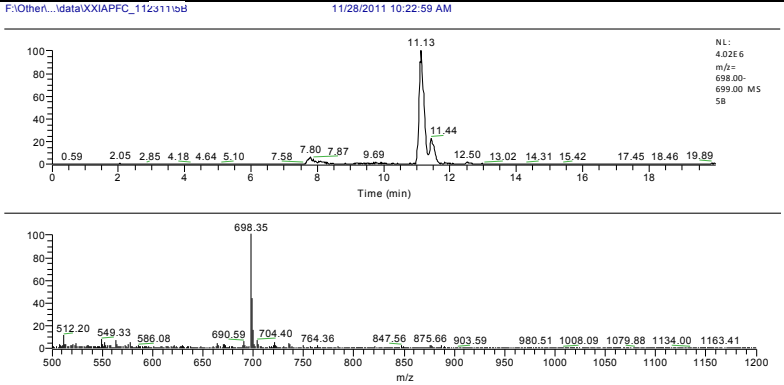


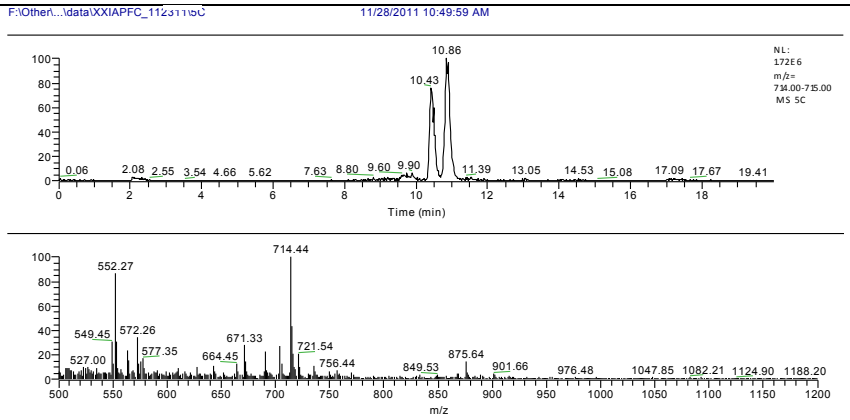
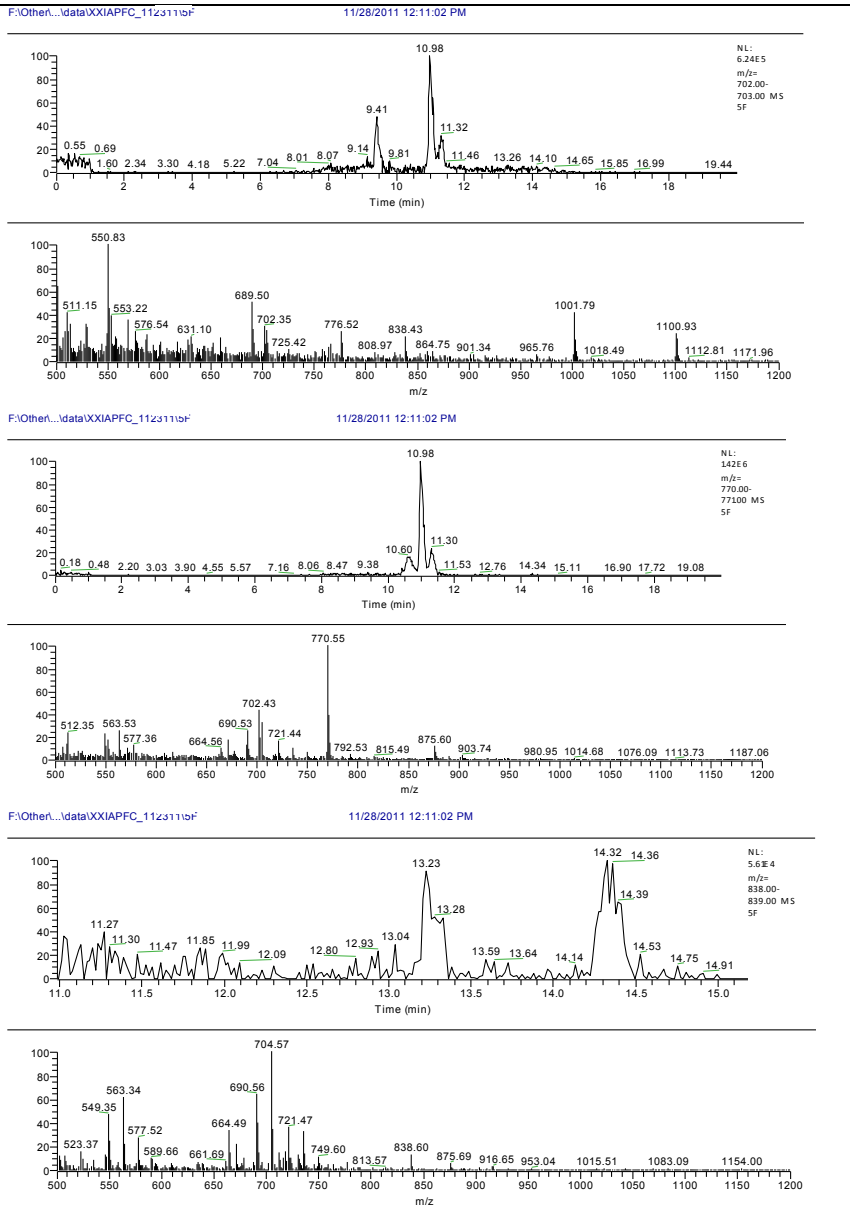
Sequence	*m/z*	Extracted ion chromatogram and mass spectrum at time point
GPIAPFC	688	

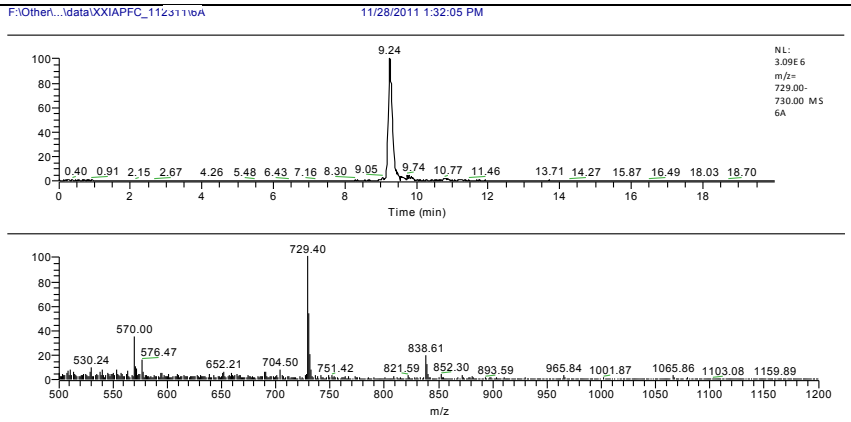
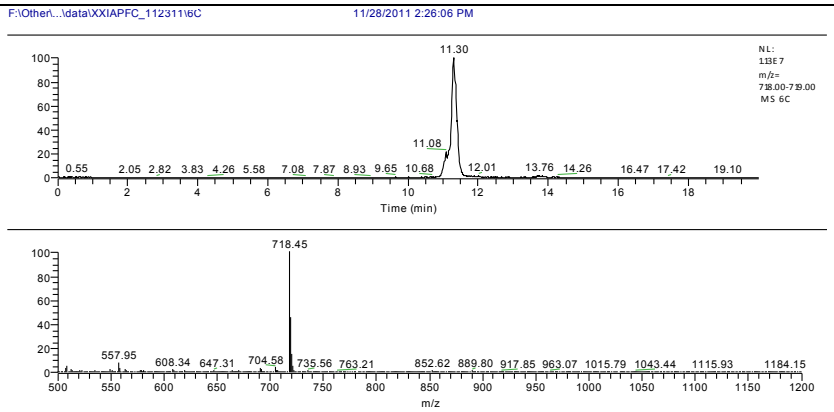
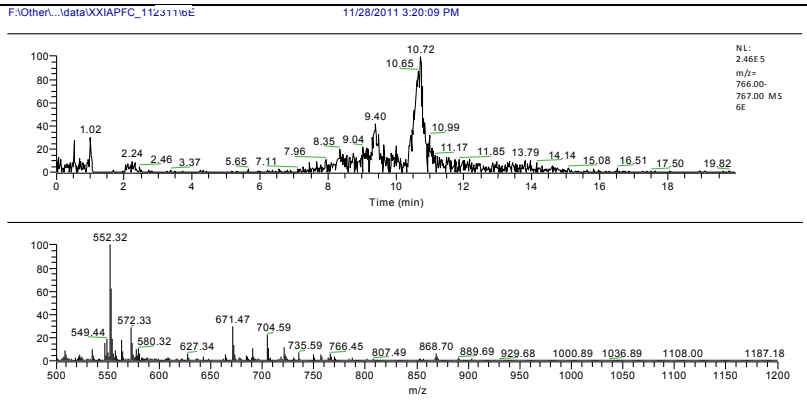
GLIAPFC	684	
TQIAPFC	743	
NVIAPFC	727	
APIAPFC	682	

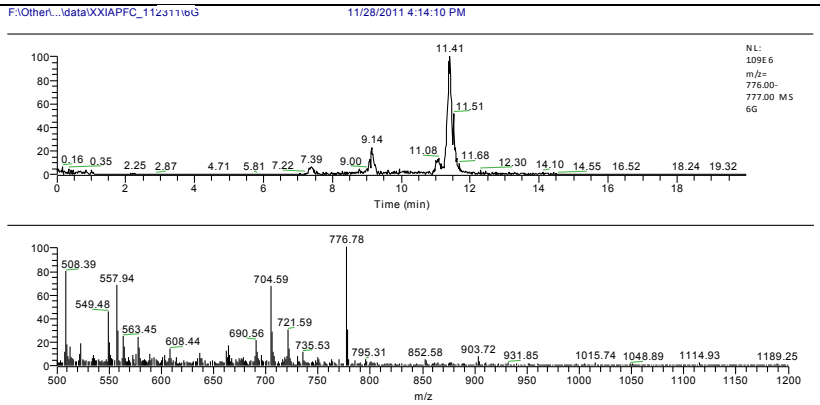
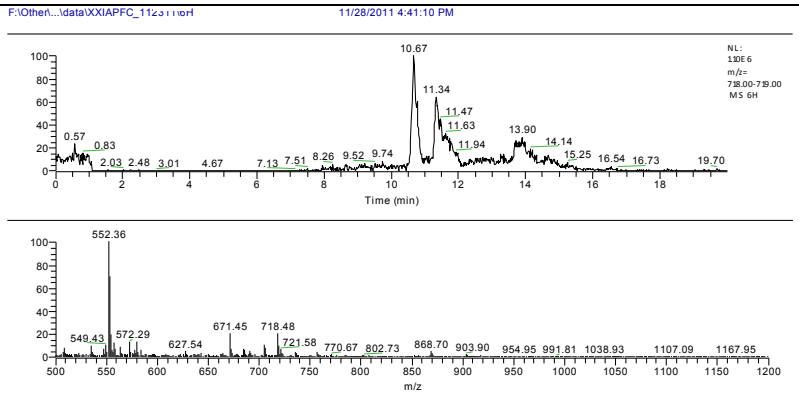
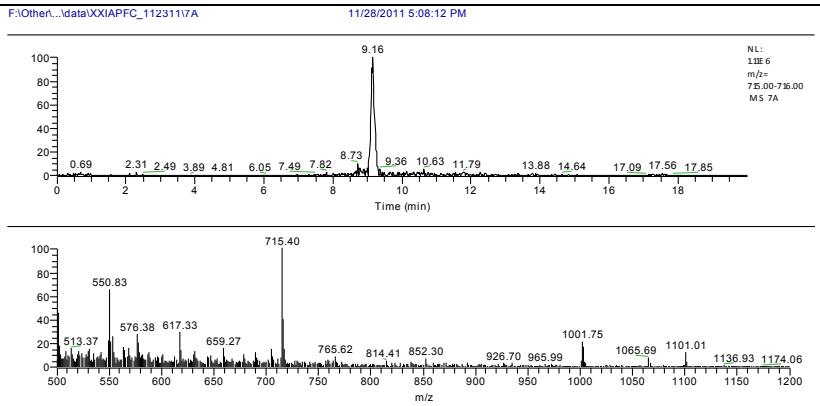
GAIAPFC	642	
WSIAPFC	787	
HSIAPFC	738	
SVIAPFC	700	

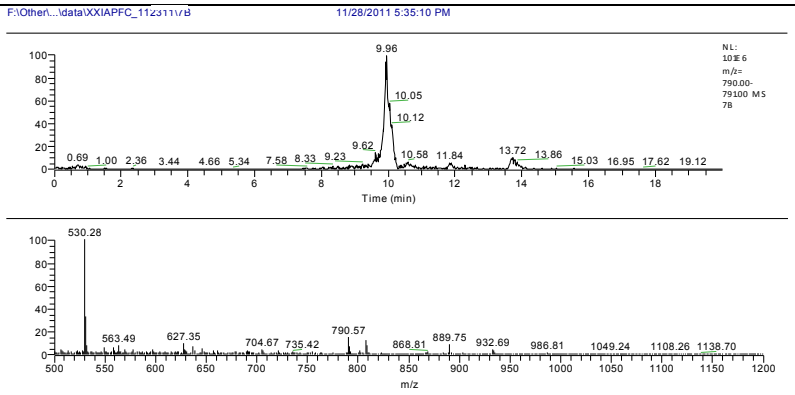
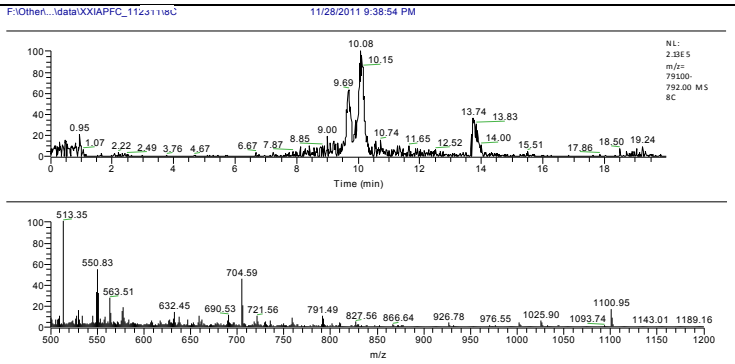
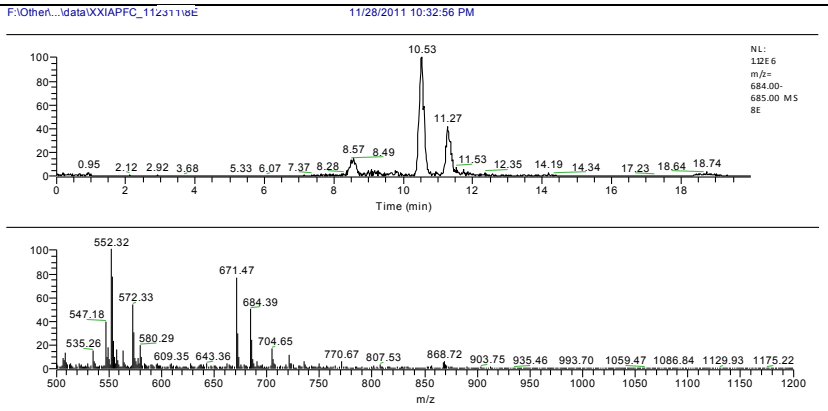
WGIAPFC	757	
GEIAPFC	700	
EGIAPFC	700	
GGIAPFC	628	

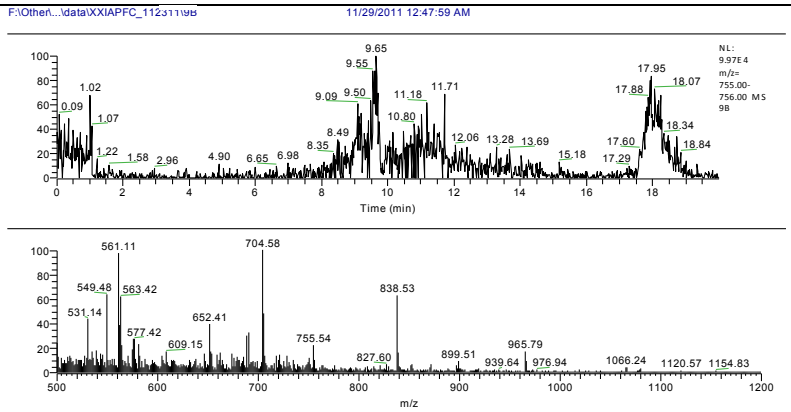
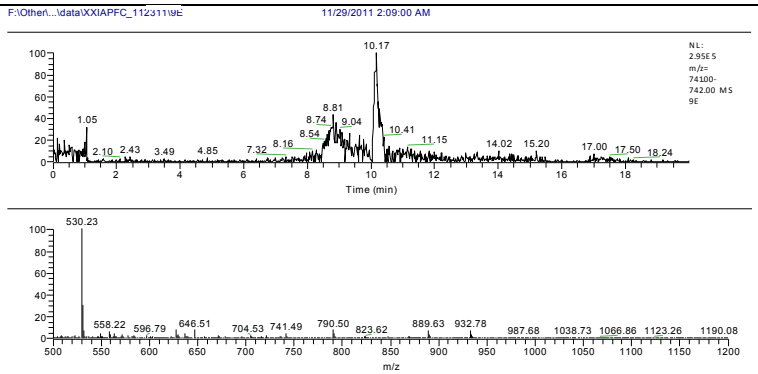
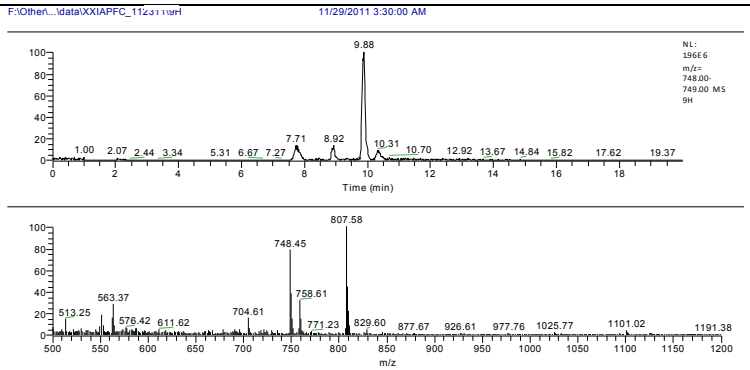
GYIAPFC	734	
LDIAPFC	742	
SYIAPFC	764	
LAIAPFC	698	

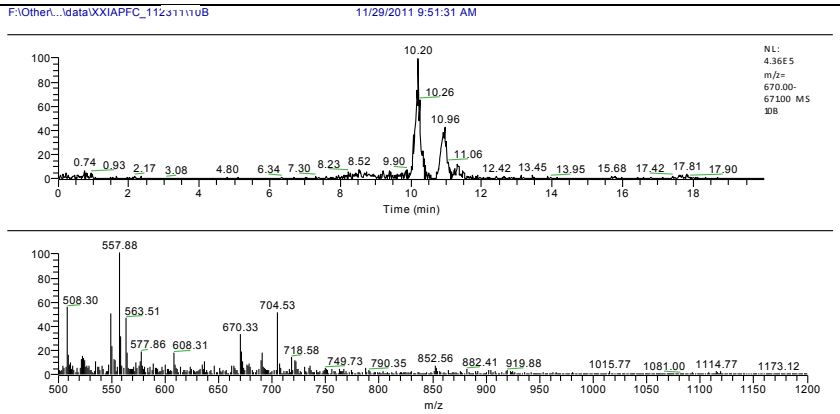
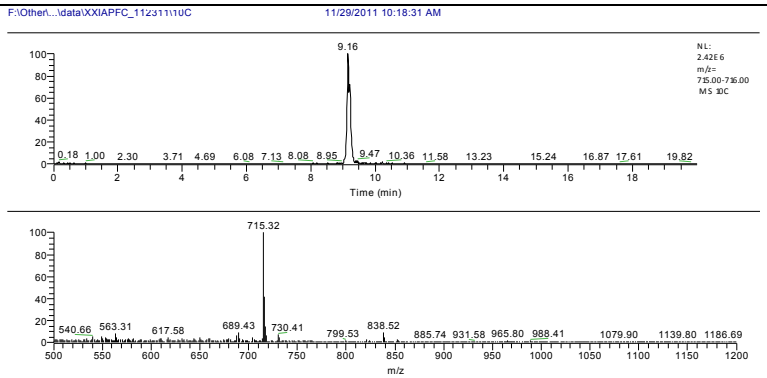
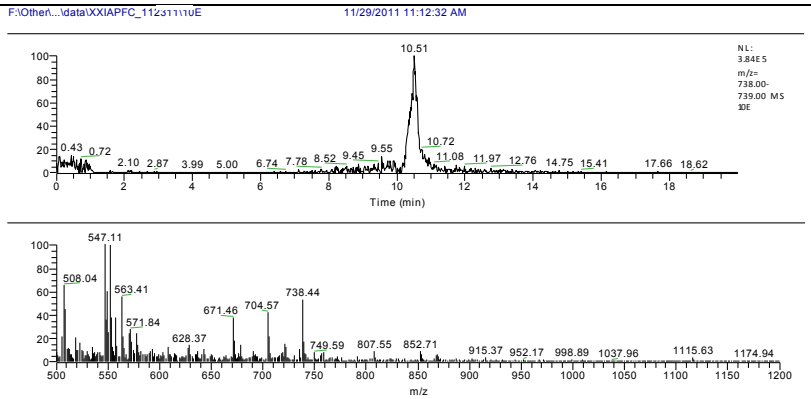
ISIAPFC	714	
STIAPFC +prenyl +2prenyl	702 770 838	

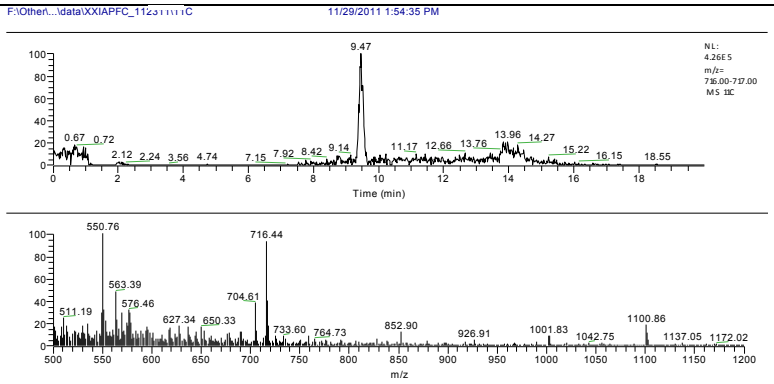
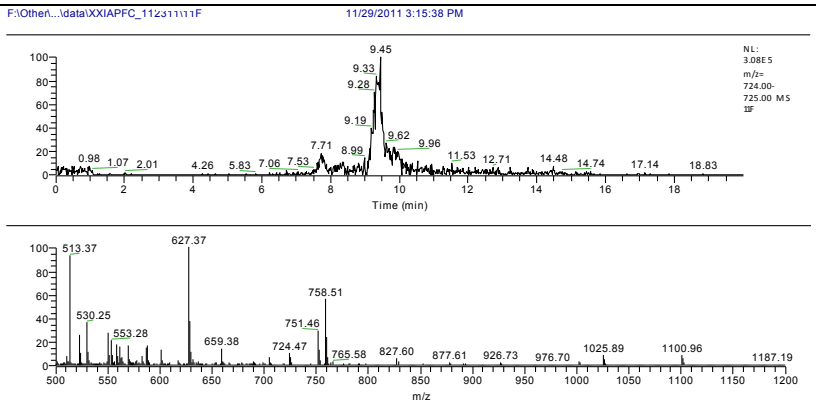
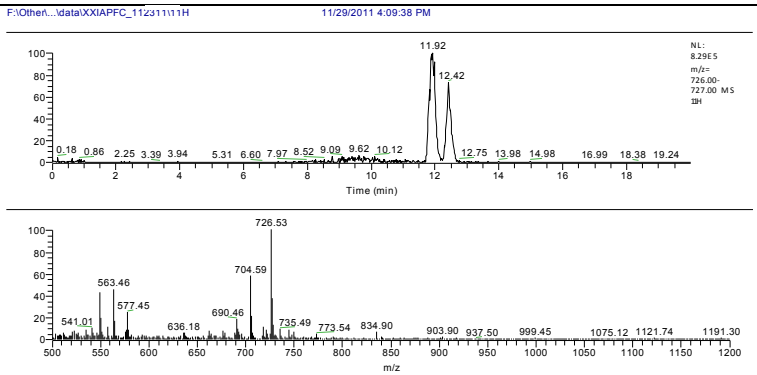
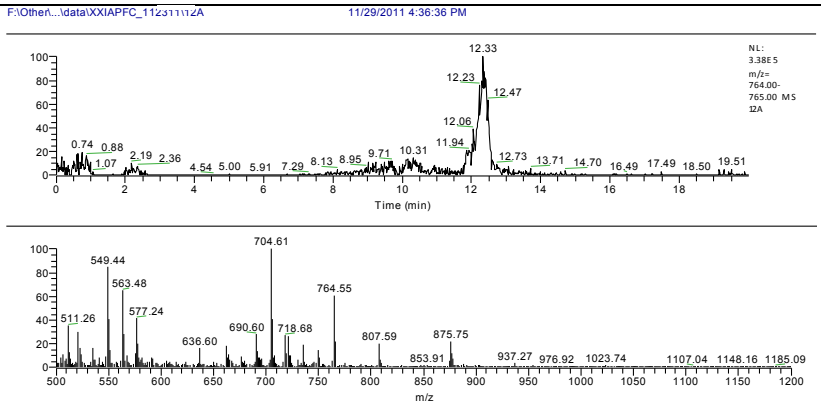
TNIAPFC	729	
FGIAPFC	718	
HDIAPFC	766	

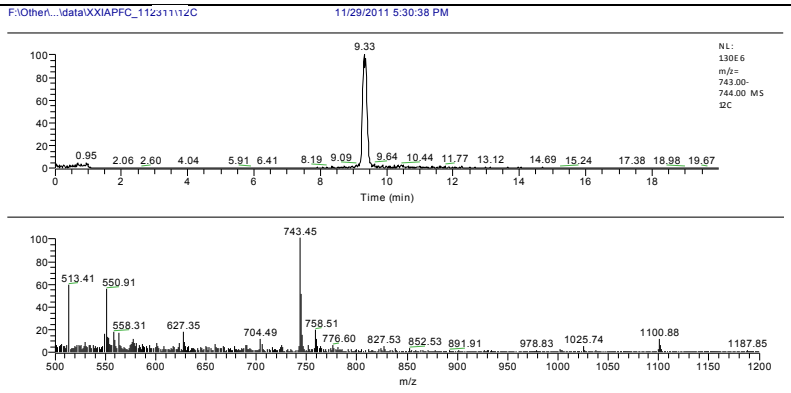
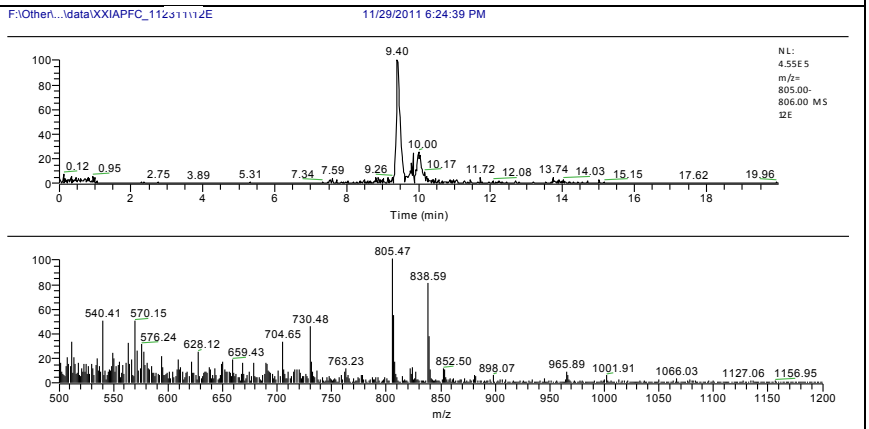
VYIAPFC	776	
GFIAPFC	718	
SNIAPFC	715	

EFIAPFC	790	
NYIAPFC	791	
GIIAPFC	684	

QLIAPFC	755	
NLIAPFC	741	
YAIAPFC	748	

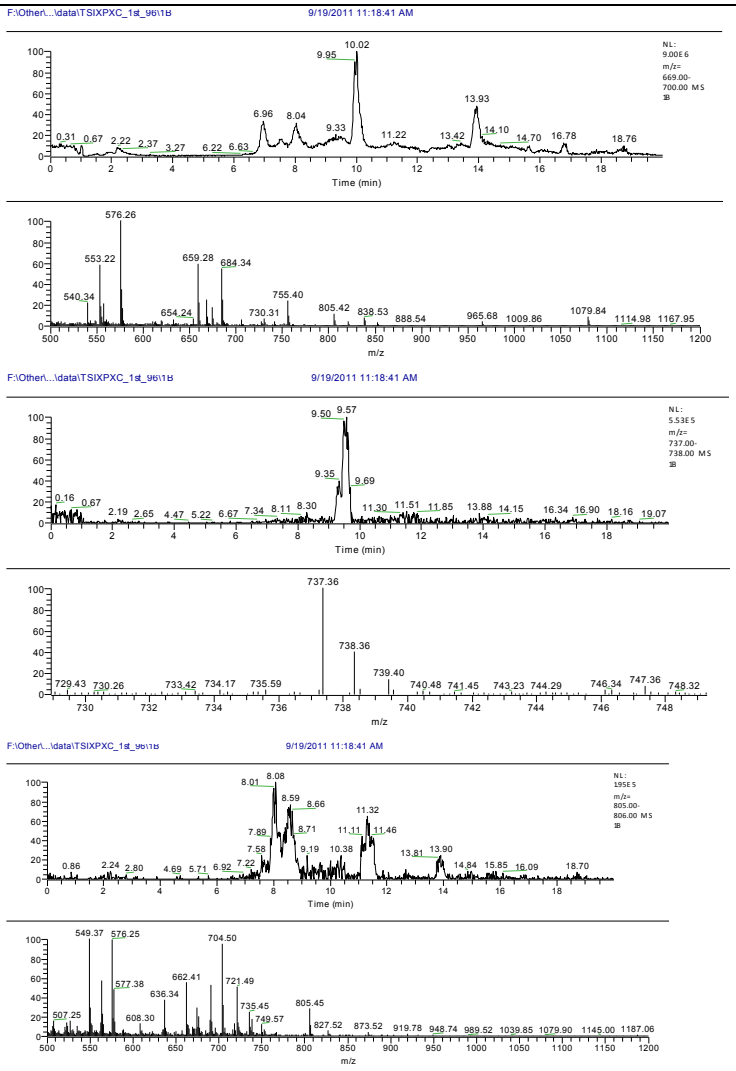
GVIAPFC	670	
SNIAPFC	715	
HSIAPFC	738	

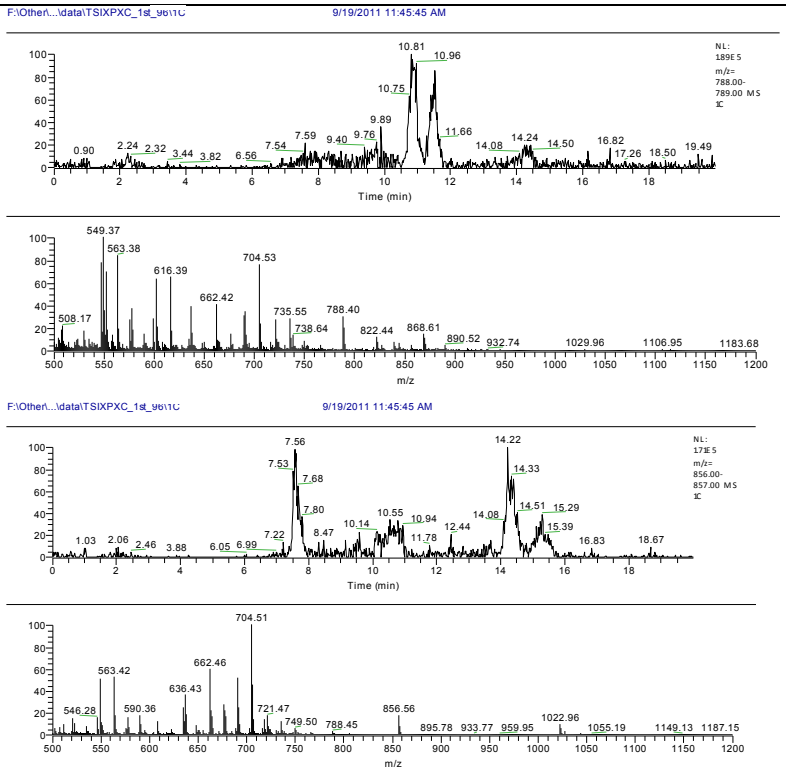
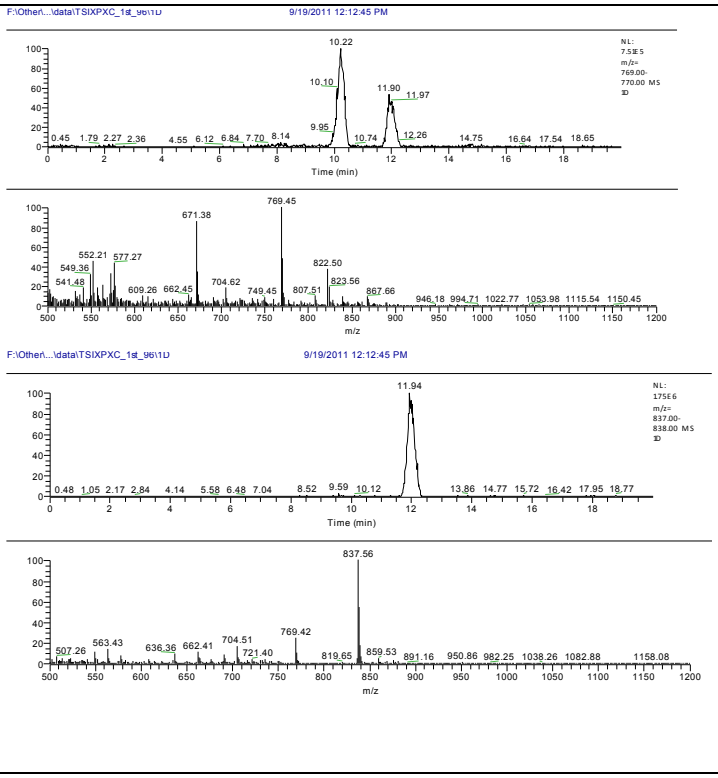
SDIAPFC	716	
PLIAPFC	724	
VLIAPFC	726	
HLIAPFC	764	

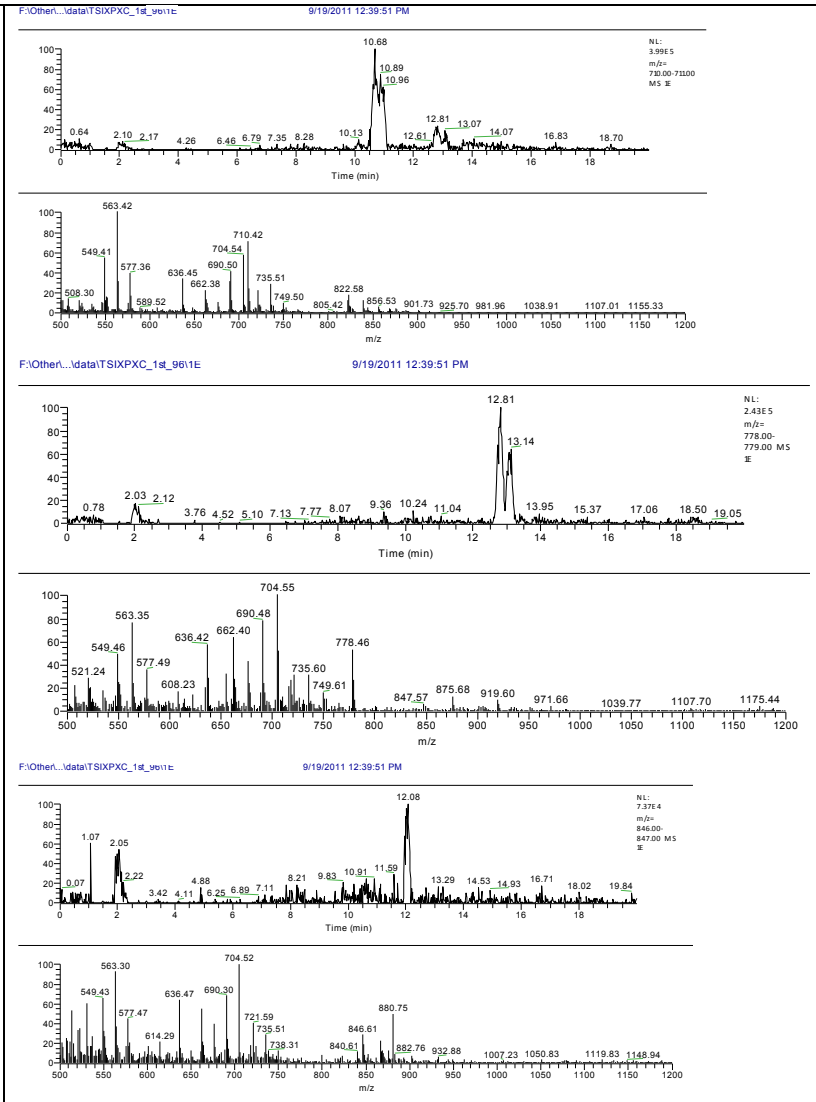
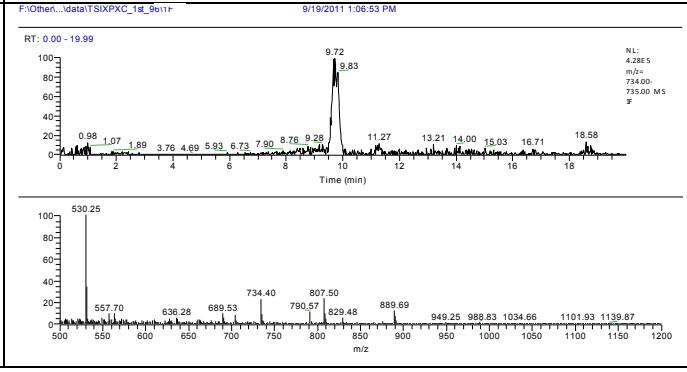
TQIAPFC	743	
YQIAPFC	805	

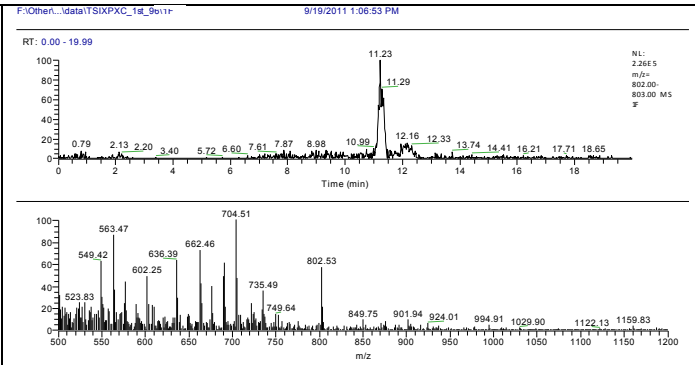
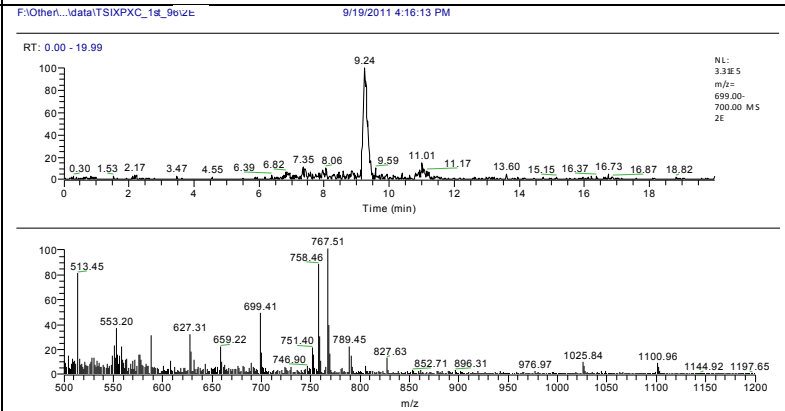
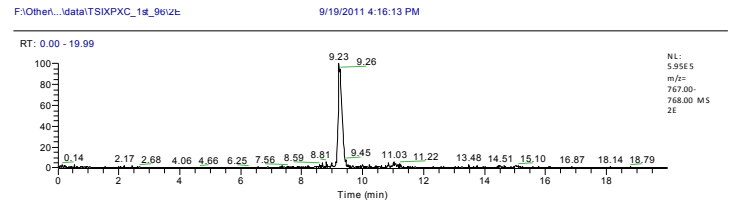
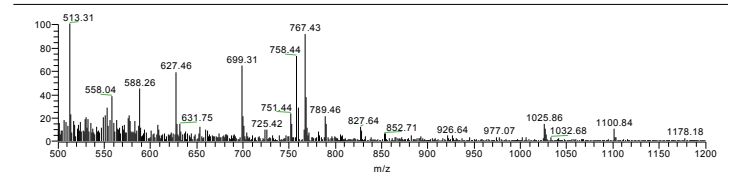
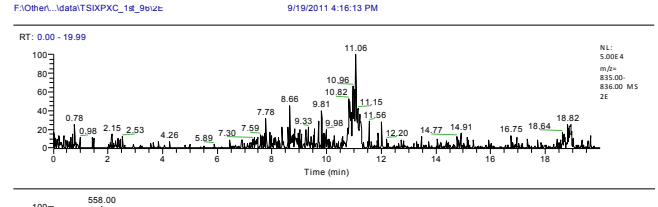
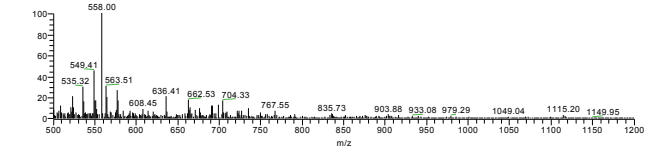
S4B. TSIXPXC

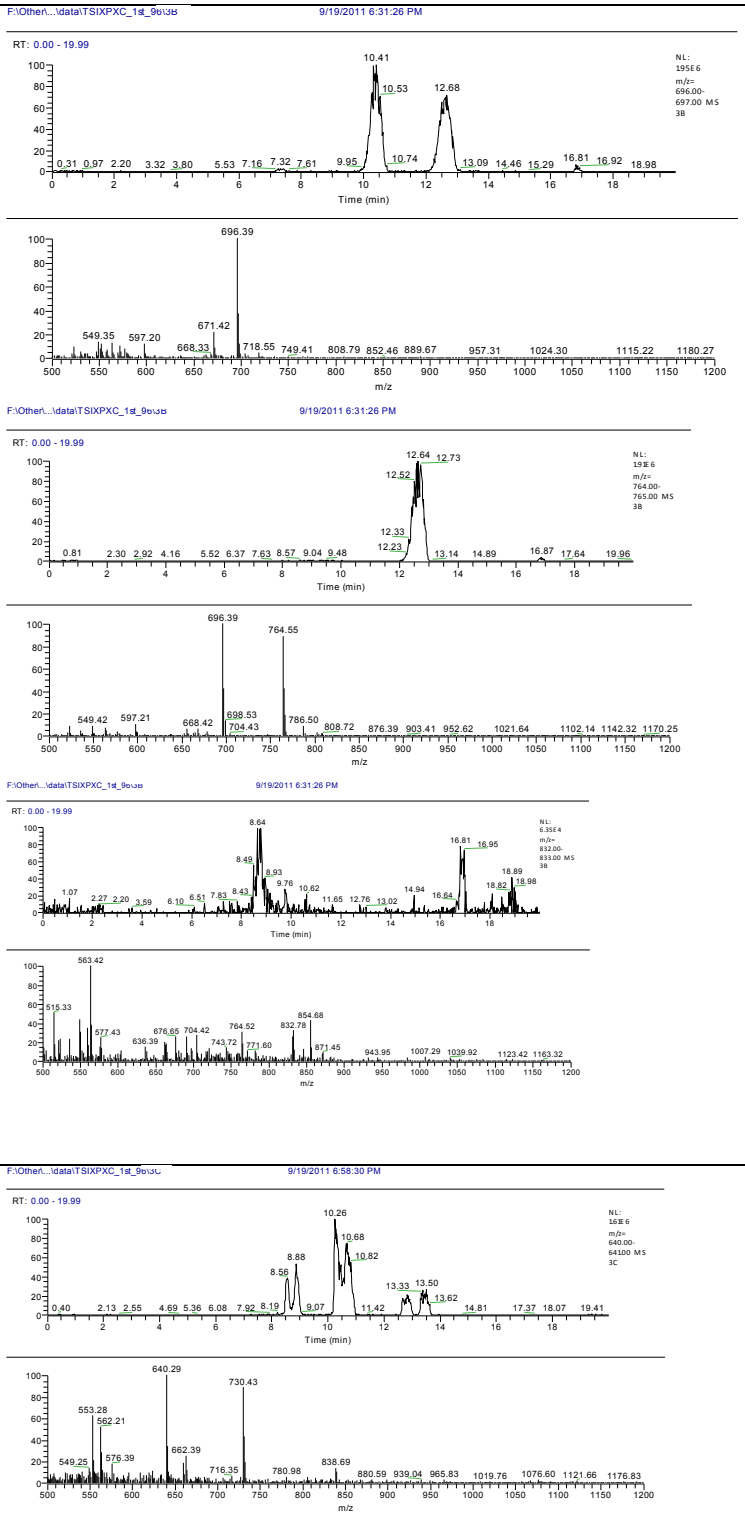
Note: An additional complication with this series is that if X is Ser or Thr in position 2 (adjacent to thiazoline), it is readily dehydrated. This dehydration, rather than heterocyclization, was confirmed by MS/MS in previous studies.

Sequence	*m/z*	Extracted ion chromatogram and mass spectrum at time point
TSIAPNC +isoprene +2isoprene	669 737 805	

TSIVPHC +isoprene +2isoprene	720 788 856	
TSIVPHC +isoprene	769 837	

TSILPLC +isoprene +2isoprene	710 778 846	
TSIHPLC +isoprene	734 802	

		
TSISPQC +isoprene +2isoprene	699 767 835	    

TSIVPLC +isoprene +2isoprene	696 764 832	
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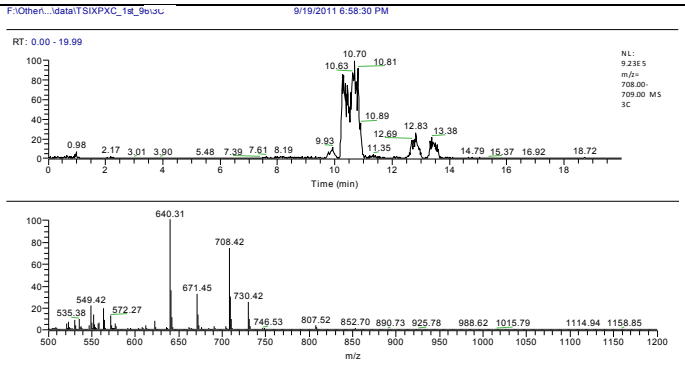
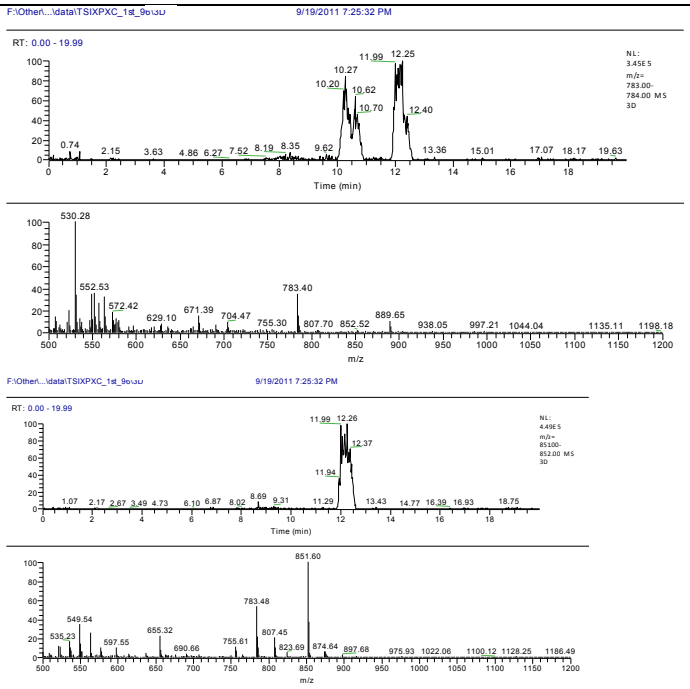
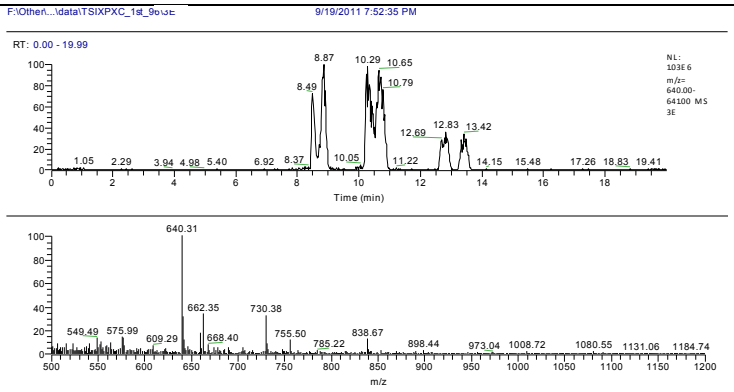
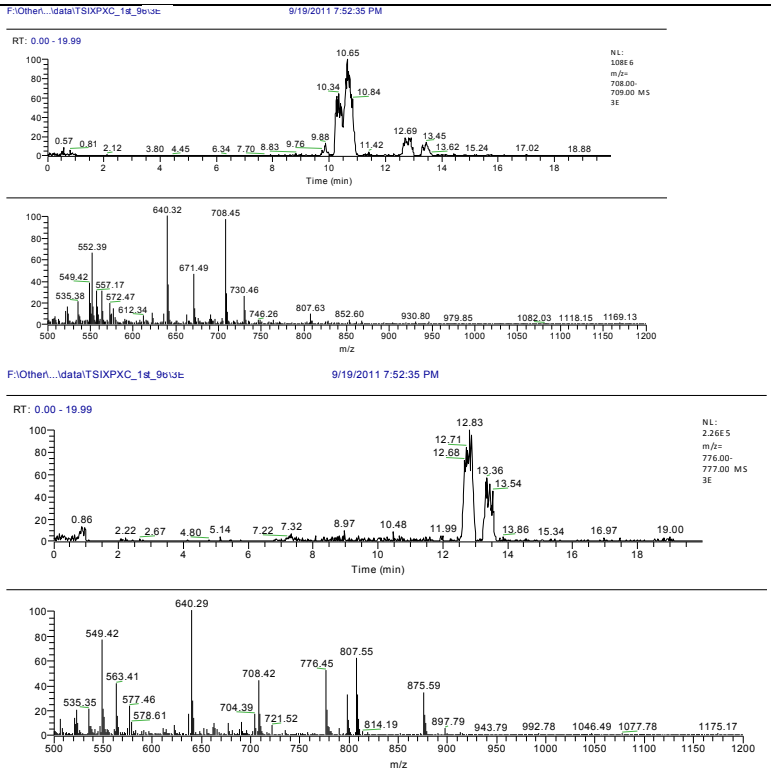
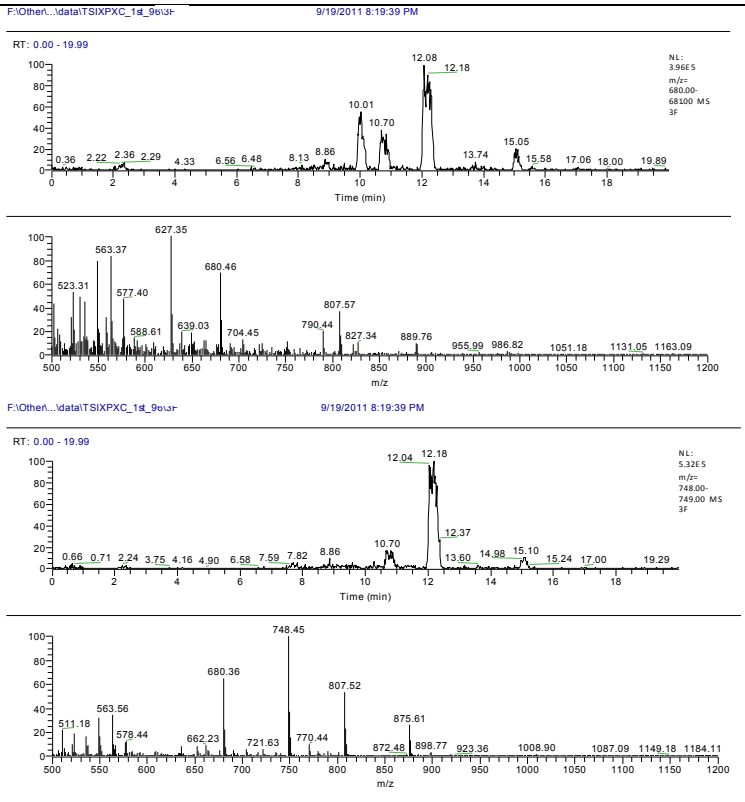
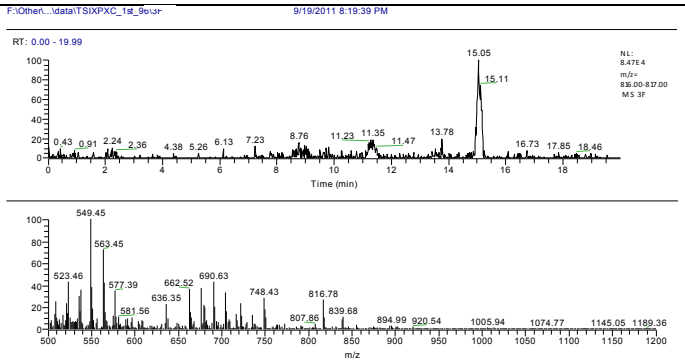
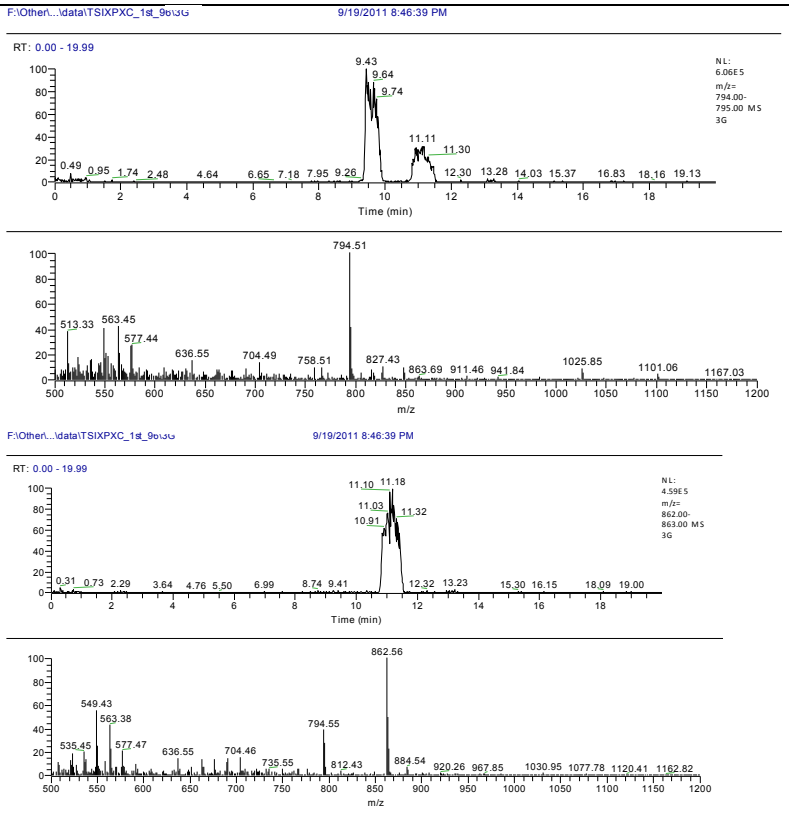
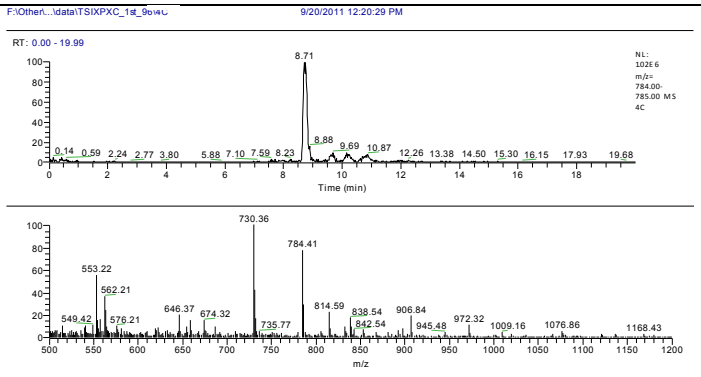
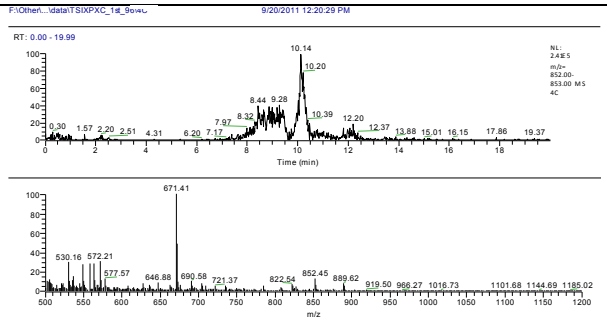
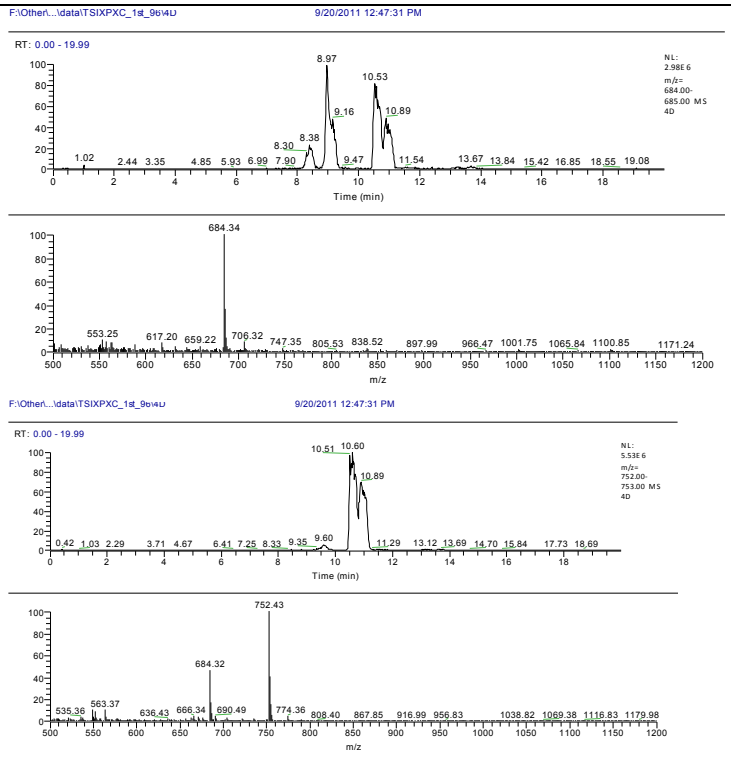
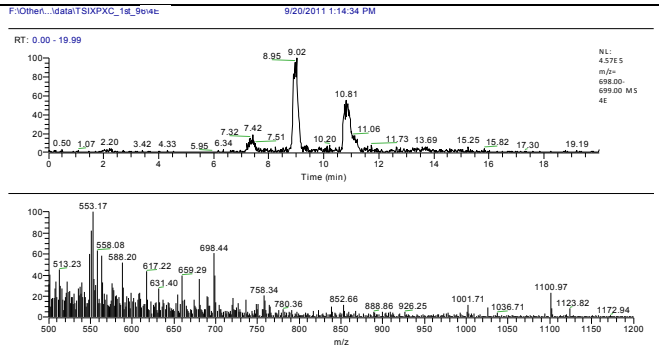
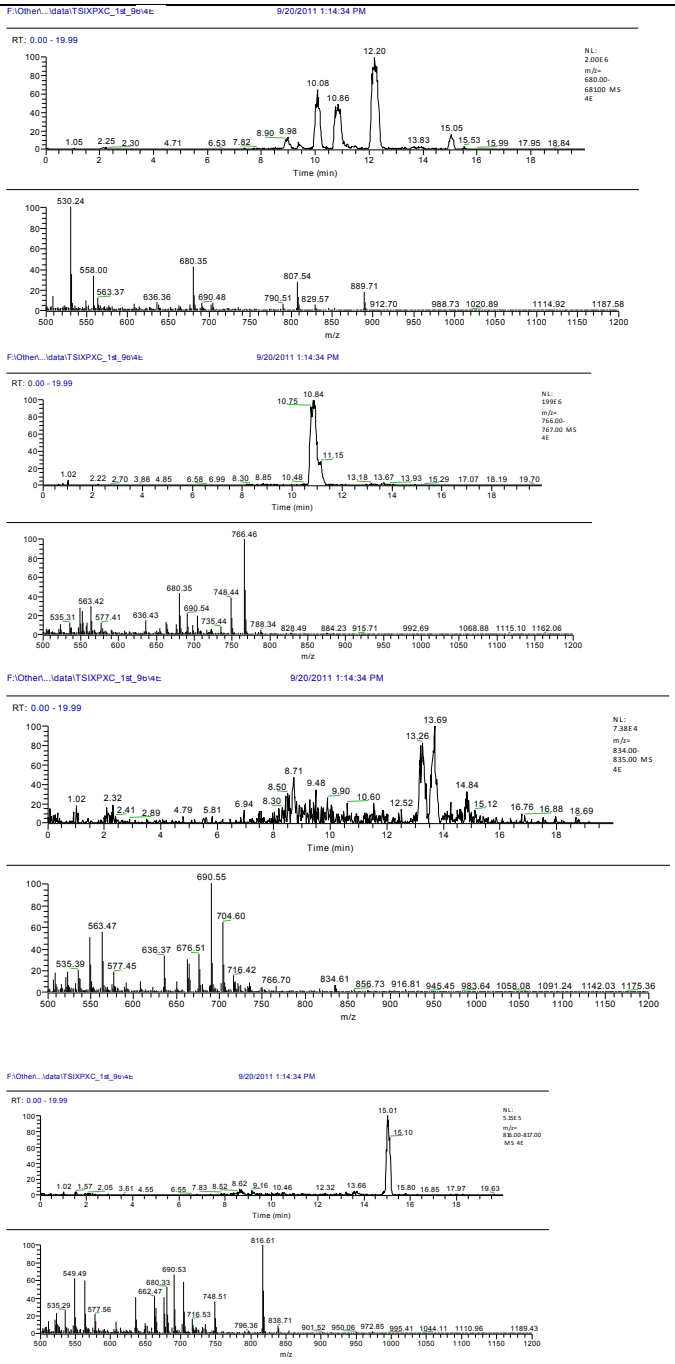
		
TSIWPLC +isoprene	783 851	
TSIGPVC +isoprene +2isoprene	640 708 776	

		
TSIPPVC +isoprene +2isoprene	680 748 816	

		
TSIYPFC +isoprene	794 862	
TSINPWC +isoprene	784 852	

		
TSISPLC +isoprene	649 752	
TSILPTC (dehydroT) +isoprene +2isoprene dht+ipr dht+2ipr	698 680 766 834 748 816	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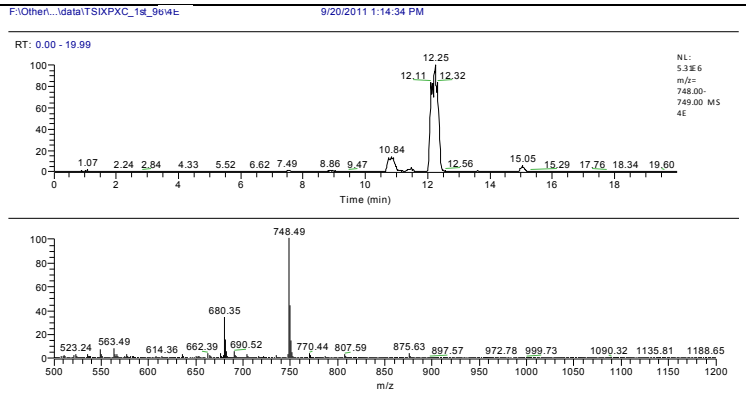
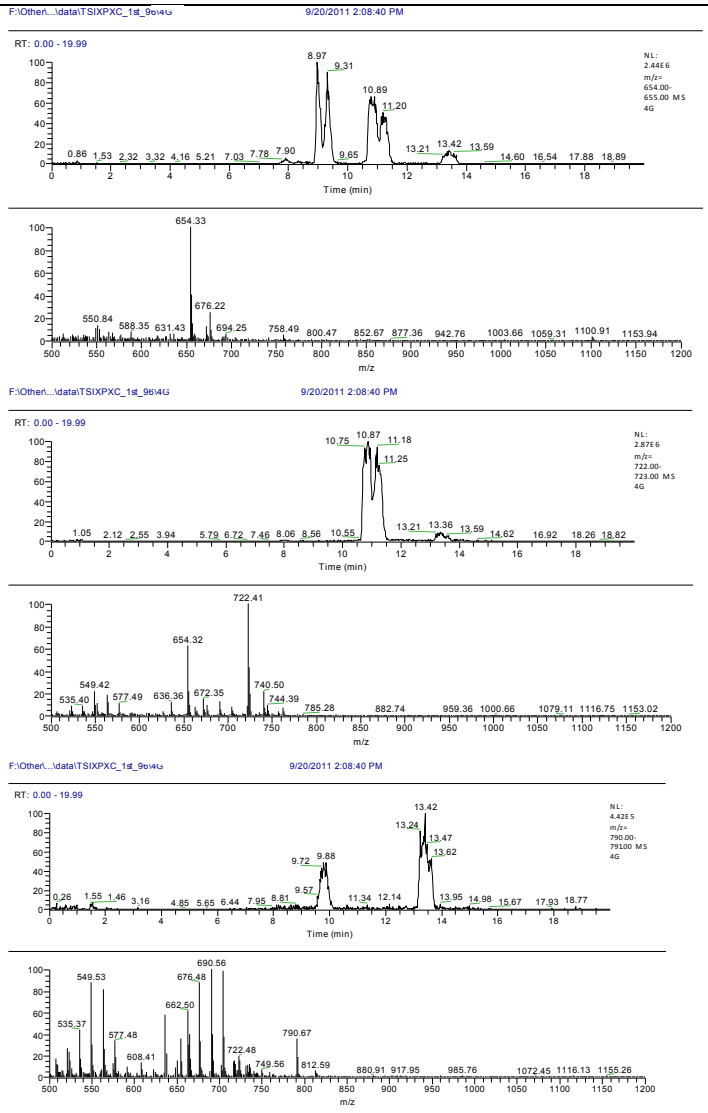
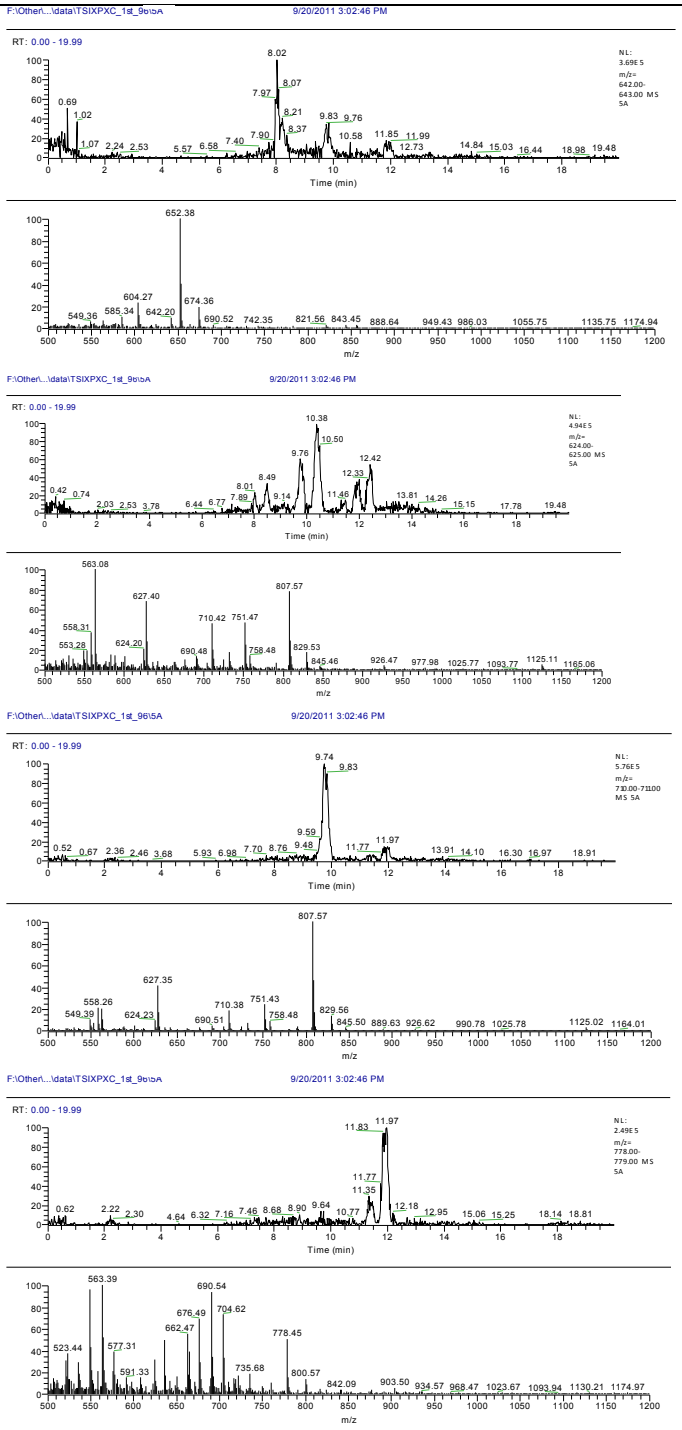
		
TSIGPLC +isoprene +2isoprene	654 722 790	

TSIGPTC	642	
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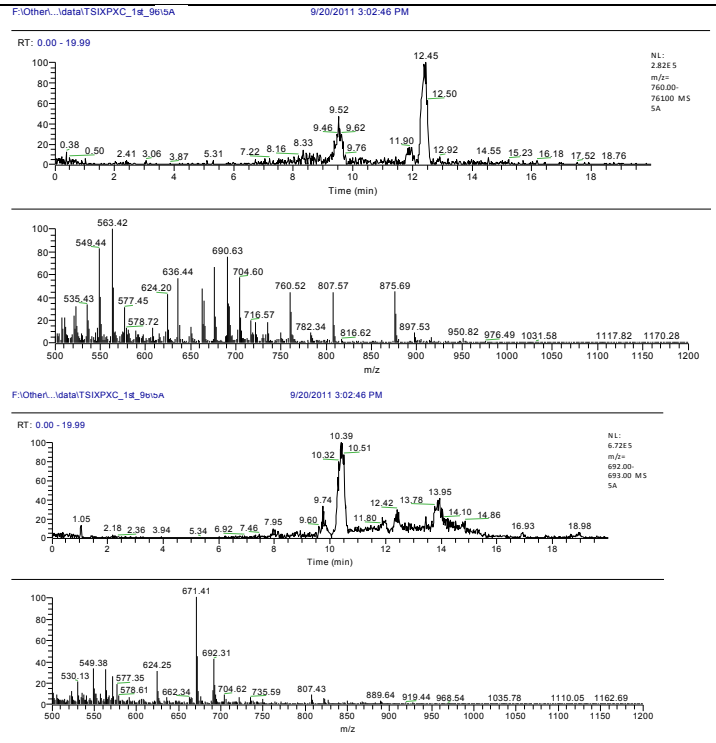
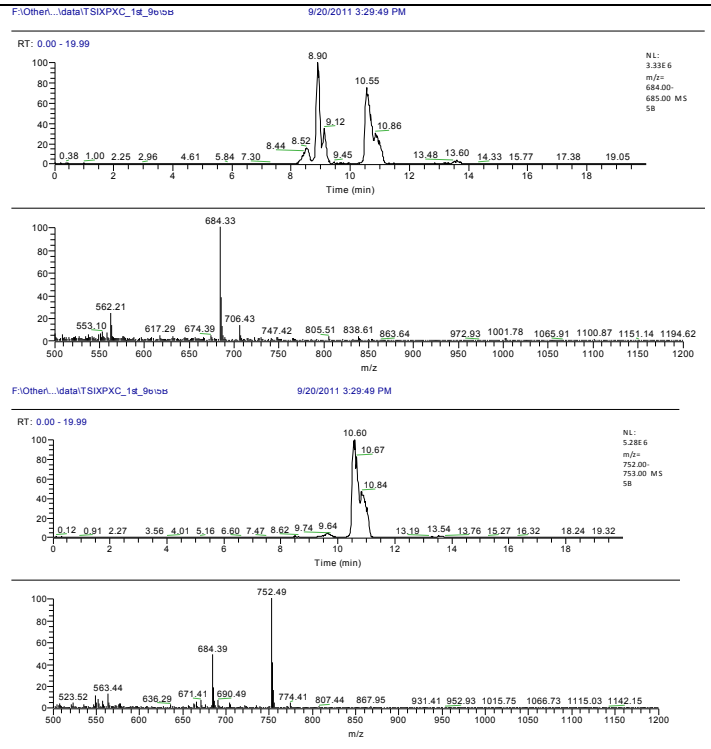
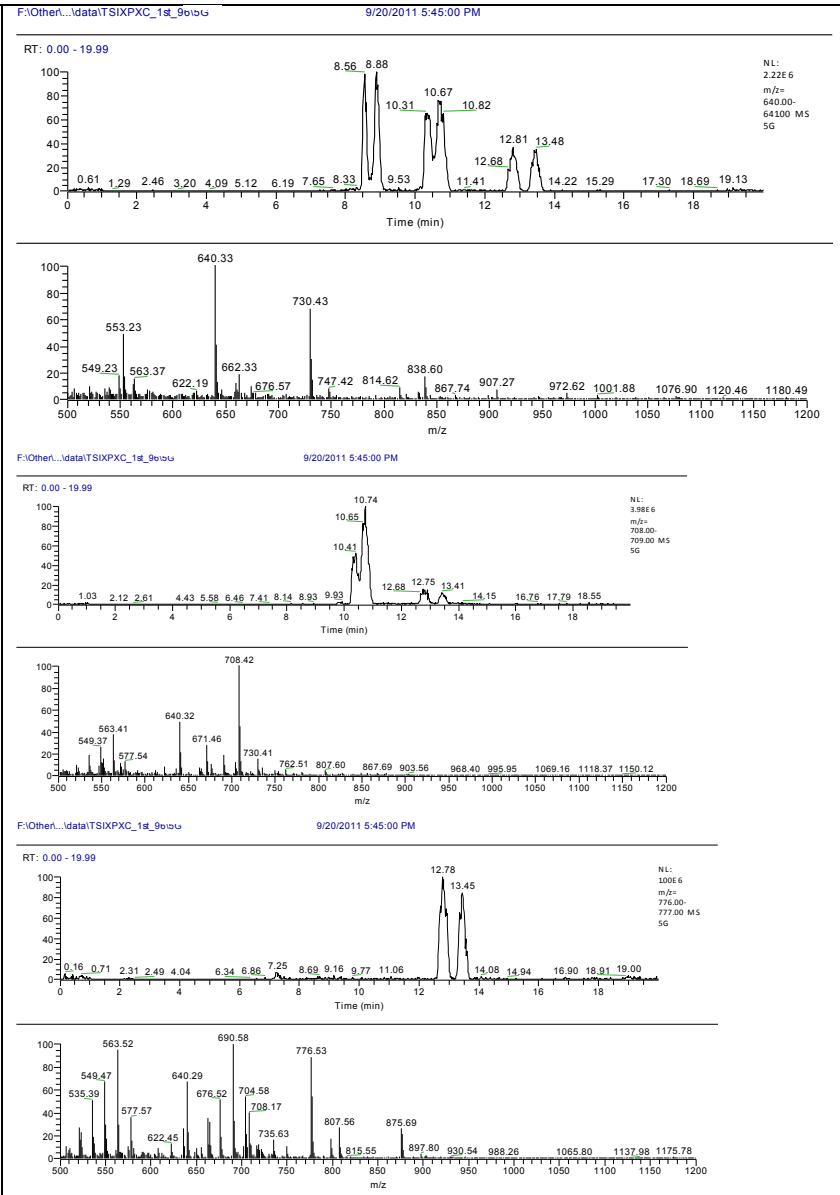
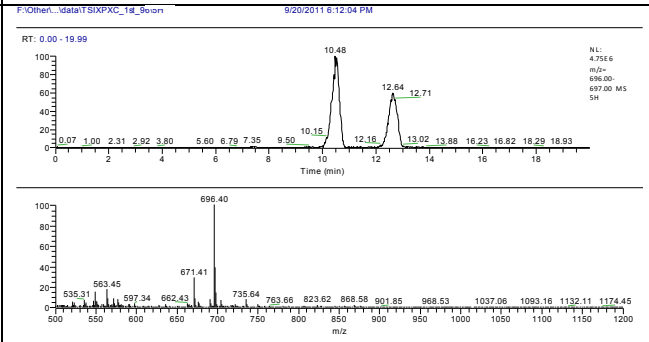
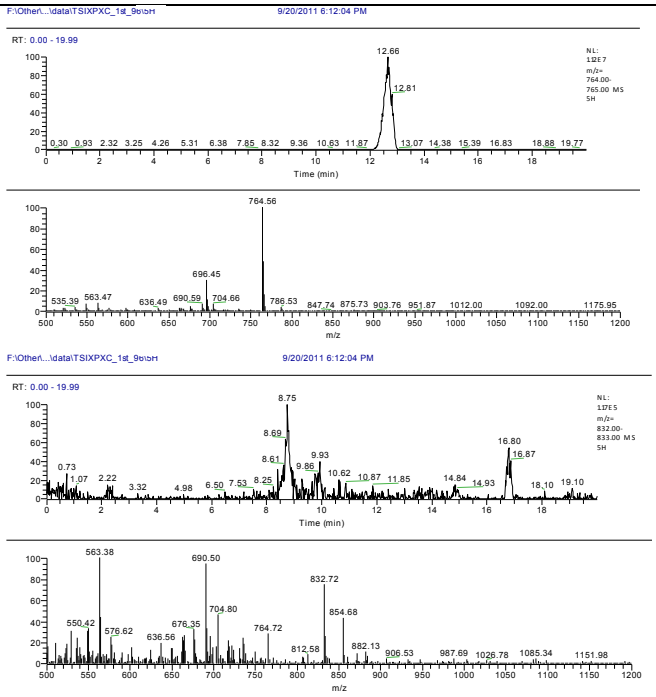
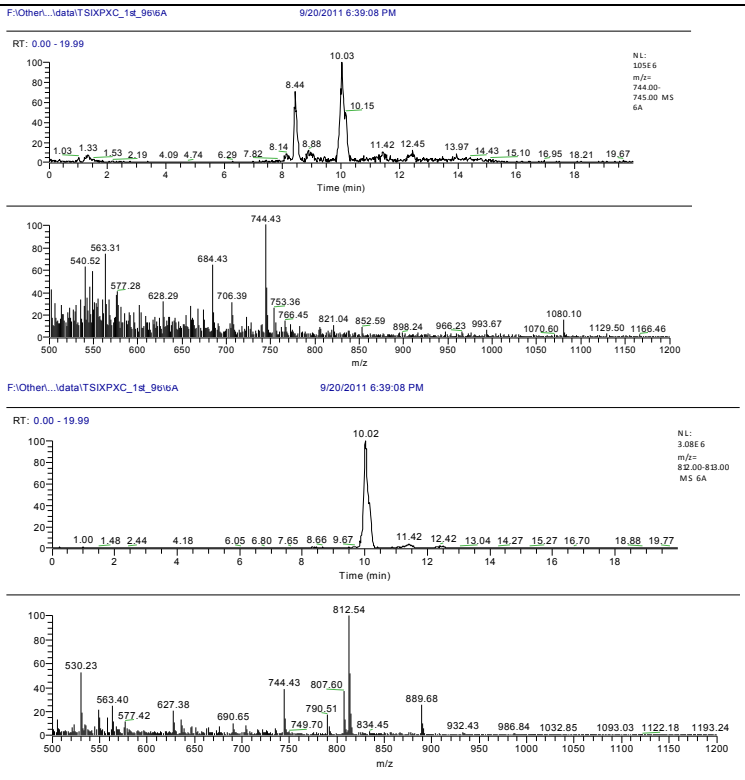
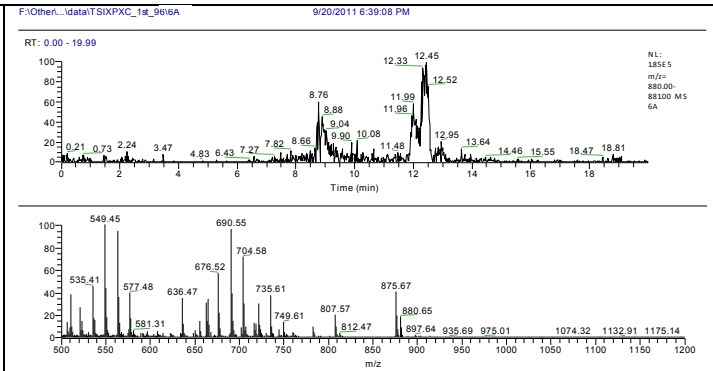
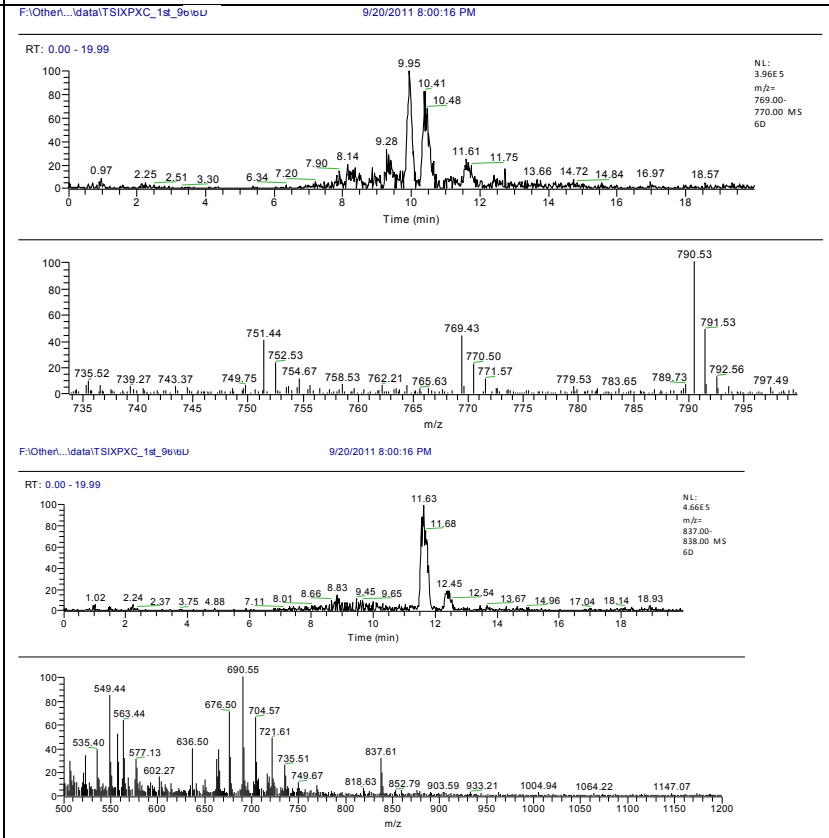
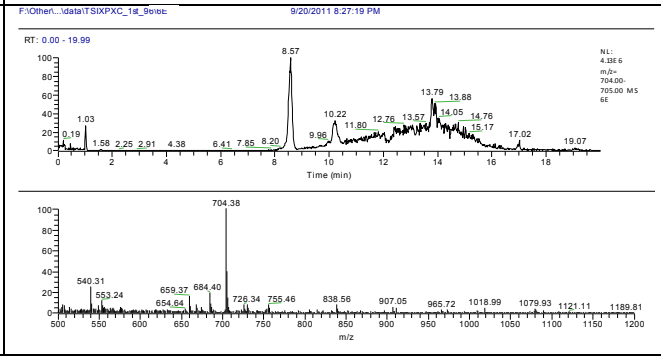
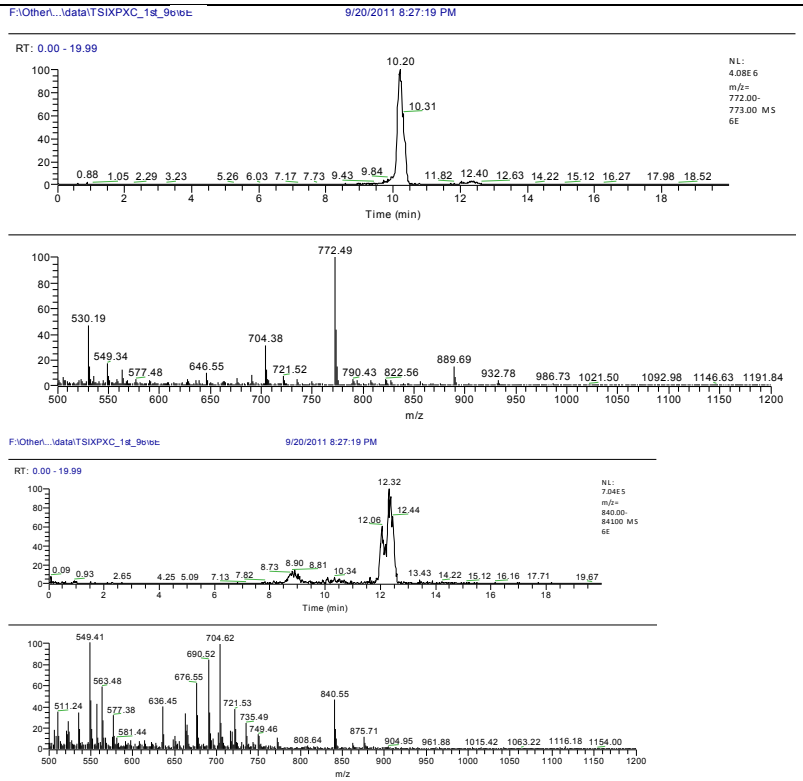
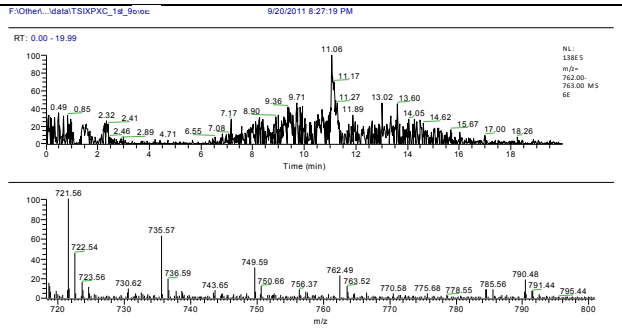
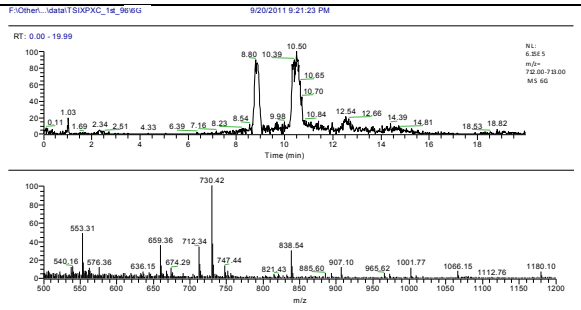
+2isoprene	778	
dht+ipr	692	
dht+2ipr	760	

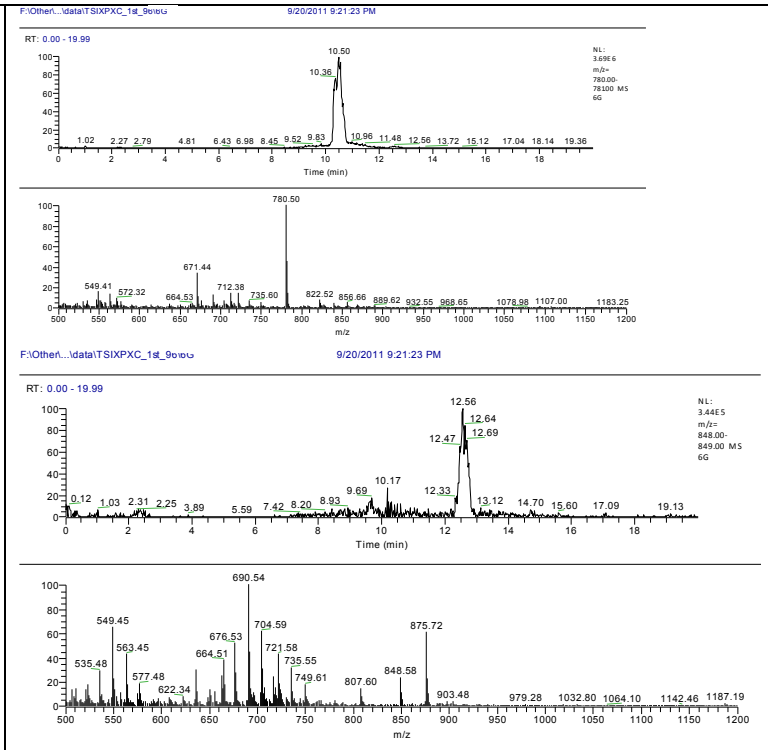
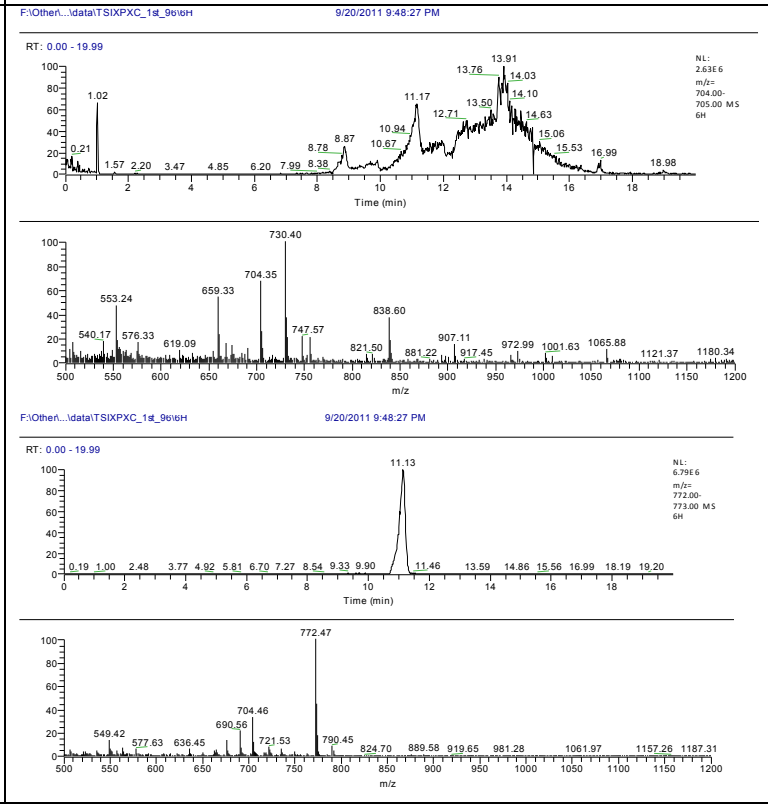
		
TSISPIC +isoprene	684 752	

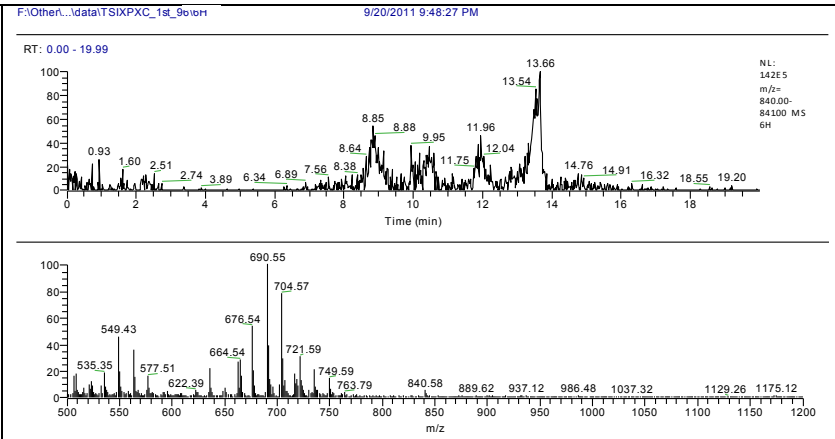
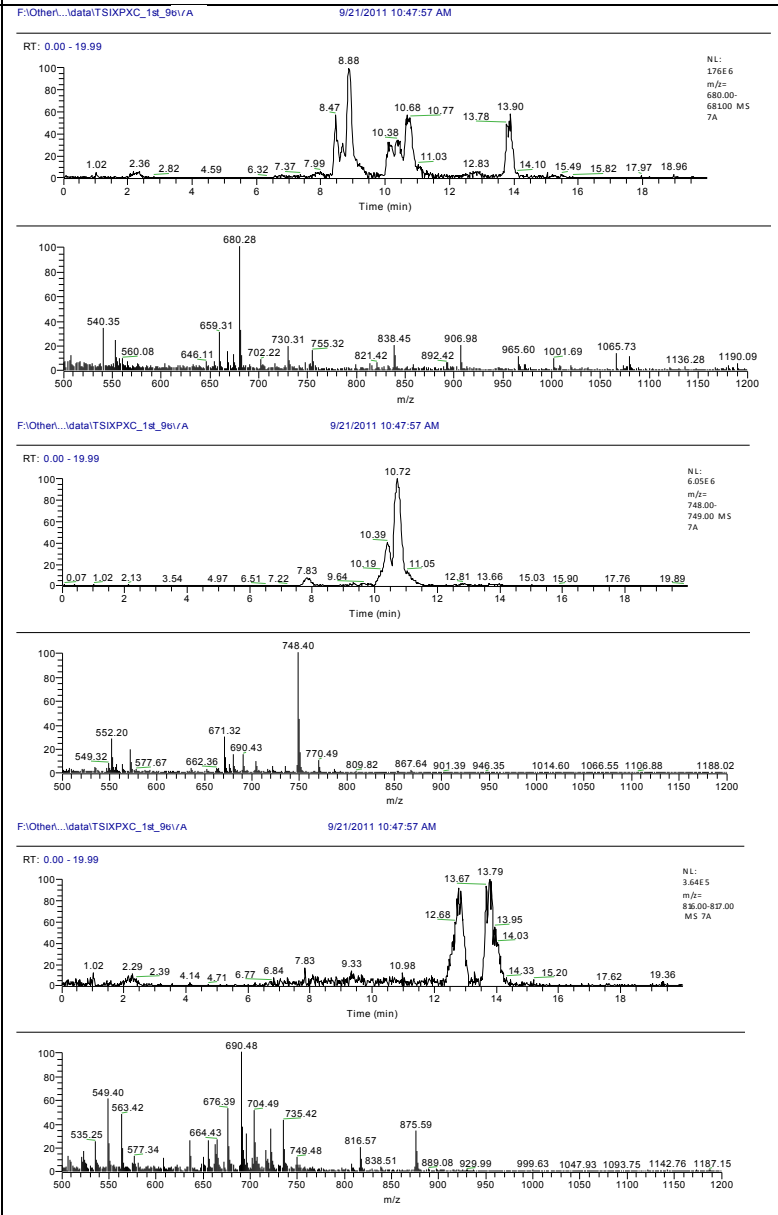
TSIGPVC +isoprene +2isoprene	640 708 776	
TSIVPLC +isoprene +2isoprene	696 764 832	

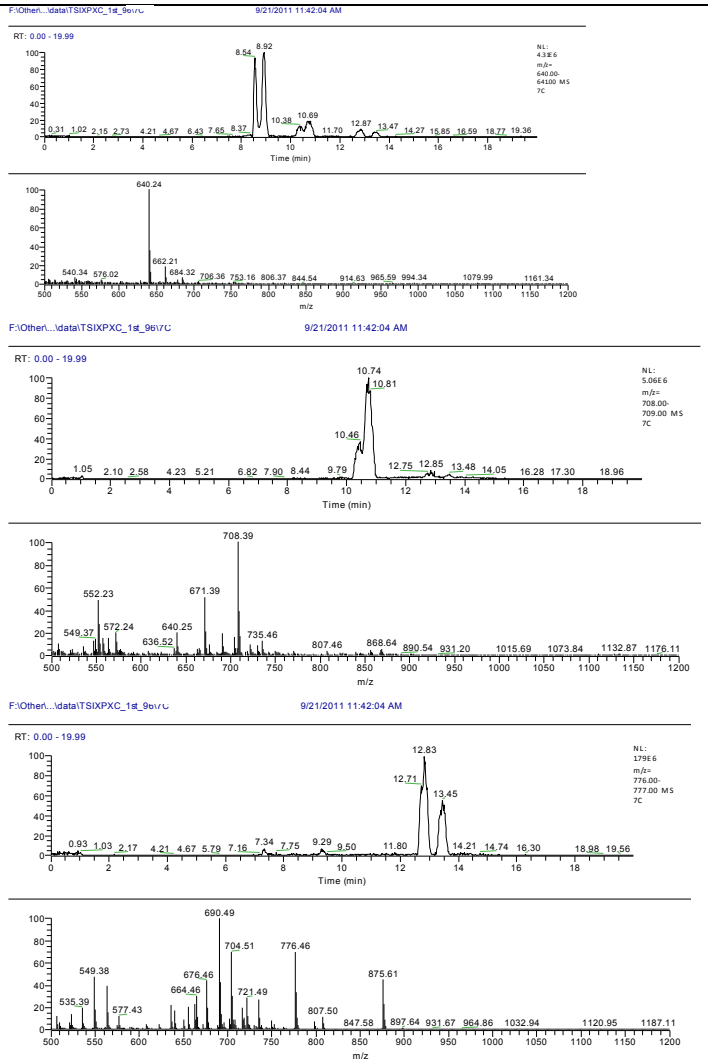
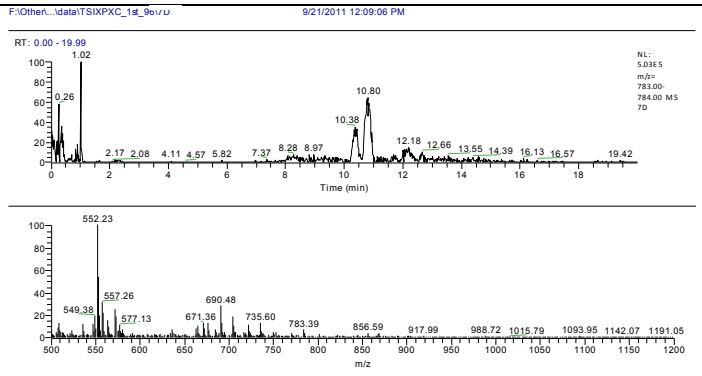
		
TSIPPYC +isoprene +2isoprene	744 812 880	

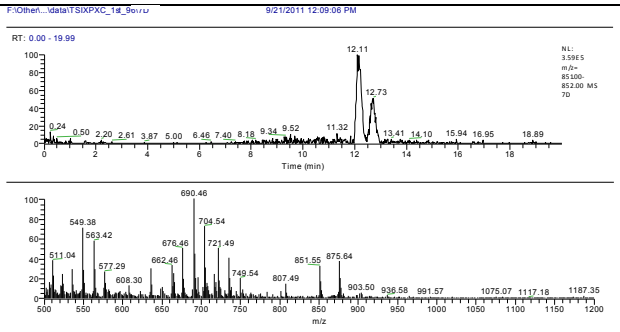
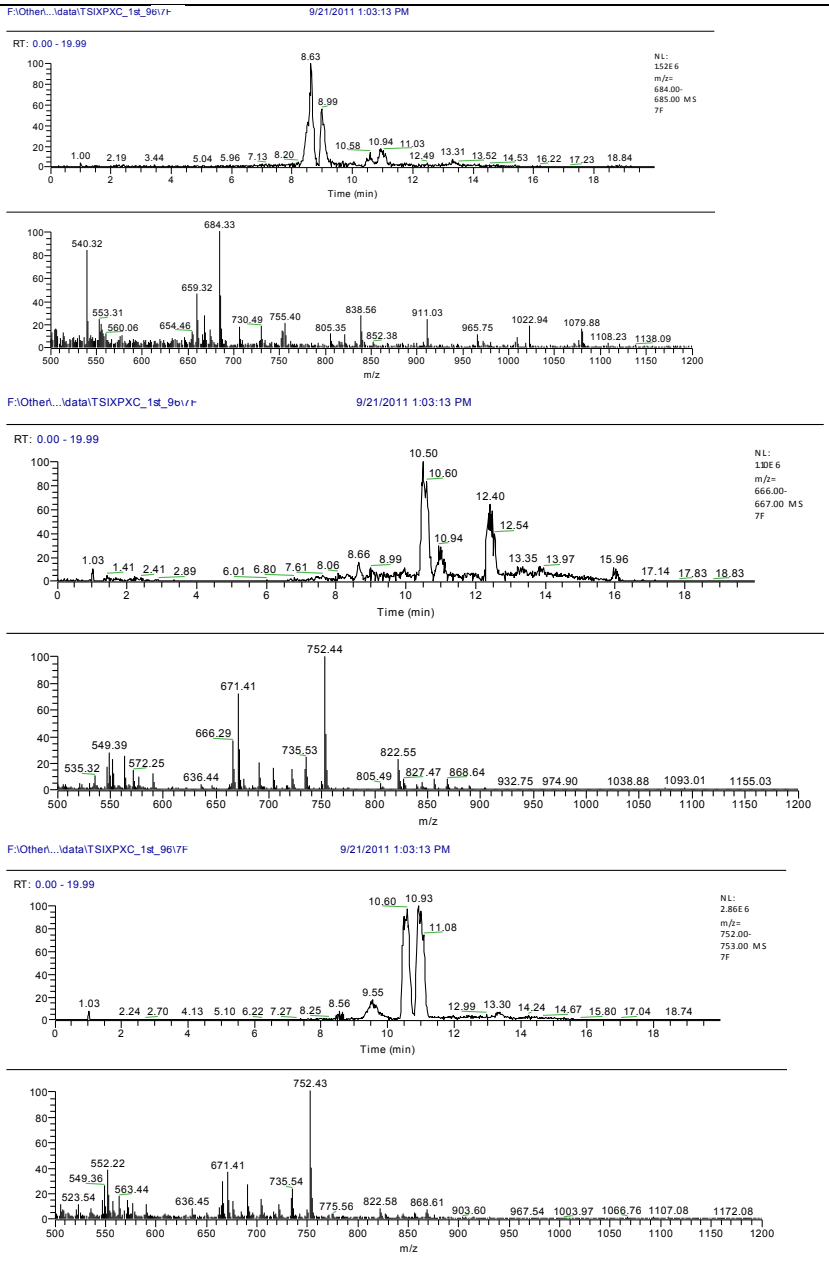
		
TSIVPWC +isoprene	769 837	
TSIGPYC +isoprene +2isoprene	704 772 840	

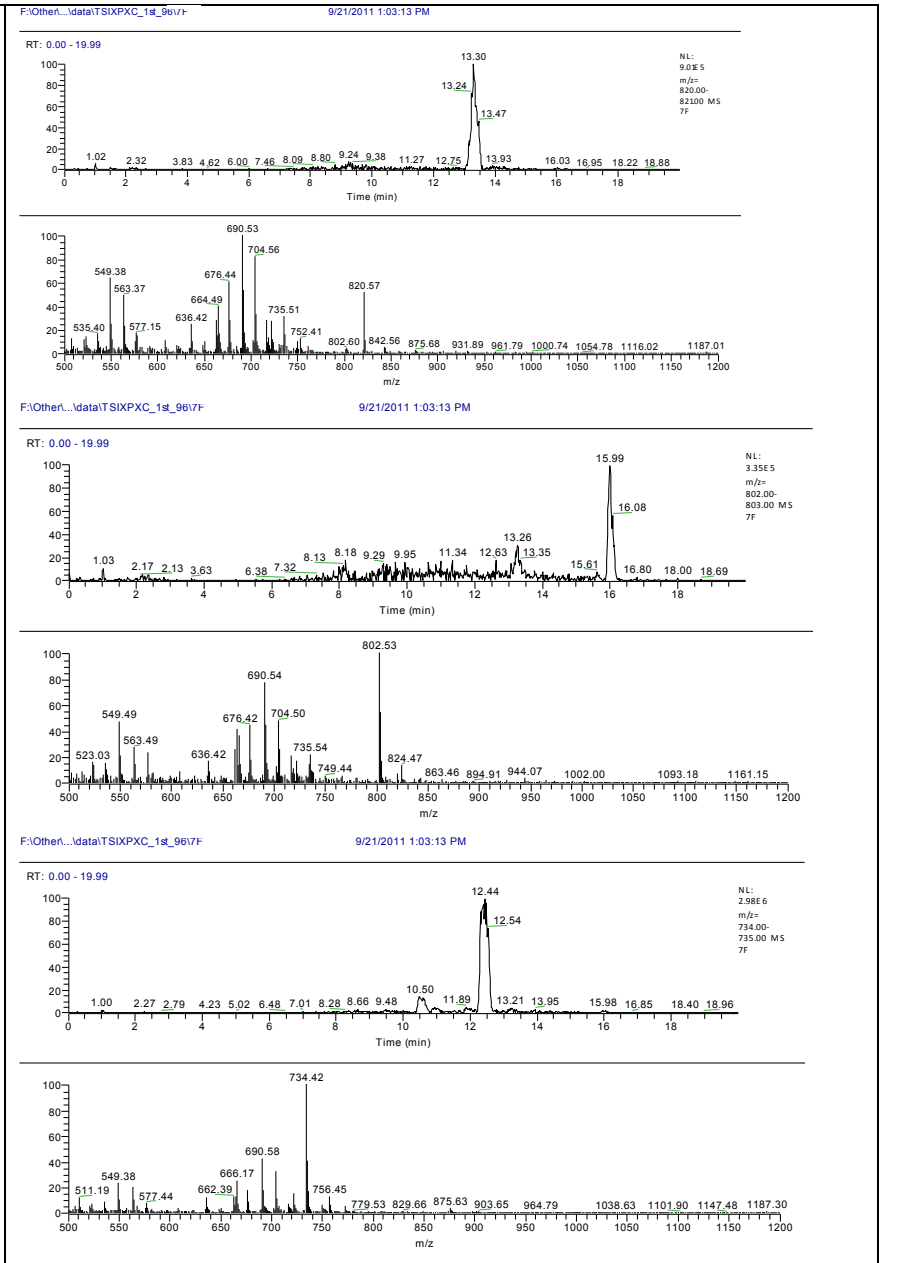
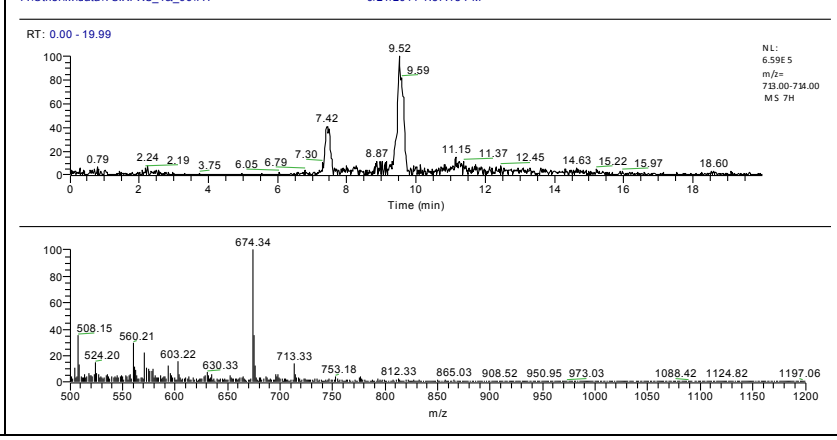
		
TSIPPLC +isoprene	762	
TSIDPIC +isoprene +2isoprene	712 780 848	

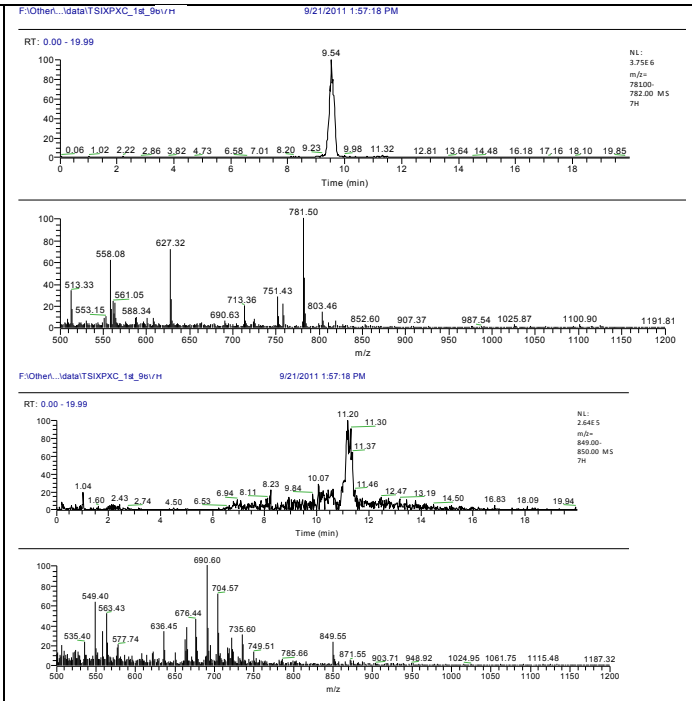
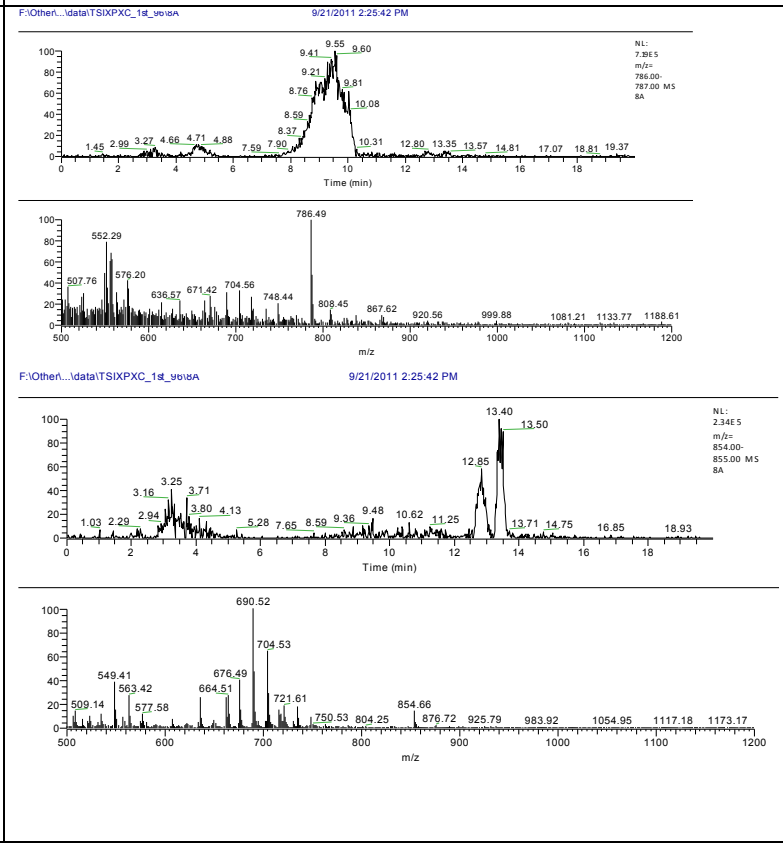
		
TSIGPYC +isoprene +2isoprene	704 772 840	

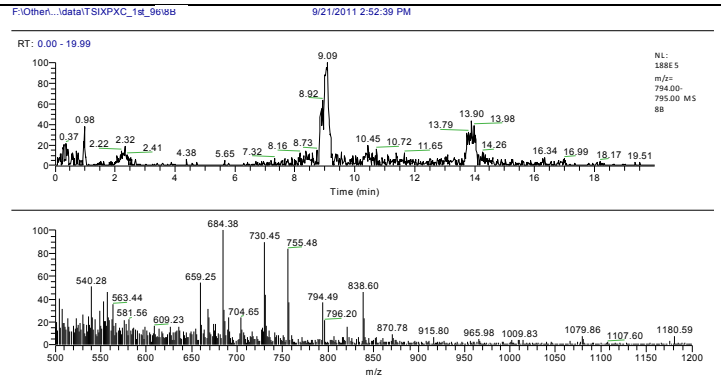
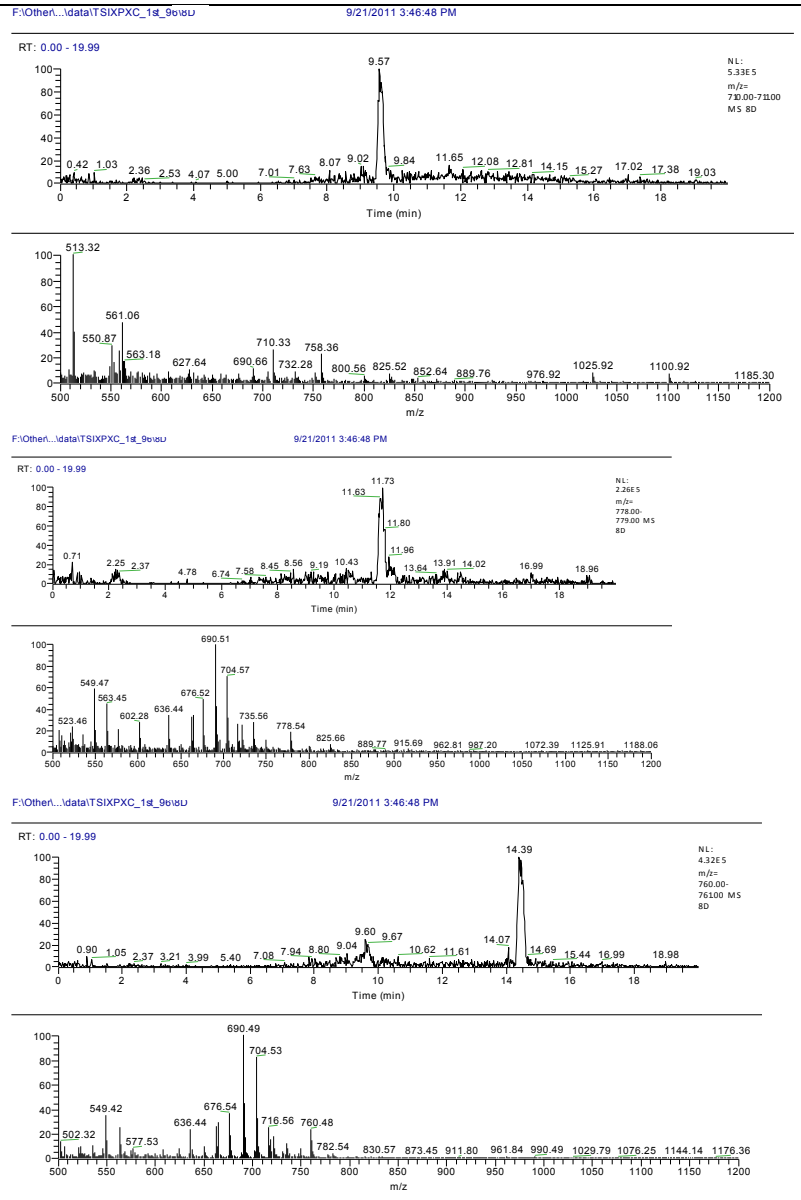
		
TSIPPVC +isoprene +2isoprene	680 748 816	

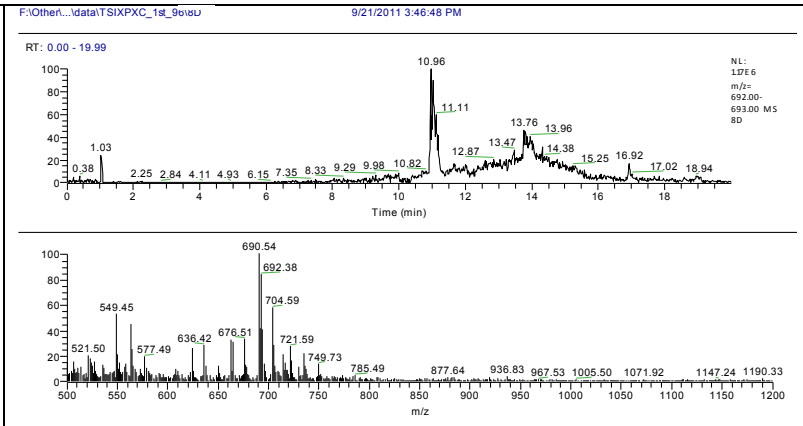
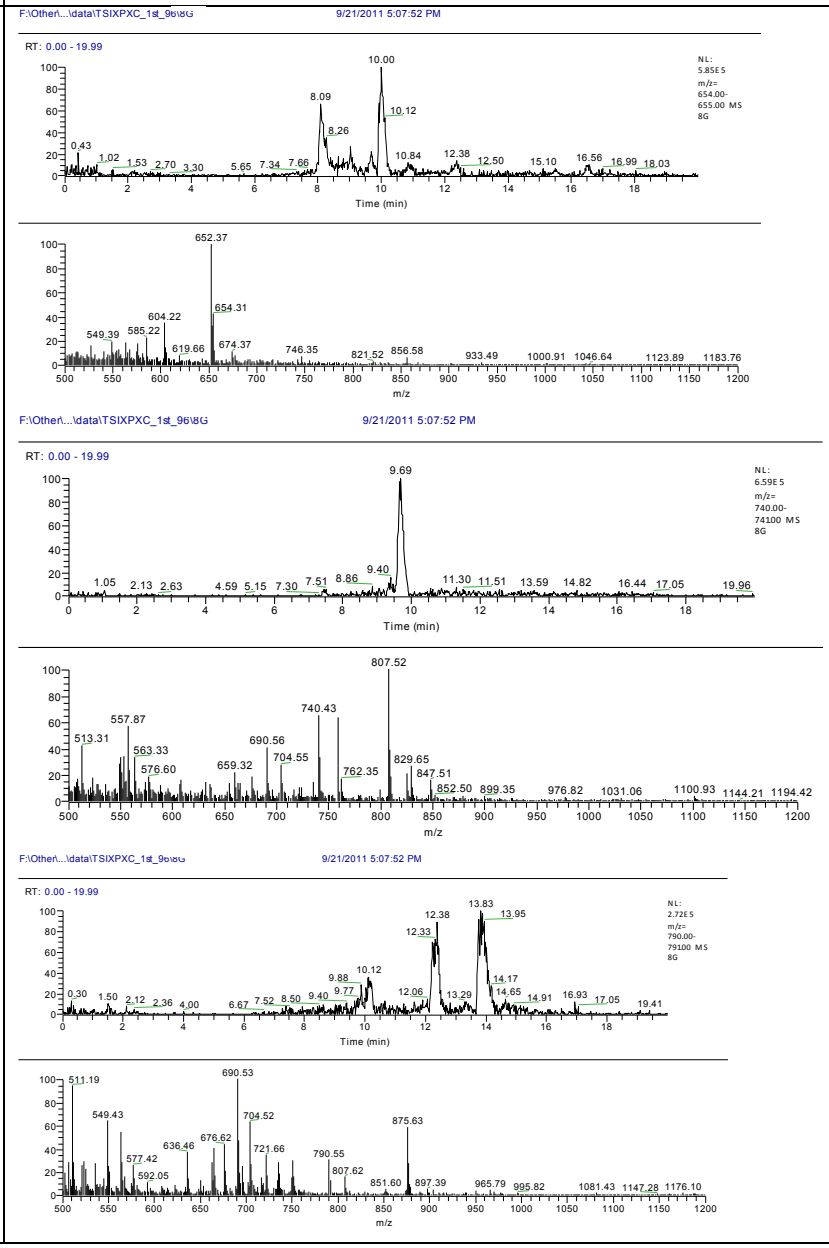
TSIGPVC +isoprene +2isoprene	640 708 776	
TSILPWC +isoprene	783 851	

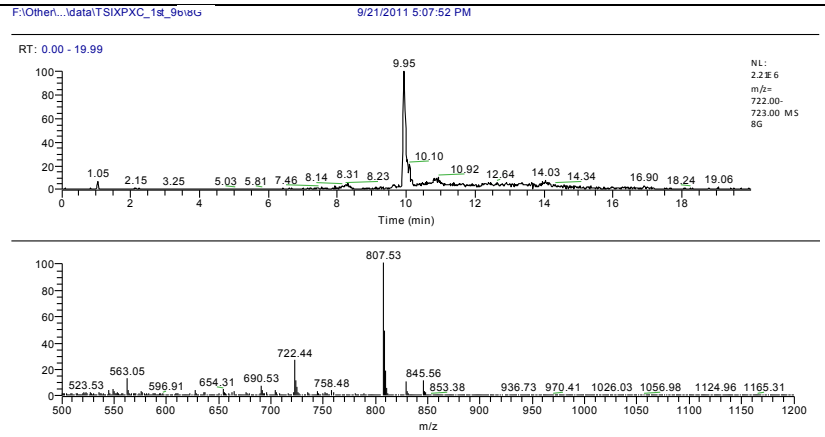
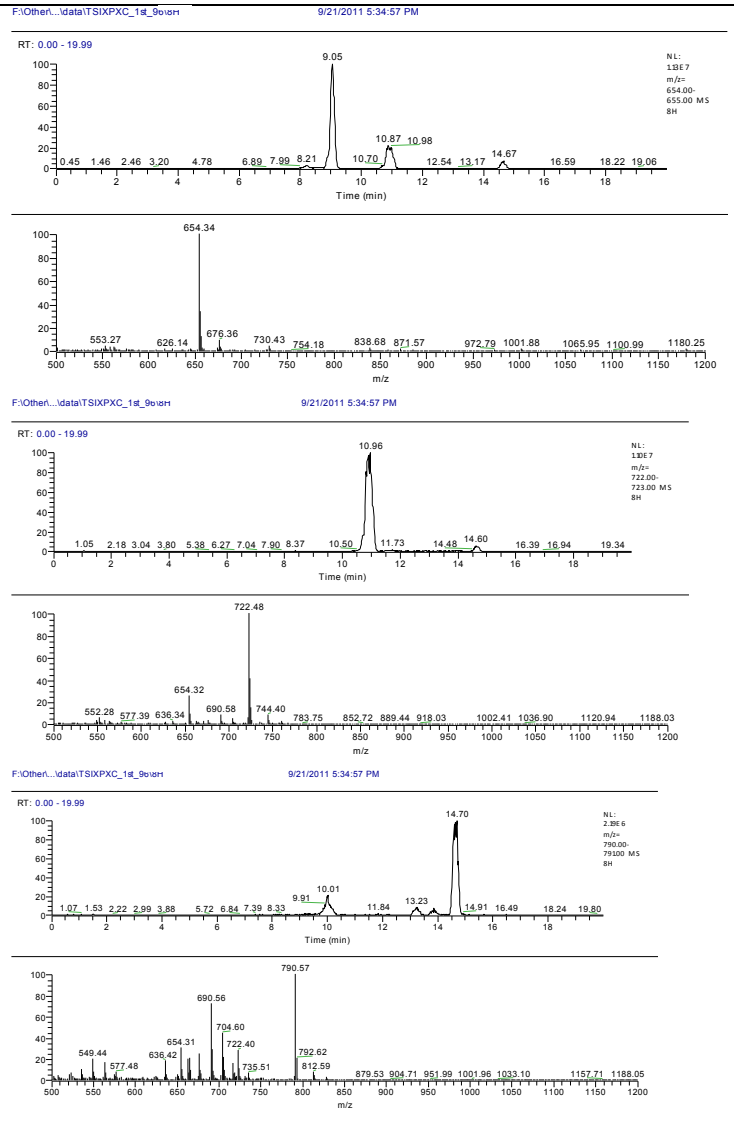
		
TSILPSC (dehydroS) +isoprene +2isoprene dhs+ipr dhs+2ipr	684 666 752 820 734 802	

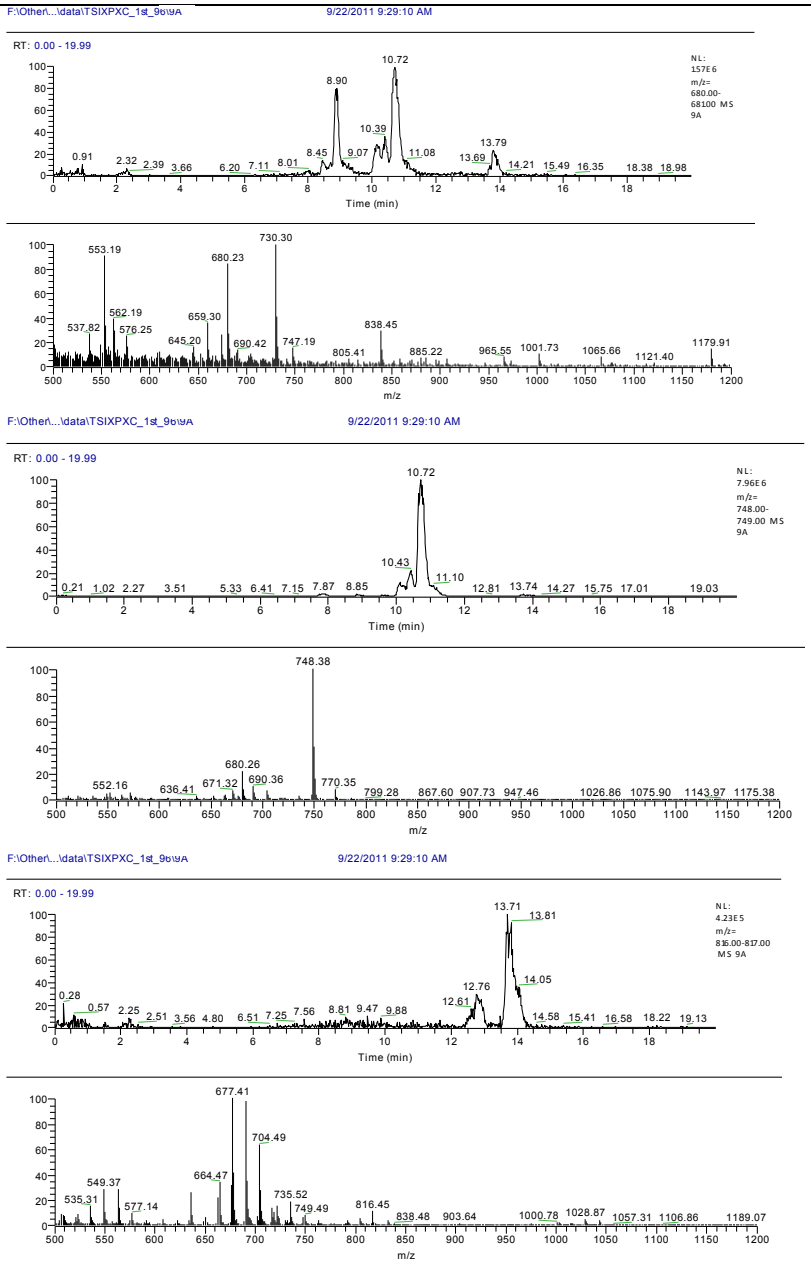
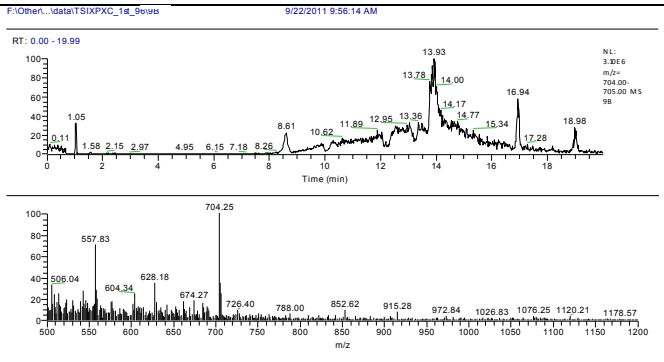
		
TSITPQC +isoprene +2isoprene	713 781 849	

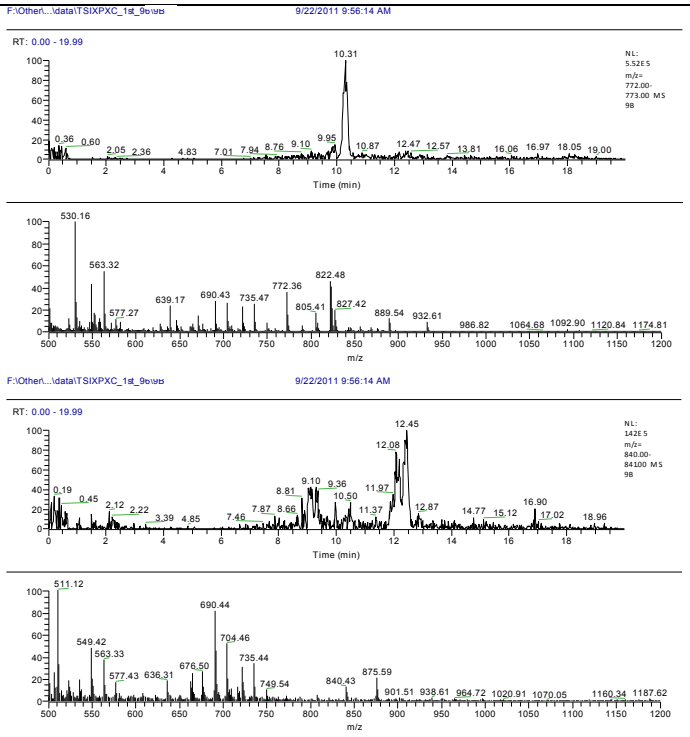
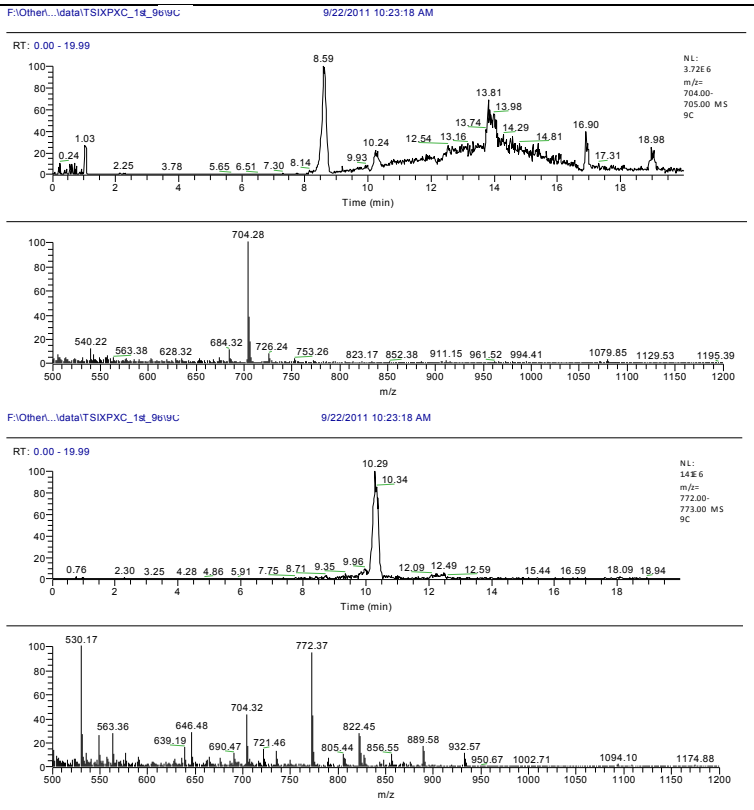
		
TSISPFC +isoprene +2isoprene	786 854	

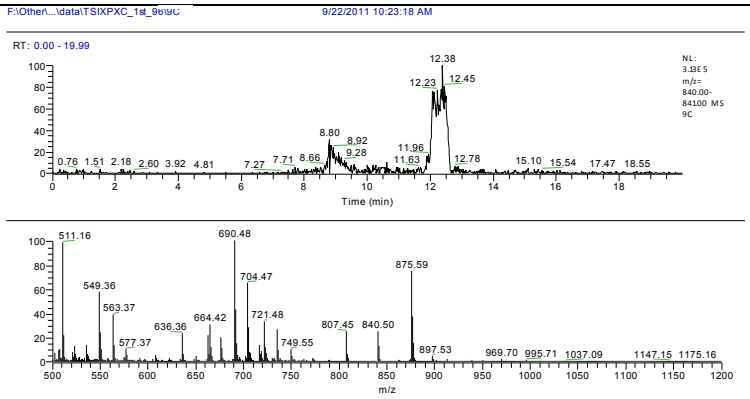
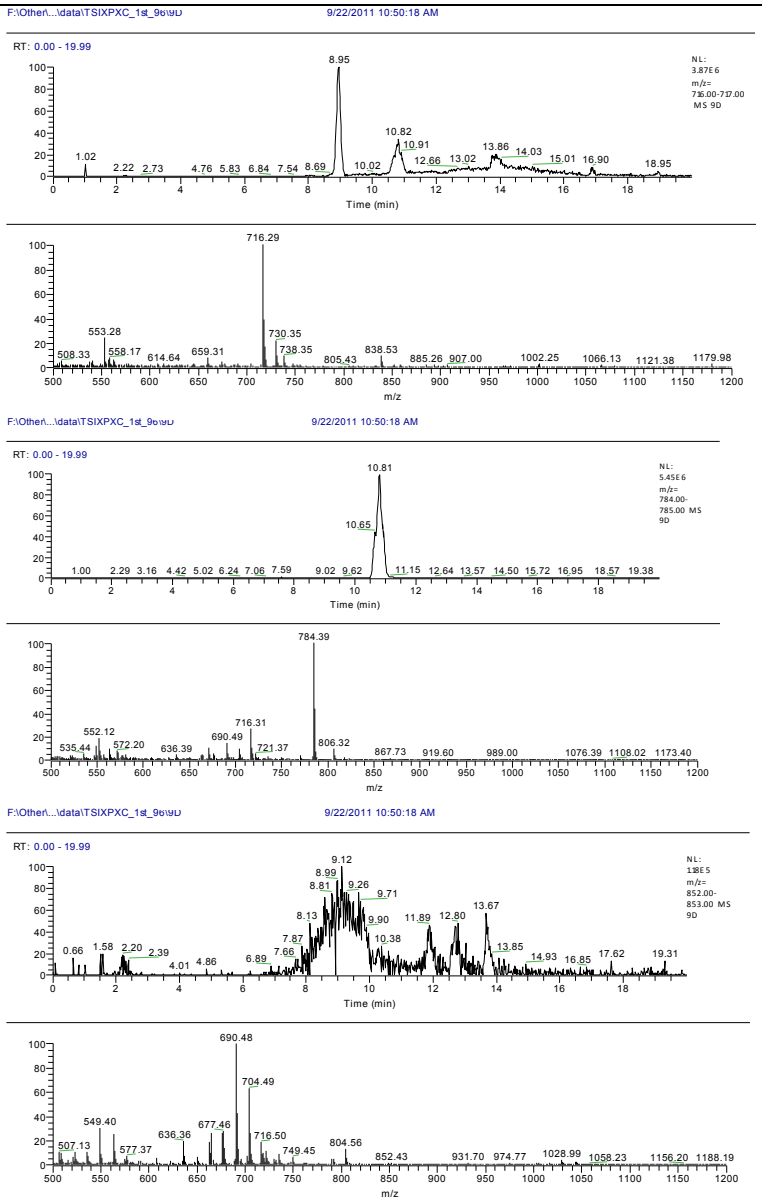
TSIQPNC +isoprene	794	
TSIAPSC +isoprene +2isoprene dhs+ipr dhs+2ipr	710 784 732 804	

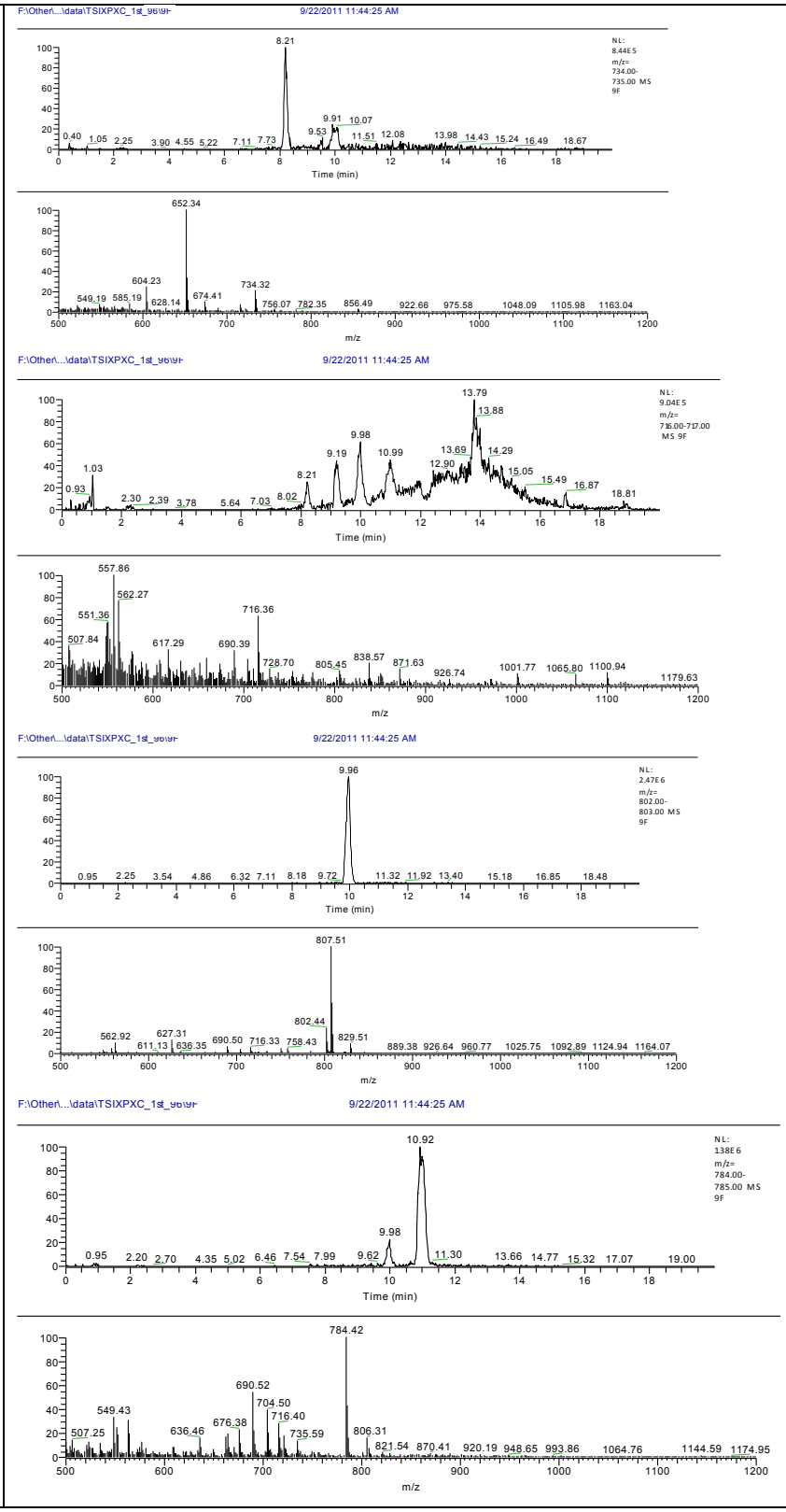
		
TSISPTC (dehydroT) +isoprene dht+ipr dht+2ipr	654 740 722 790	

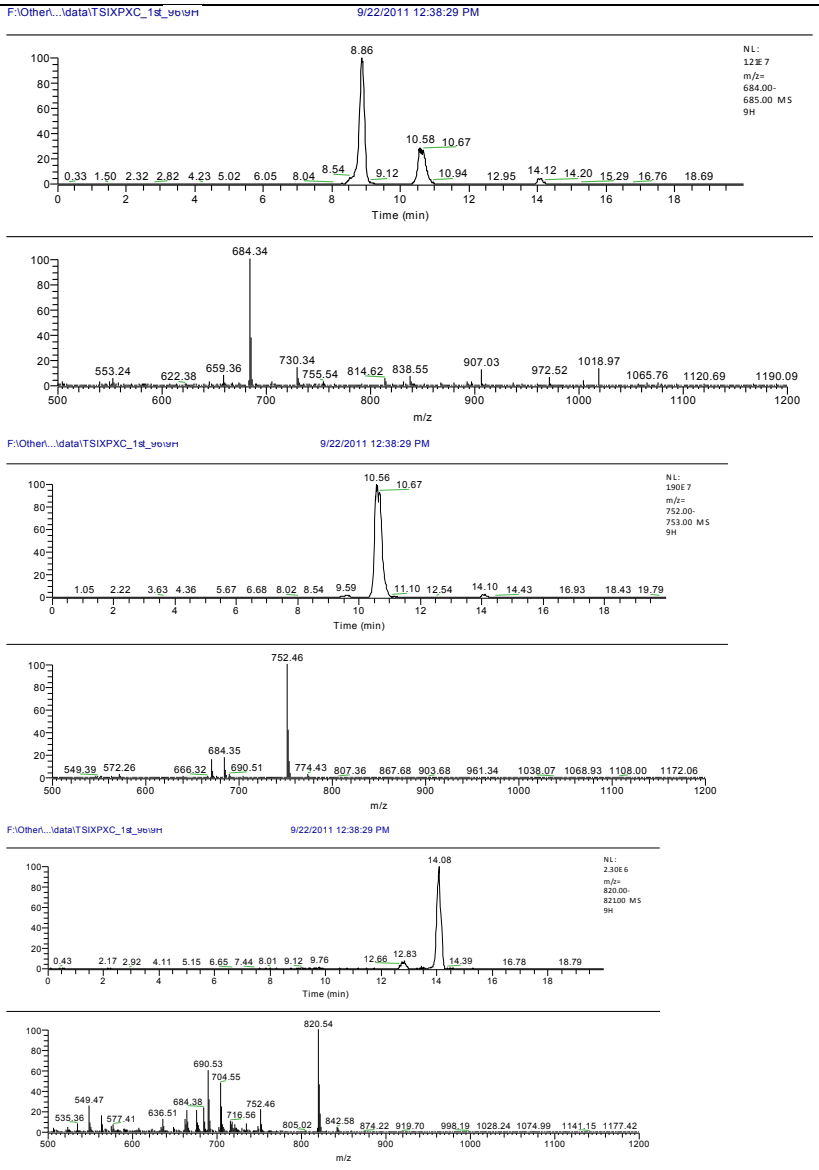
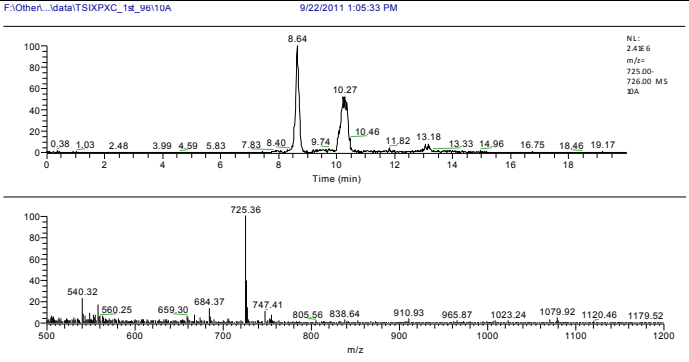
		
TSIAPVC +isoprene +2isoprene	654 722 790	

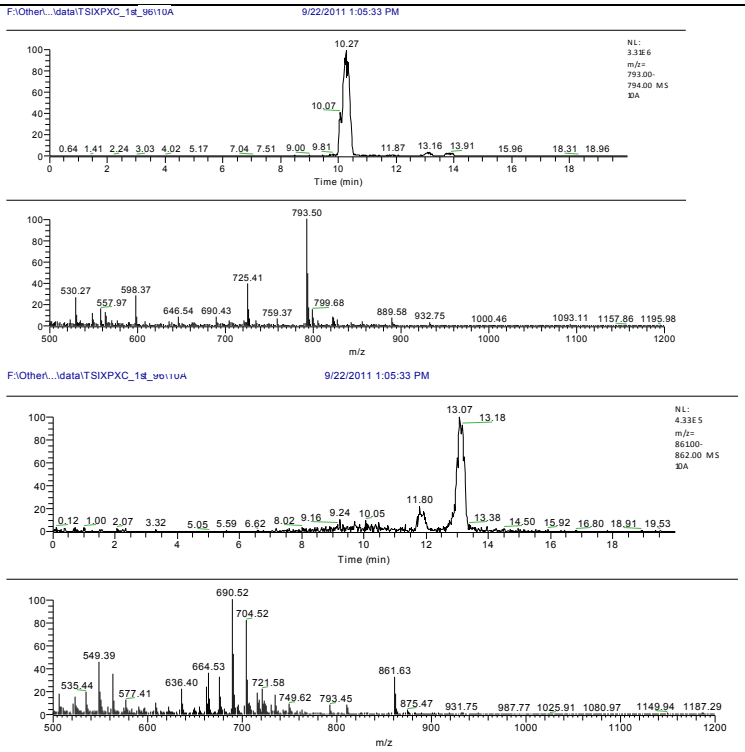
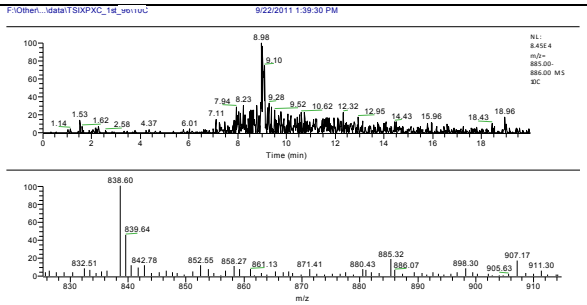
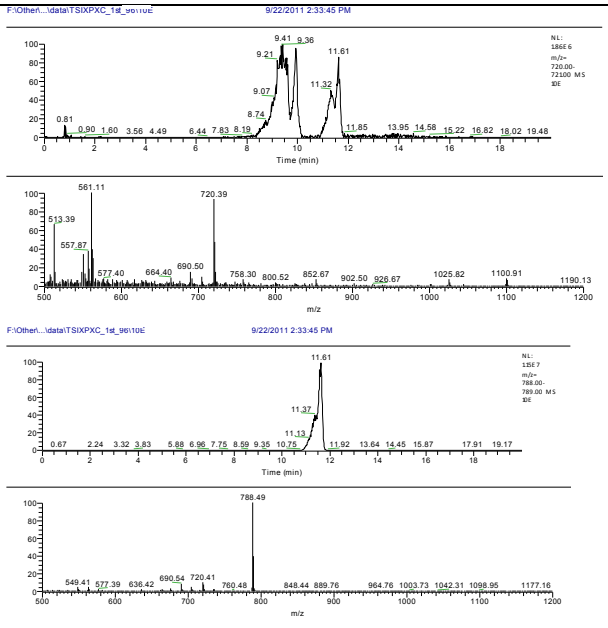
TSIPPVC +isoprene +2isoprene	680 748 816	
TSIGPYC +isoprene +2isoprene	704 772 840	

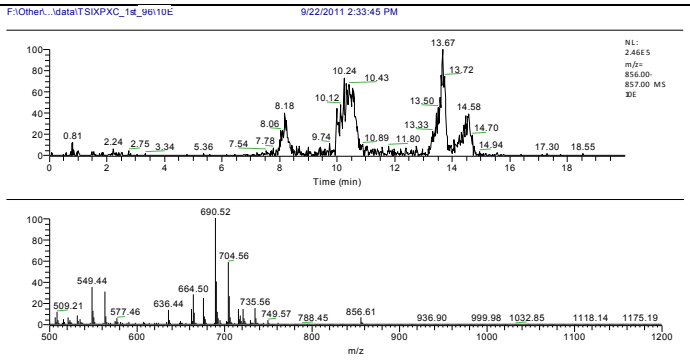
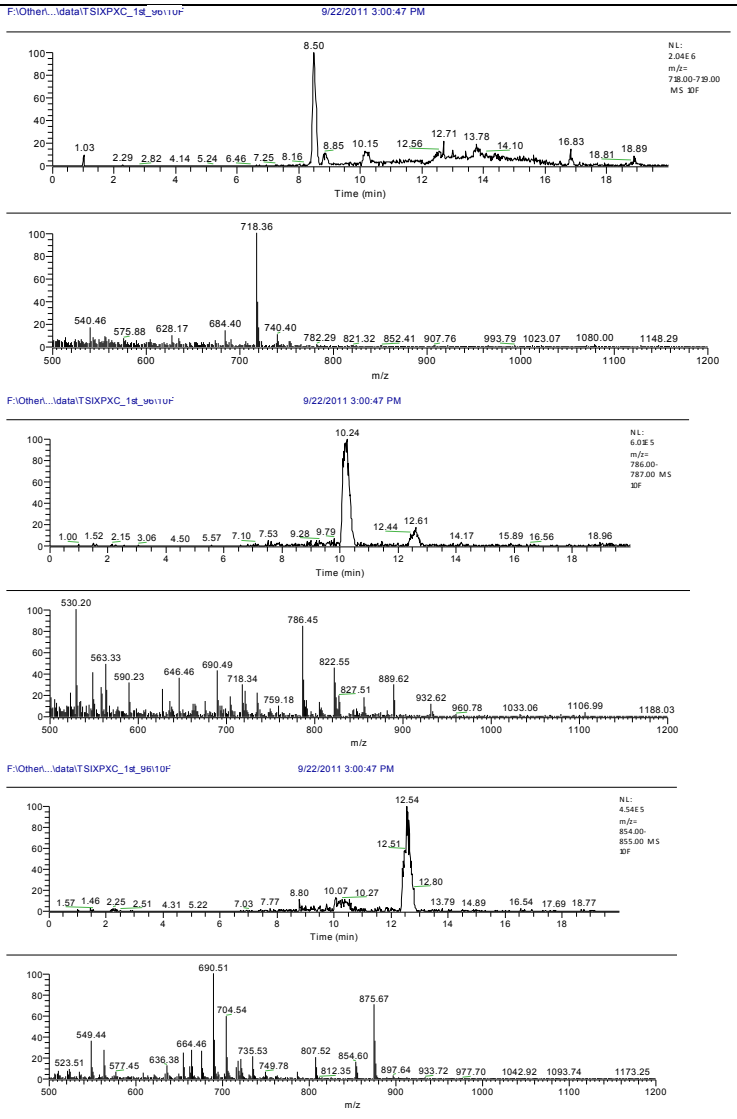
		
TSIGPYC +isoprene +2isoprene	704 772 840	

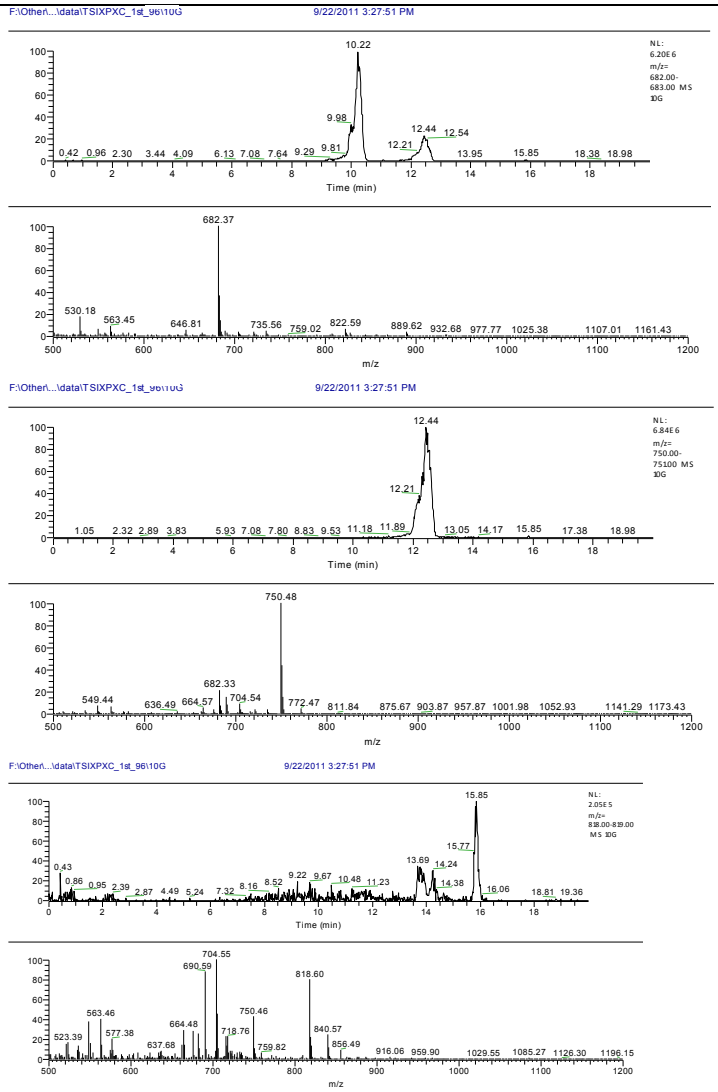
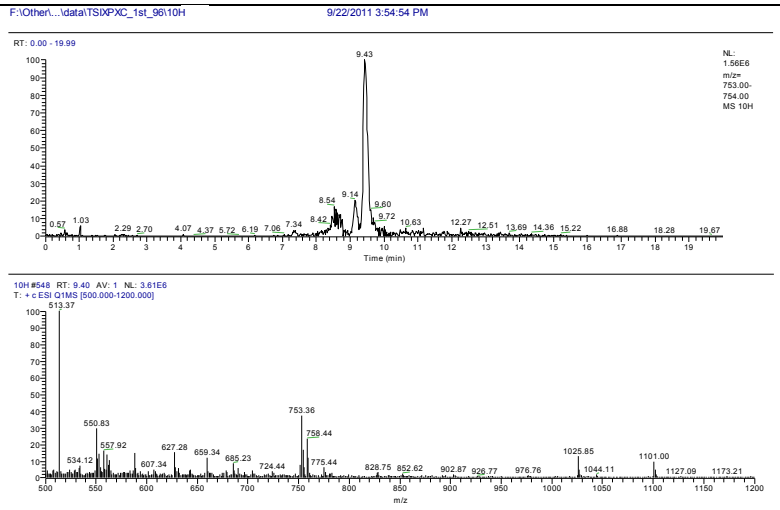
		
TSITPMC +isoprene +2isoprene	716 784 852	

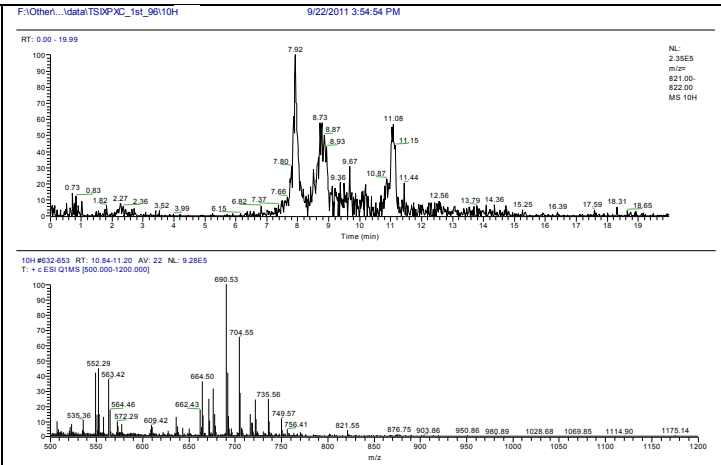
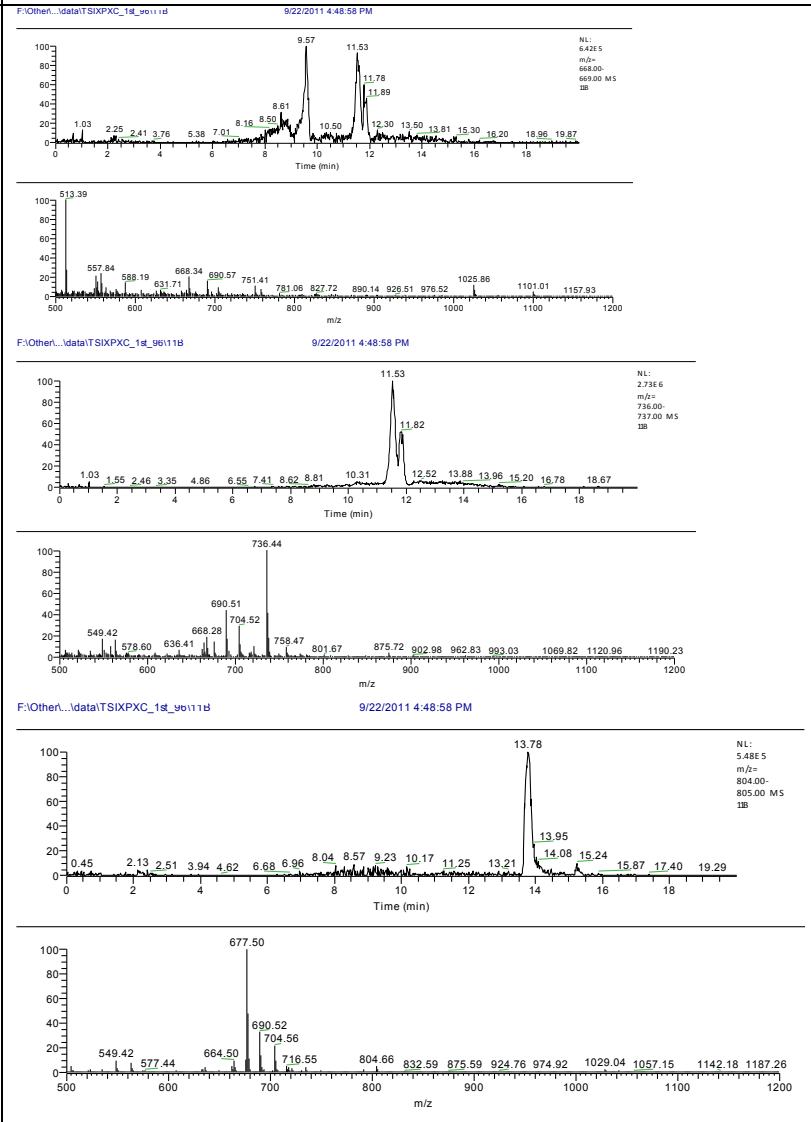
TSIYPSC (dehydroS) +isoprene dhS+ipr	734 716 802 784	

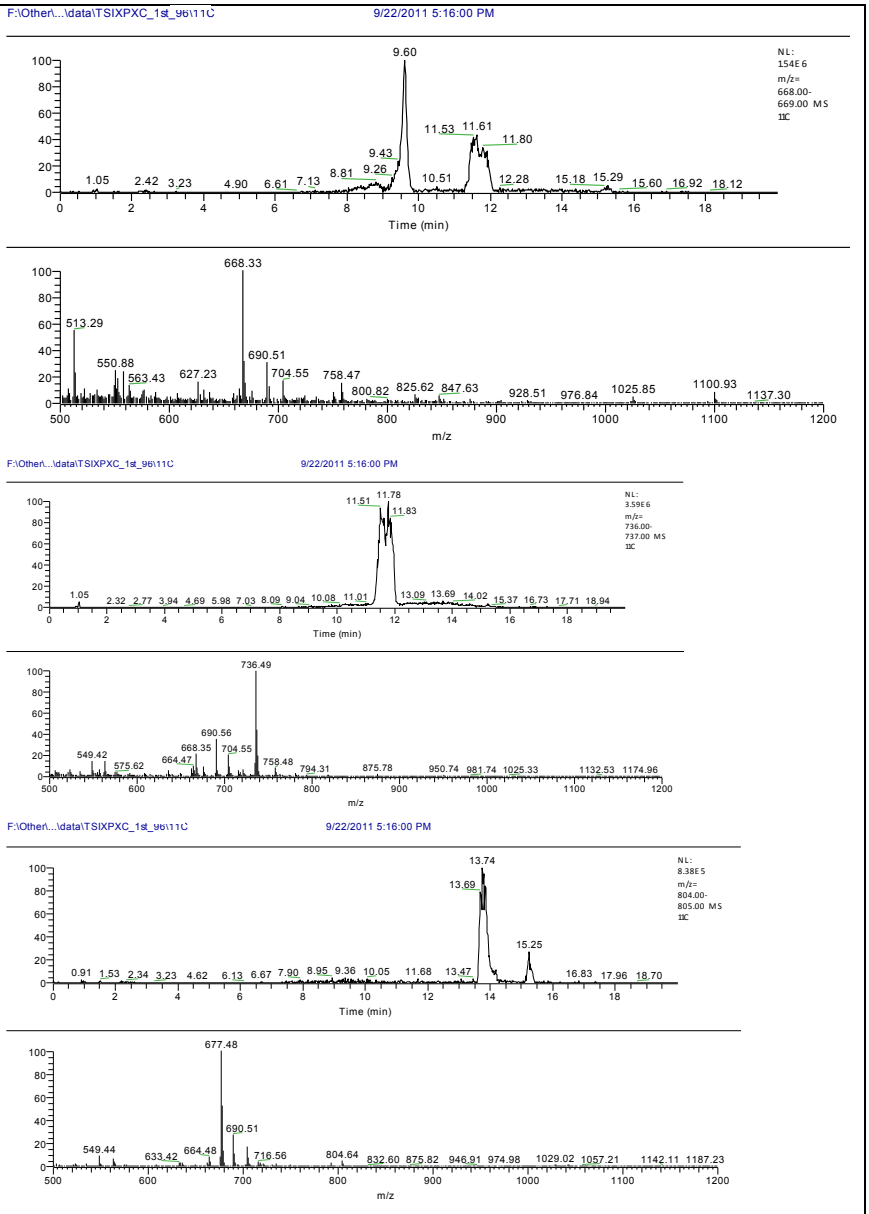
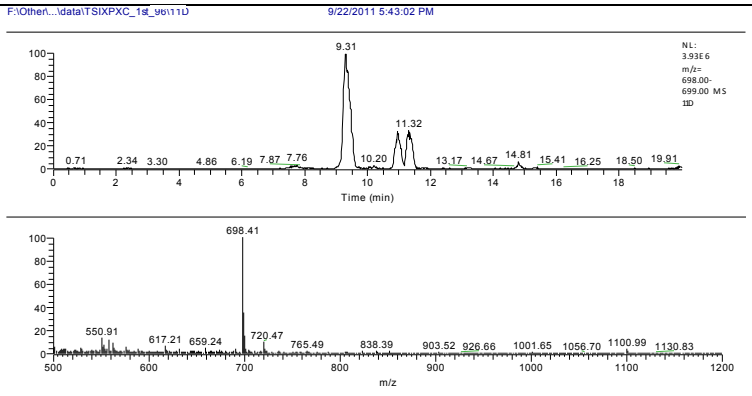
TSITPVC +isoprene +2isoprene	684 752 820	
TSIQPLC +isoprene +2isoprene	725 793 861	

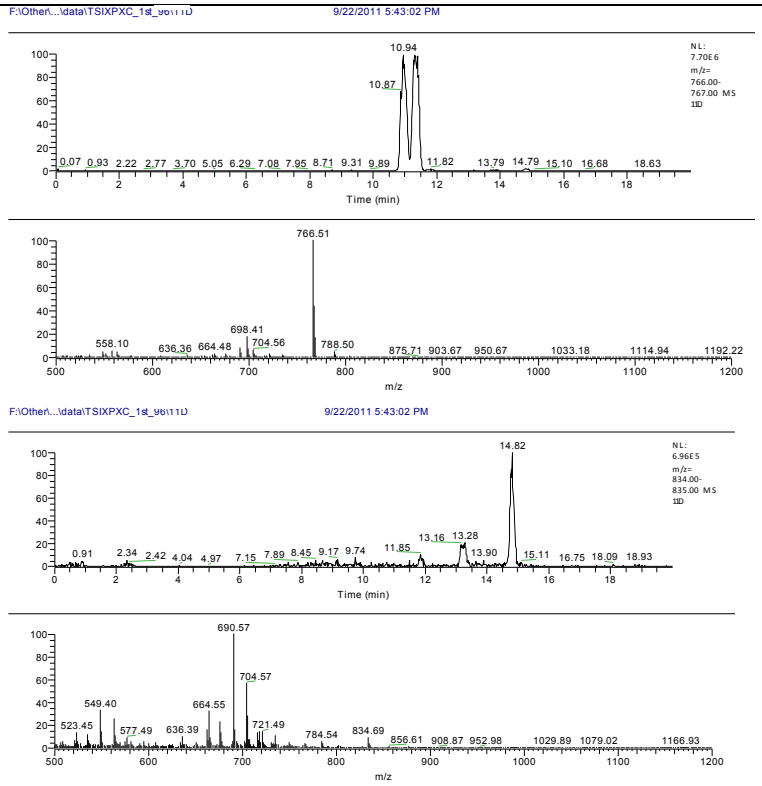
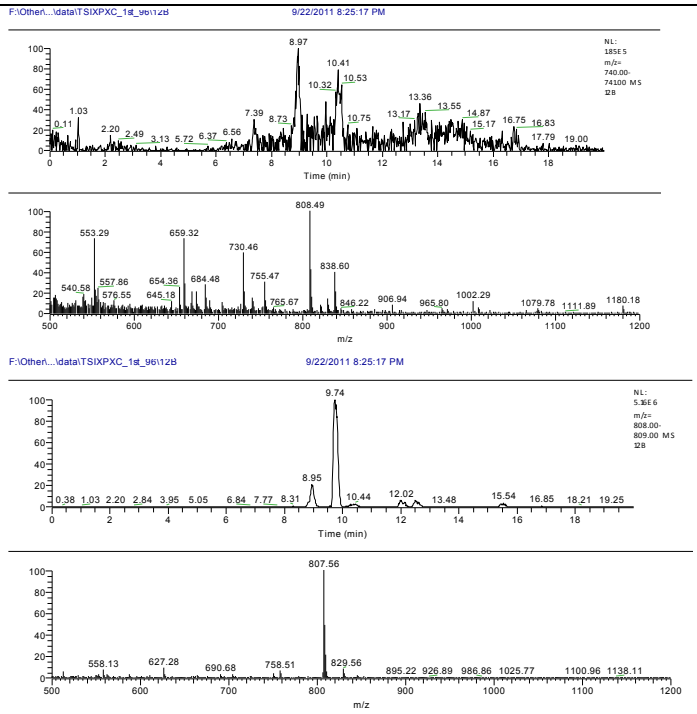
		
TSIFPWC +isoprene	885	
TSIHPVC +isoprene +2isoprene	720 788 856	

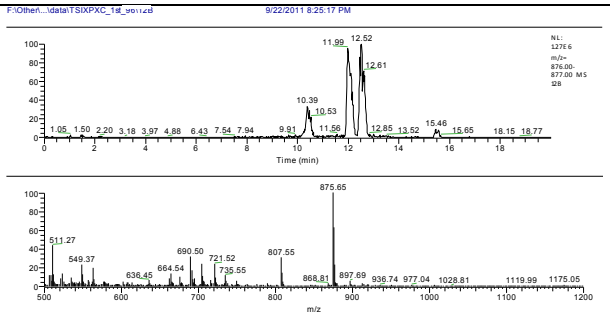
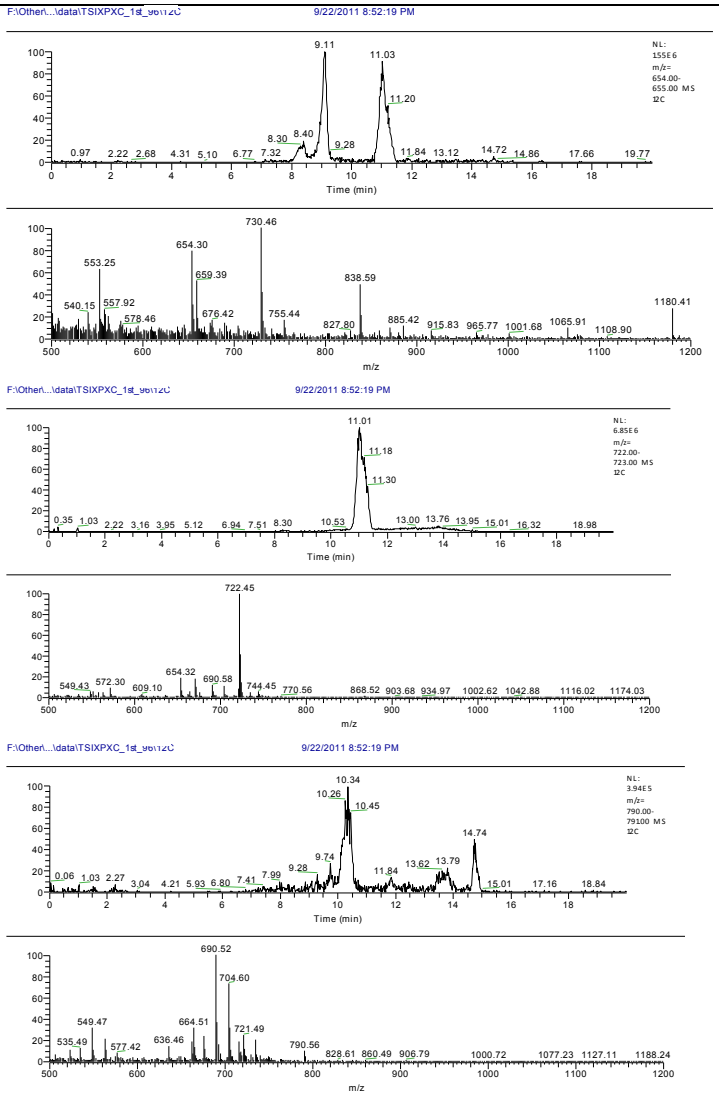
		
TSIAPYC +isoprene +2isoprene	718 786 854	

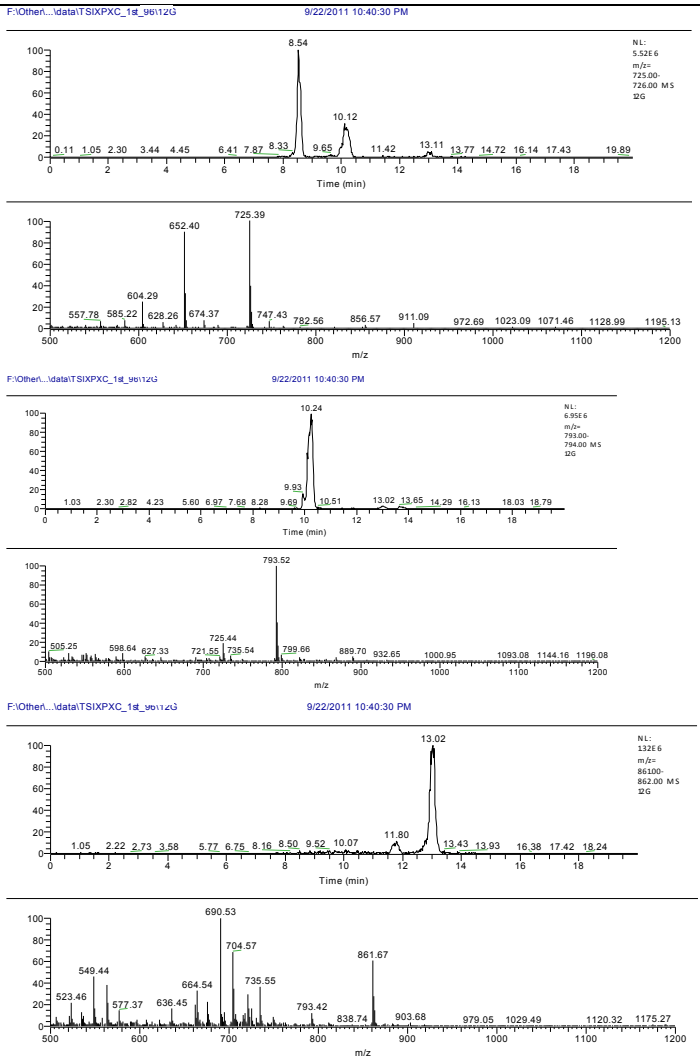
TSIVPVC +isoprene +2isoprene	682 750 818	
TSISPNC +isoprene +2isoprene	 754 821	

		
TSIIPAC +isoprene +2isoprene	668 736 804	

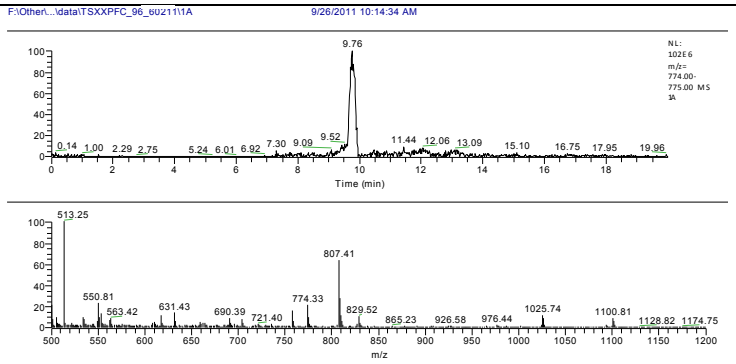
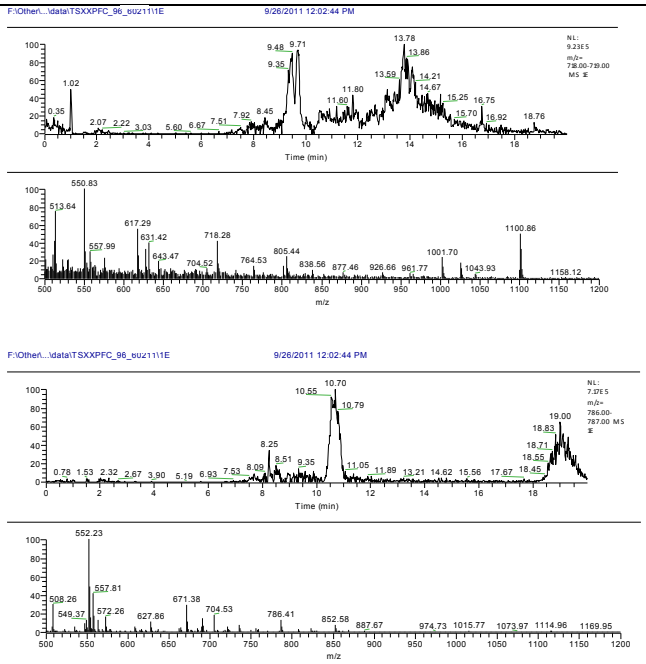
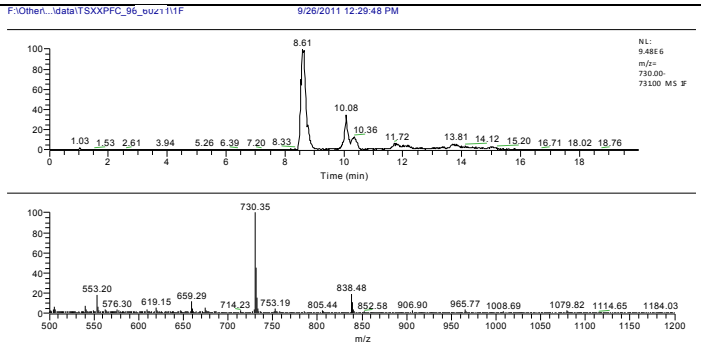
TSIIPAC +isoprene +2isoprene	668 736 804	
TSITPLC +isoprene +2isoprene	698 766 834	

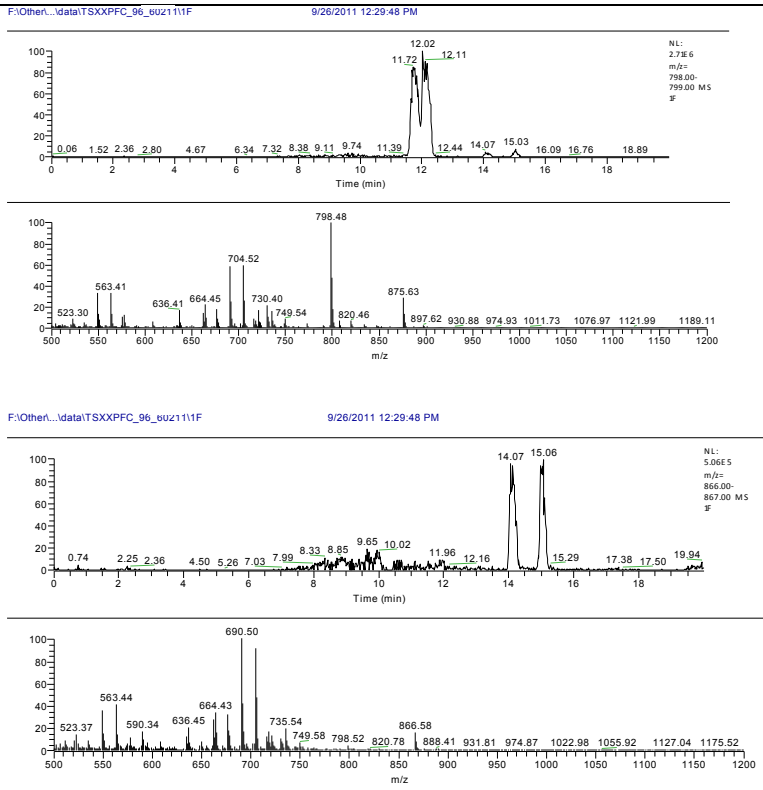
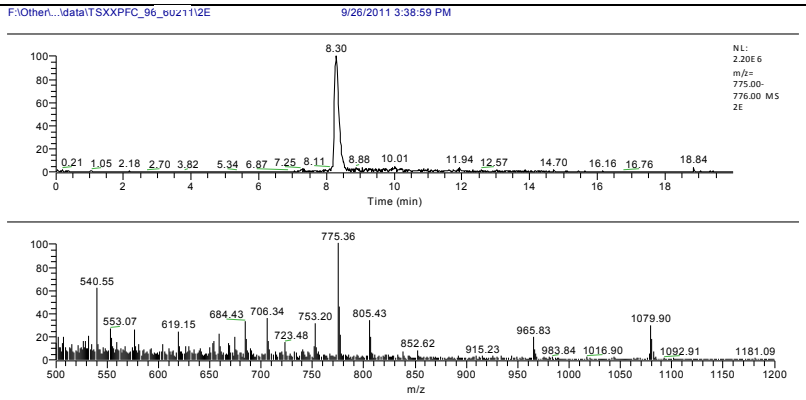
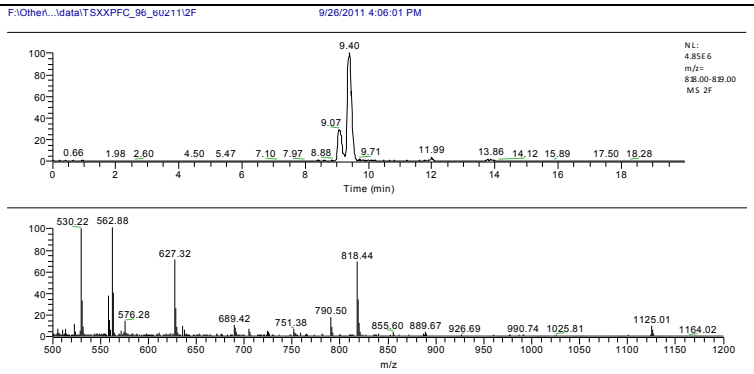
		
TSIQPQC +isoprene +2isoprene	740 808 876	

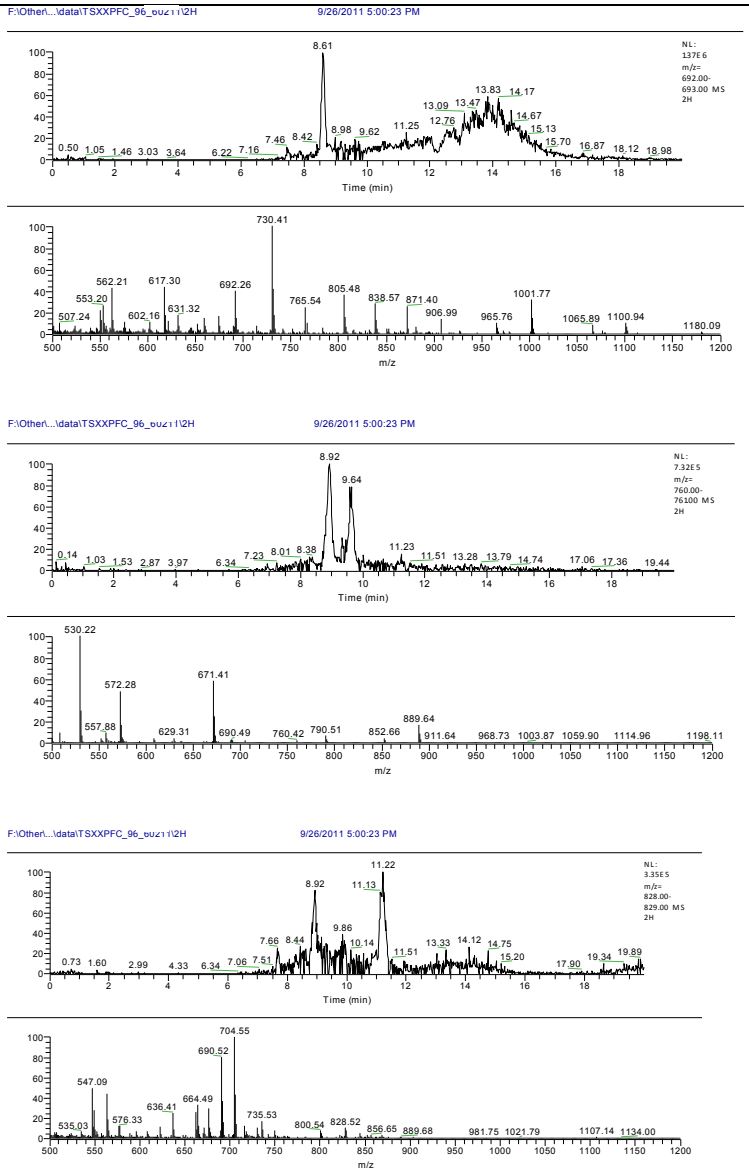
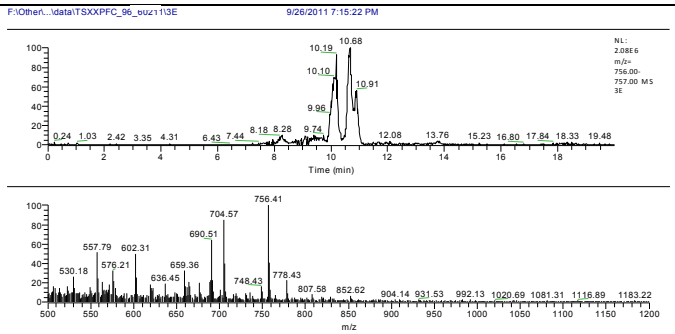
		
TSIVPAC +isoprene +2isoprene	654 722 790	

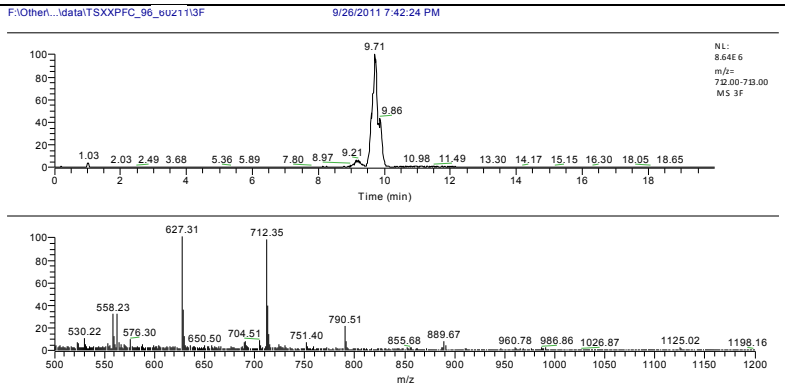
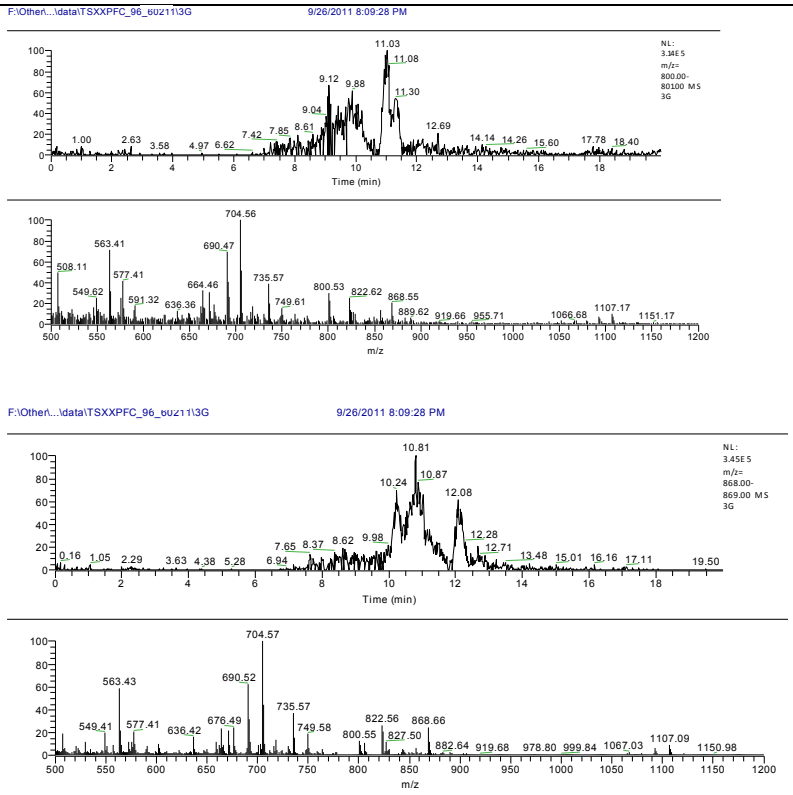
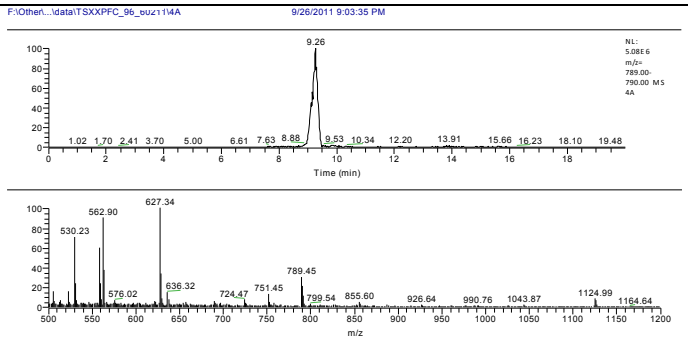
TSIQPLC +isoprene +2isoprene	725 793 861	

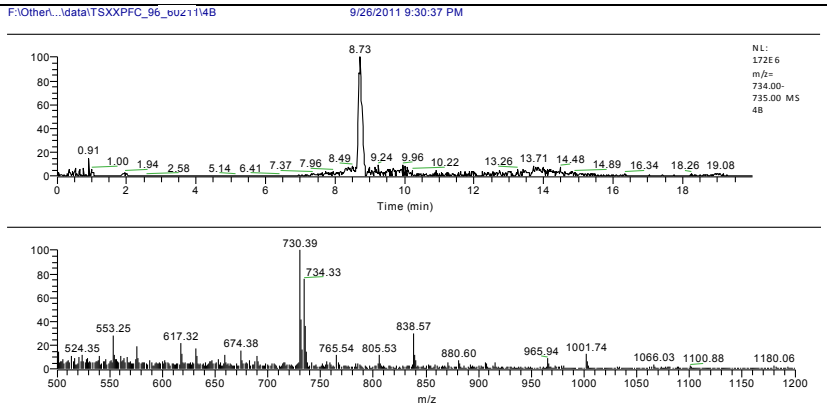
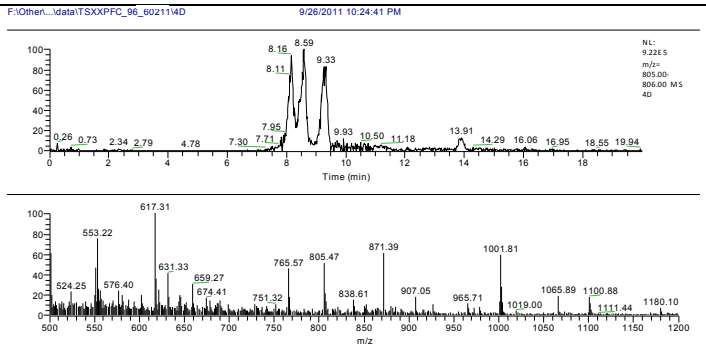
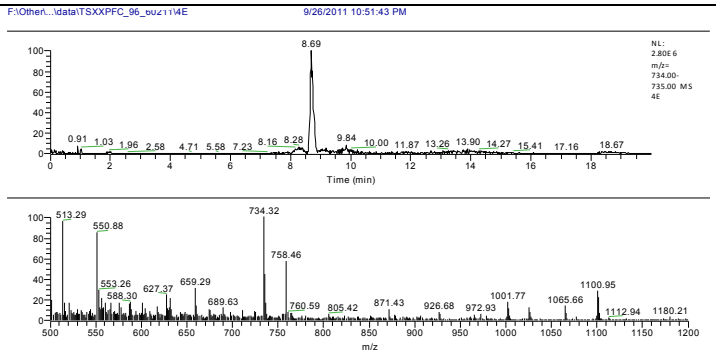
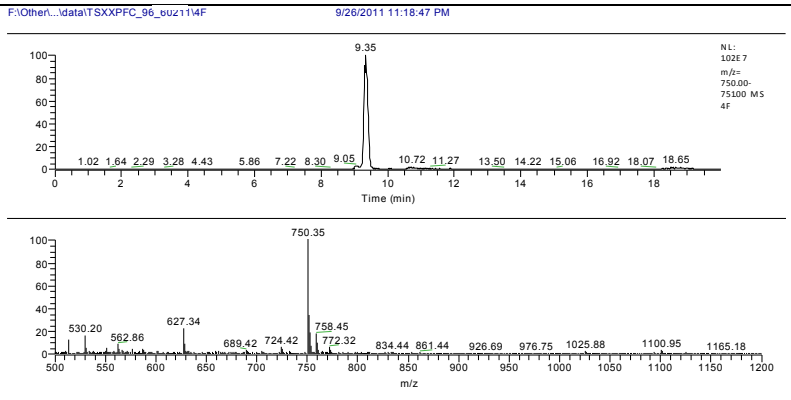
S4C. TSXXPFC

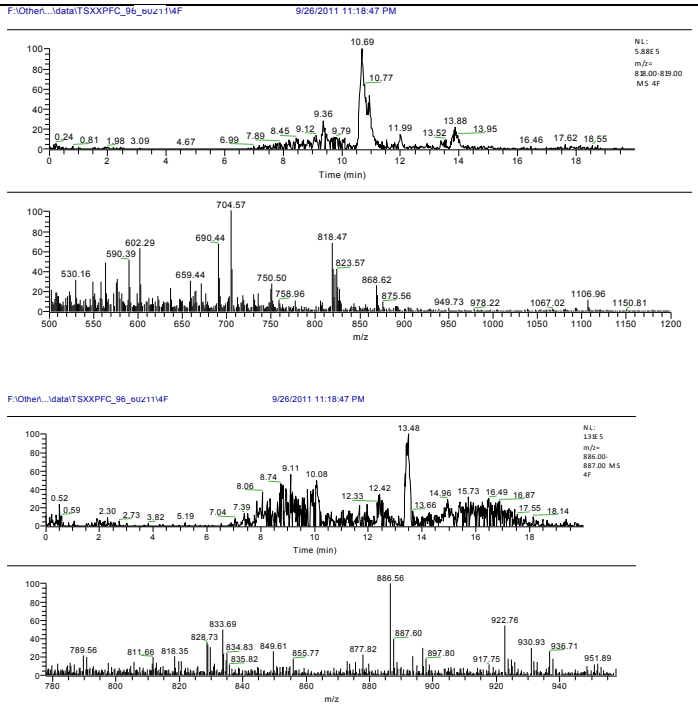
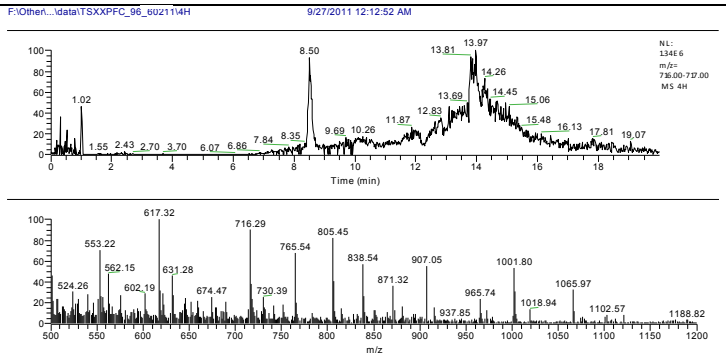
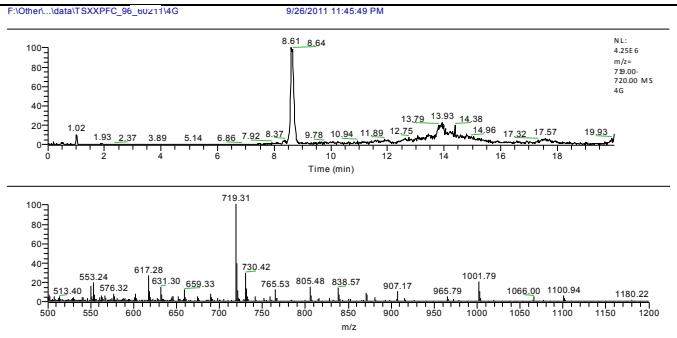
Sequence	*m/z*	Extracted ion chromatogram and mass spectrum at time point
TSKQPFC	774	
TSSIPFC	718	
TSLVPFC +isoprene +2isoprene	730 798 866	

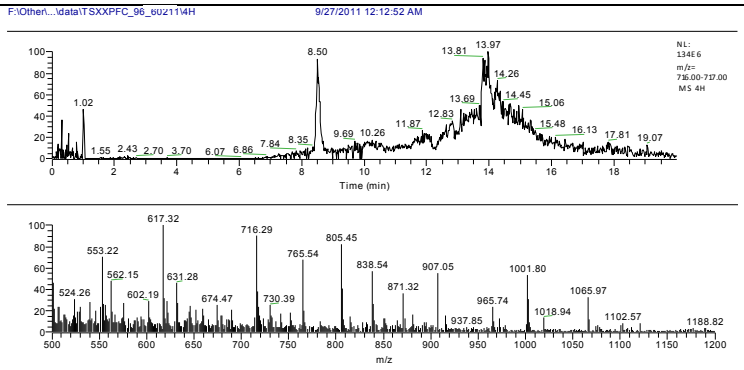
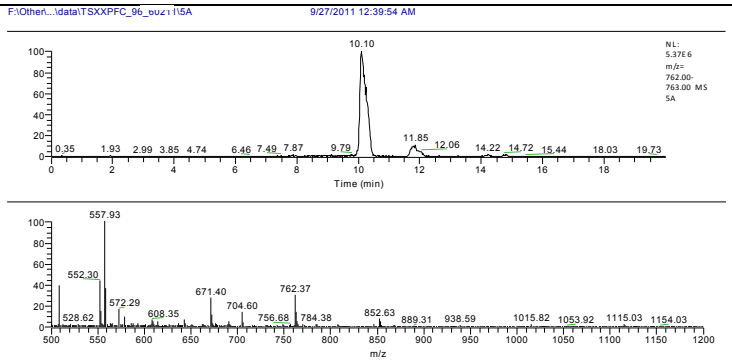
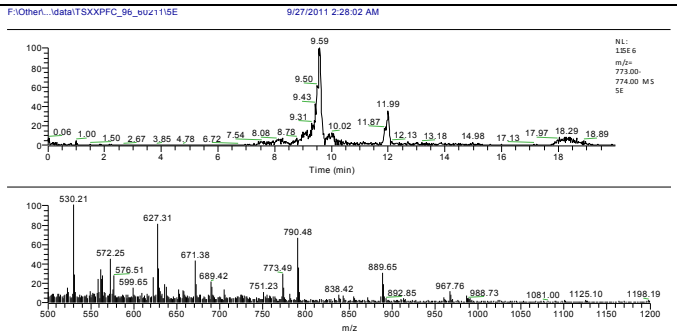
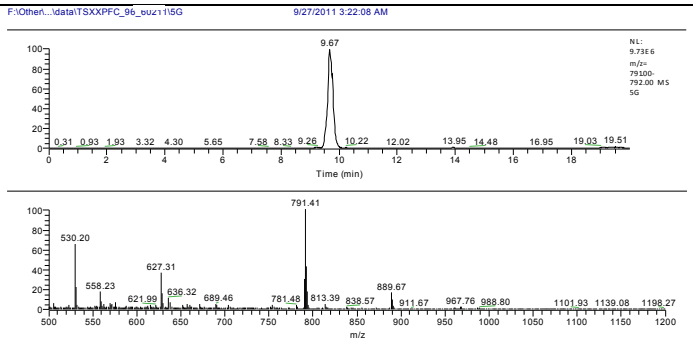
		
TSEQPFC	775	
TSWNPFC	818	

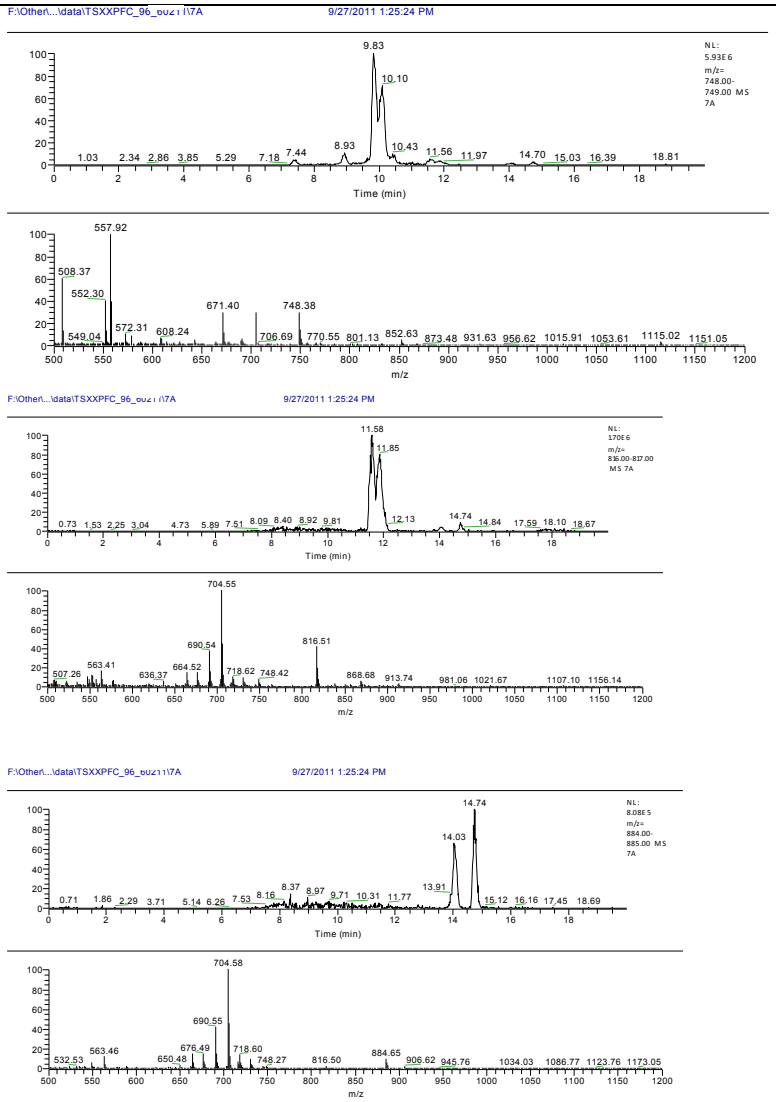
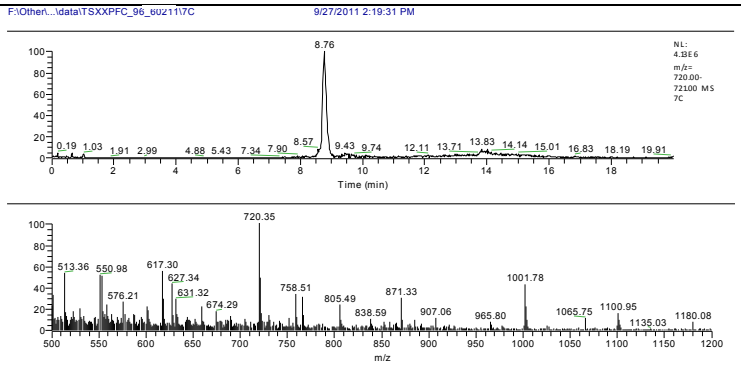
TSSSPFC +isoprene +2isoprene	692 760 828	
TSAVPFC	688	

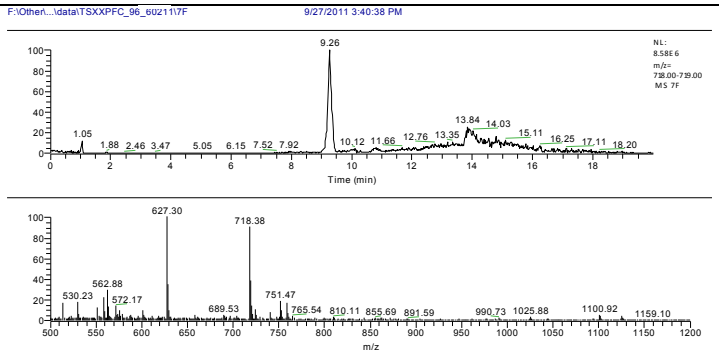
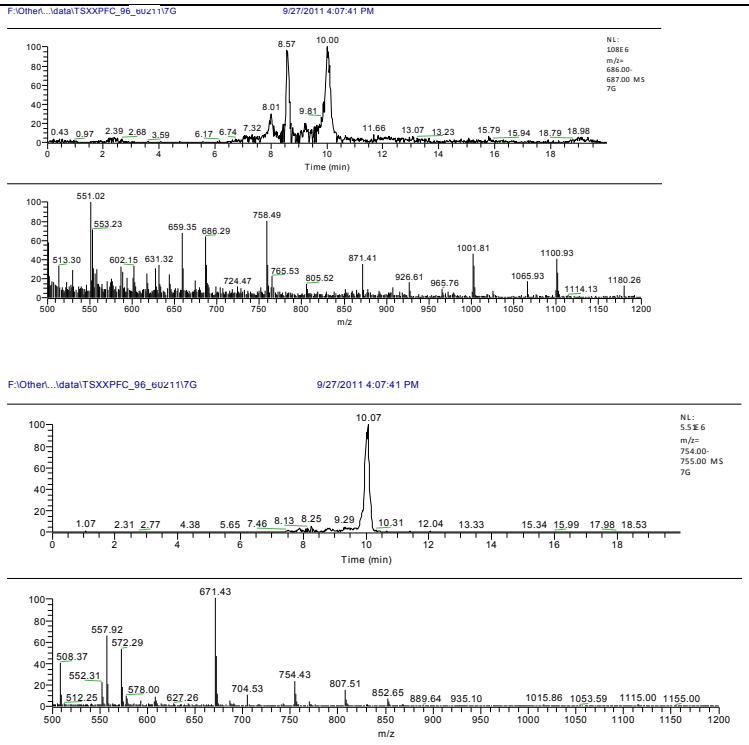
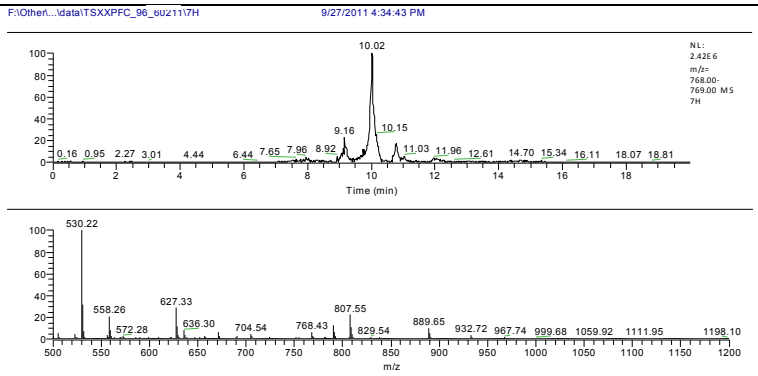
TSHGPFC	712	
TSVDPFC +isoprene +2isoprene	800 868	
TSRDPFC	789	

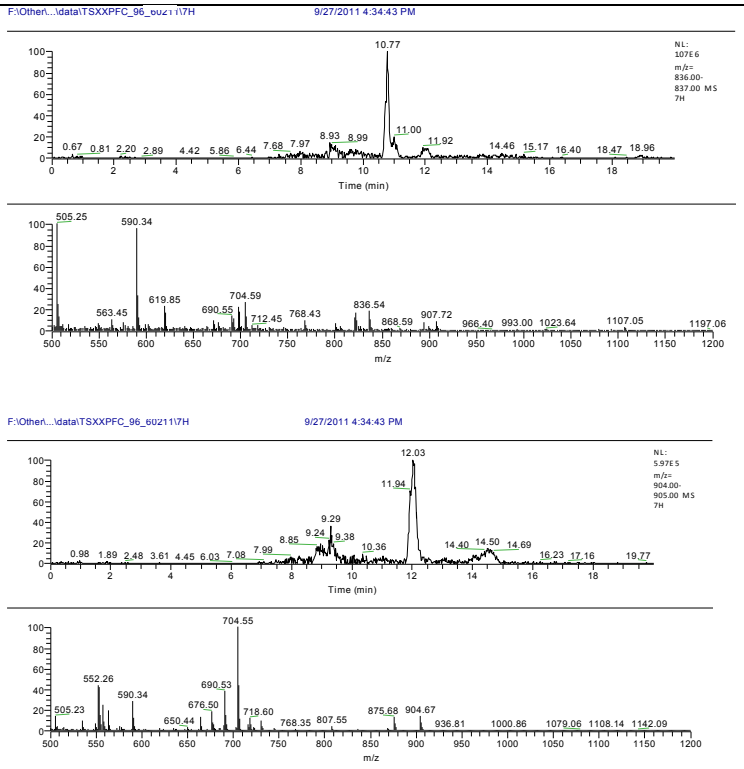
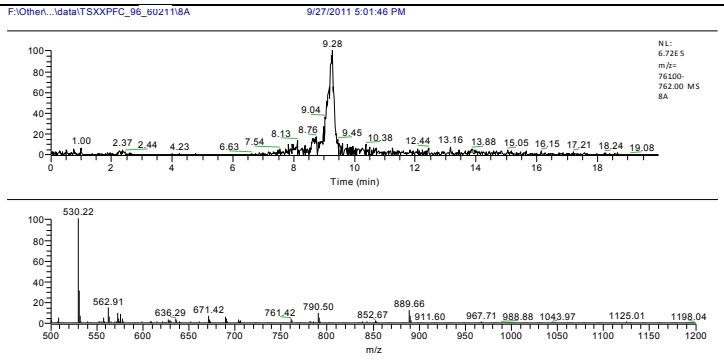
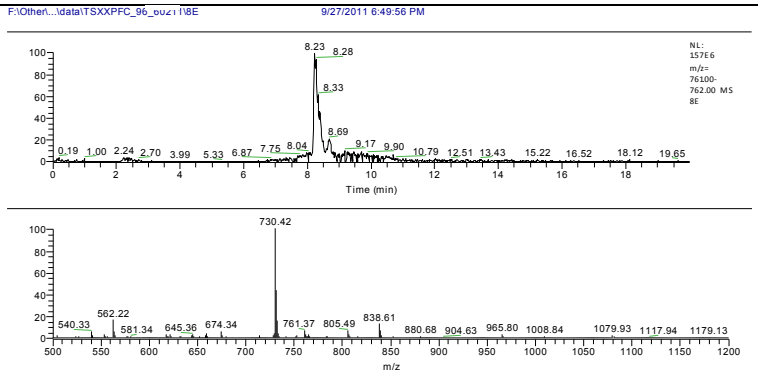
TSESPFC	734	
TSMRPFC	805	
TSESPFC	734	
TSMTPFC +isoprene +2isoprene	750 818 886	

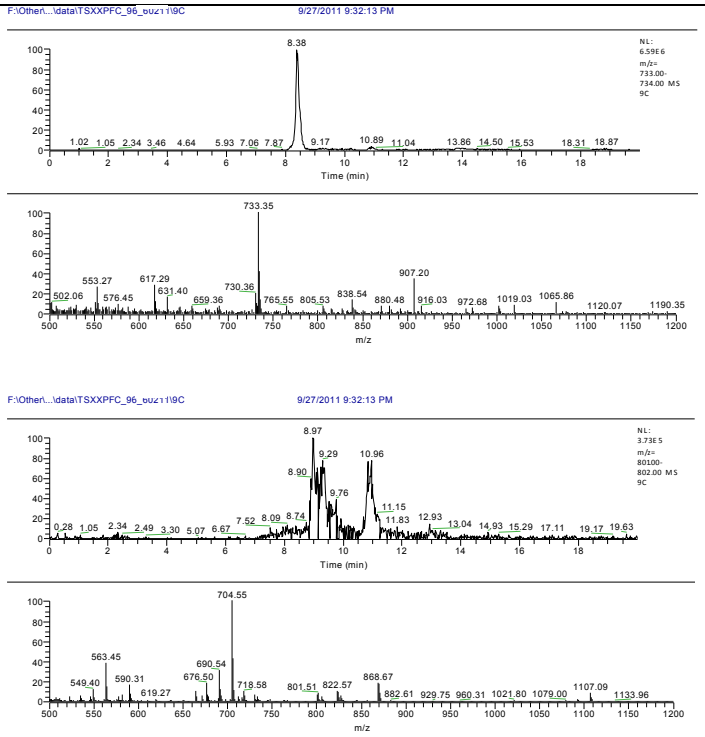
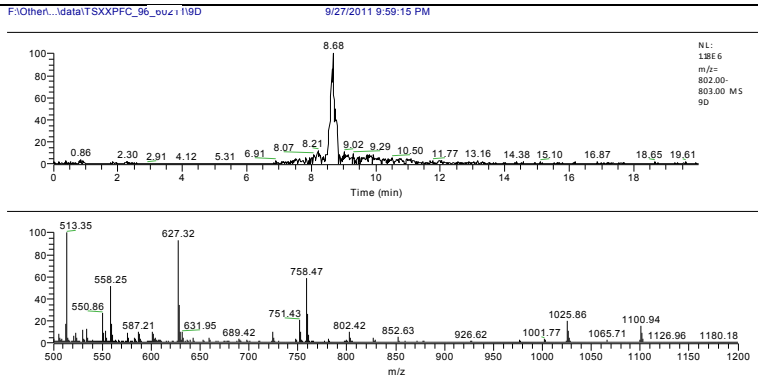
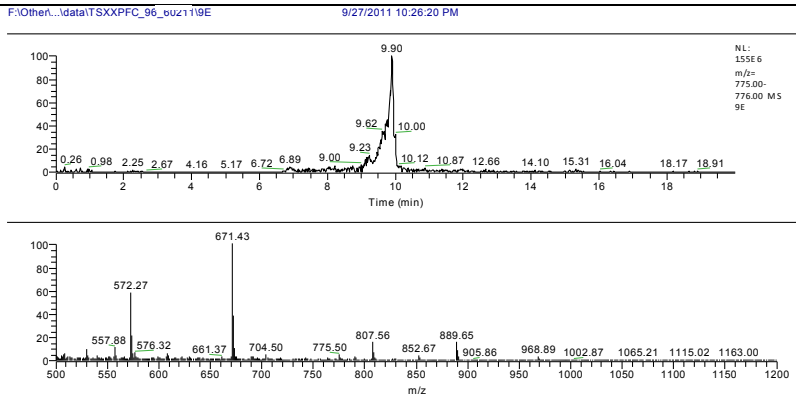
		
TSTPPFC	716	
TSNSPFC	719	

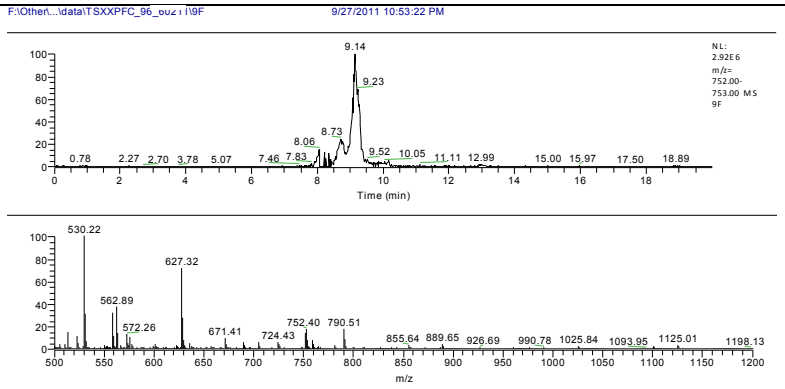
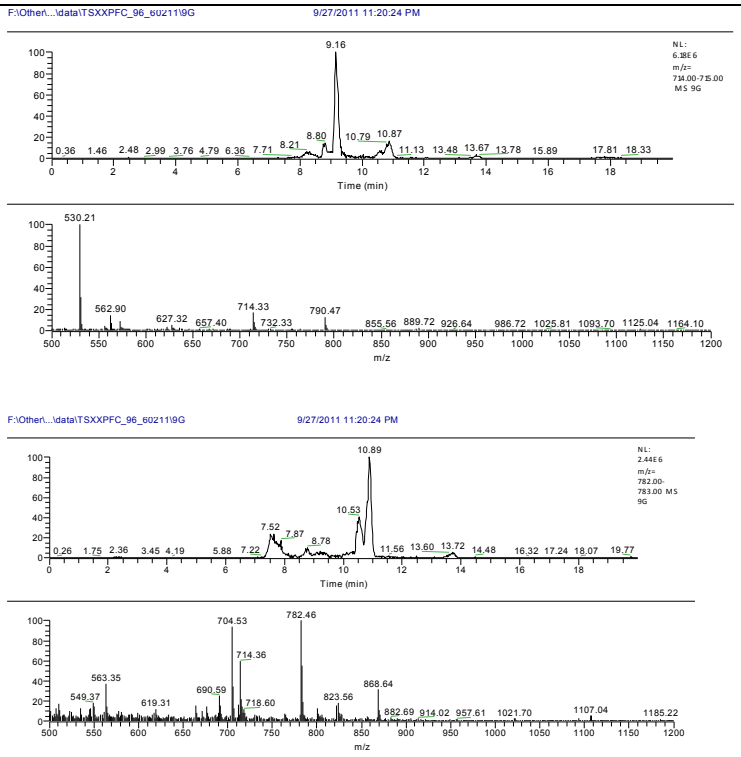
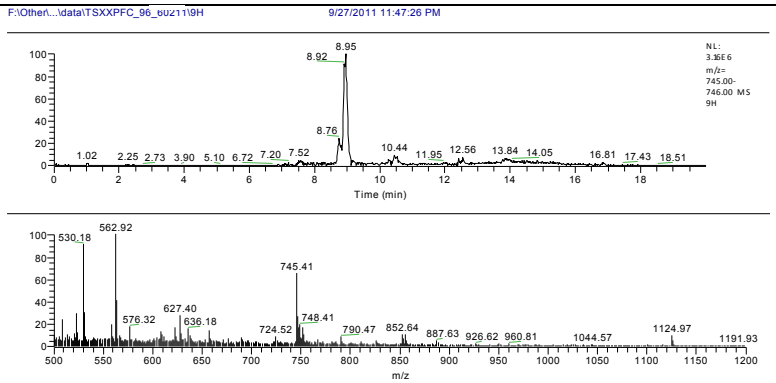
TSTTPFC	716	
TSLMPFC	762	
TSVRPFC	773	
TSWSPFC	791	

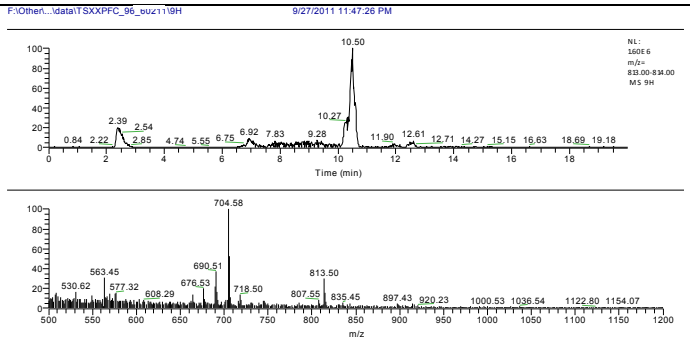
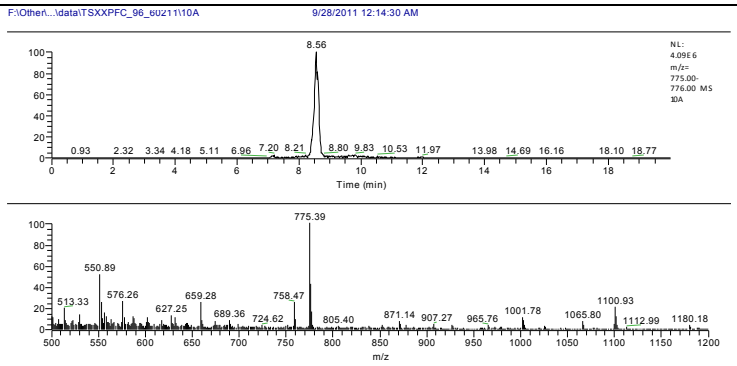
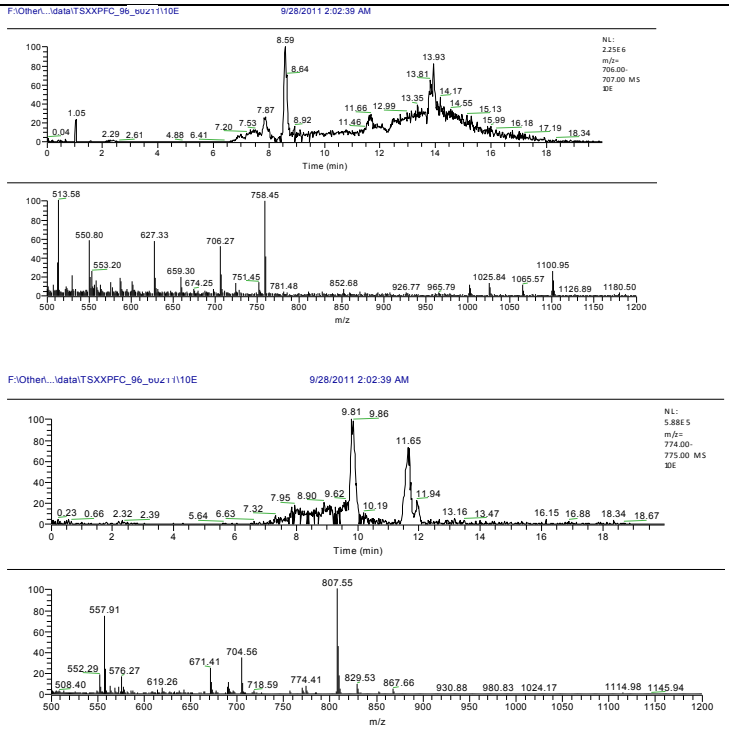
TSVMPFC +isoprene +2isoprene	748 816 884	
TSTTPFC	720	

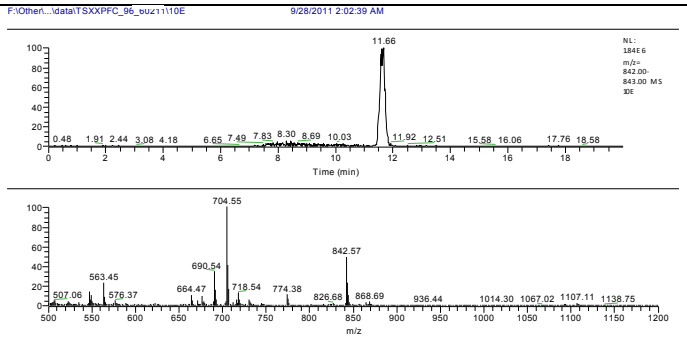
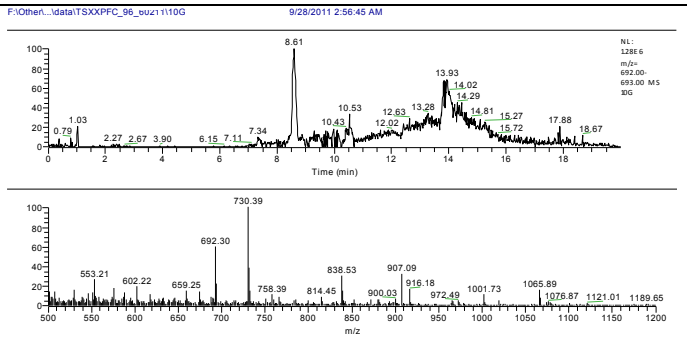
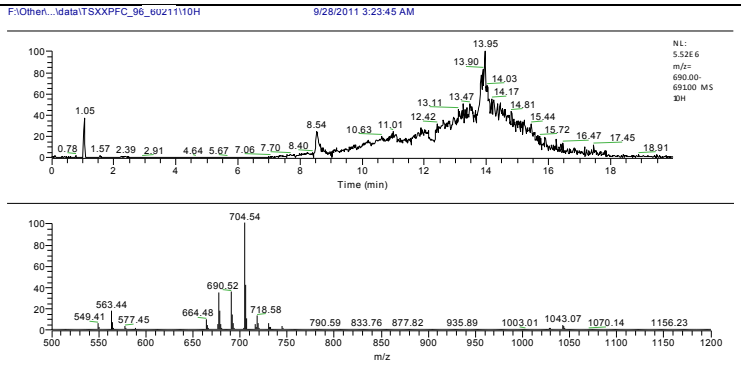
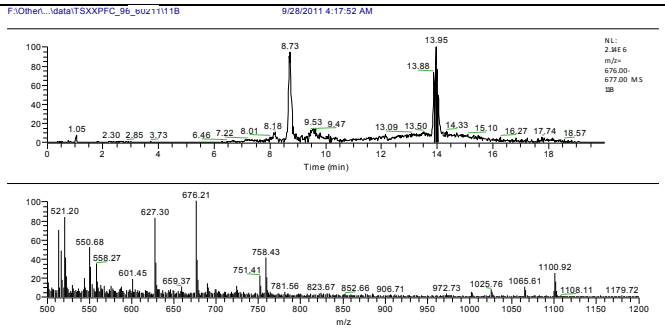
TSLSPFC	718	
TSAPPFC +isoprene	686 754	
TSIHPFC +isoprene +2isoprene	768 836 904	

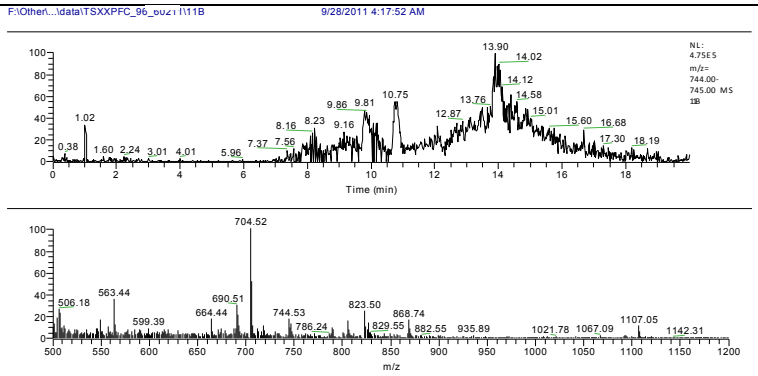
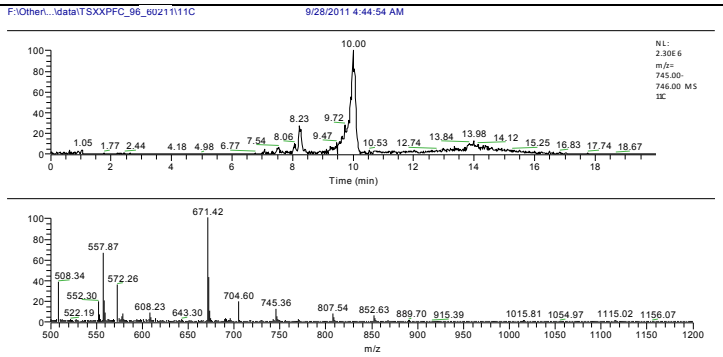
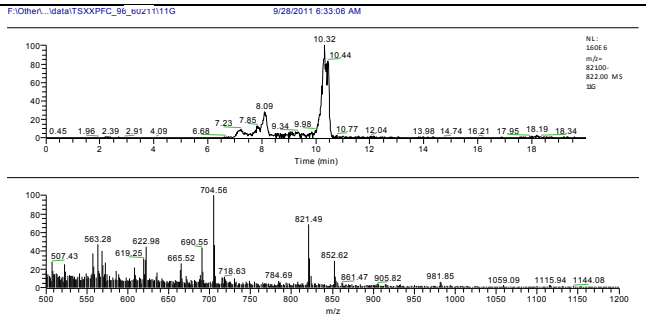
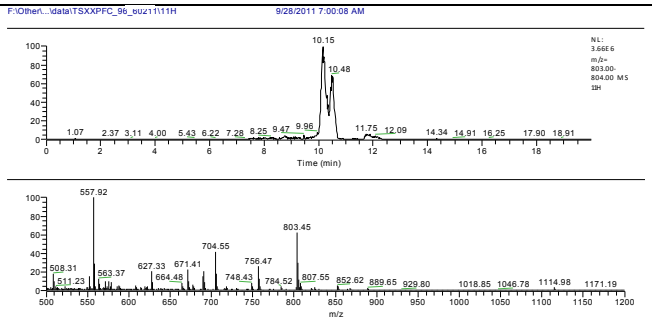
		
TSRSPFC	761	
TSDQPFC	761	

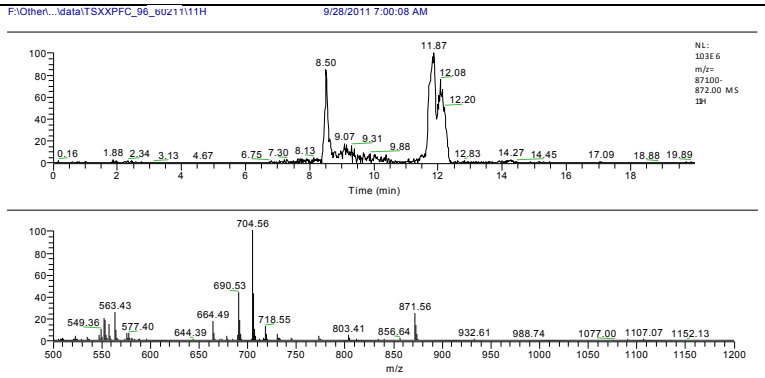
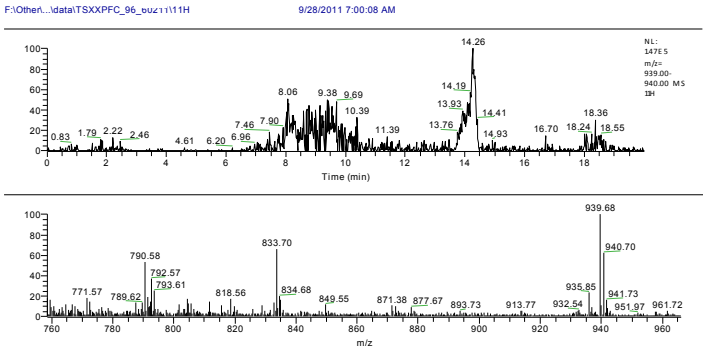
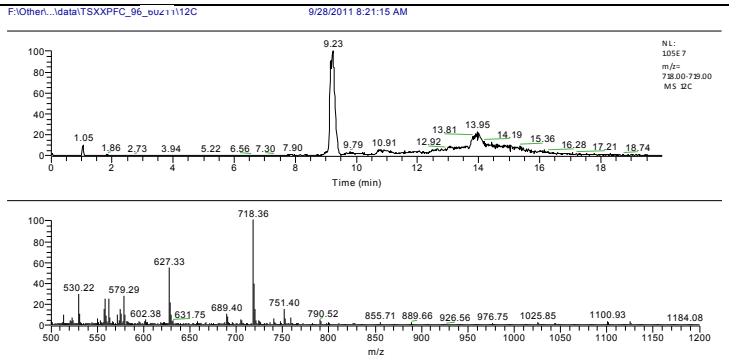
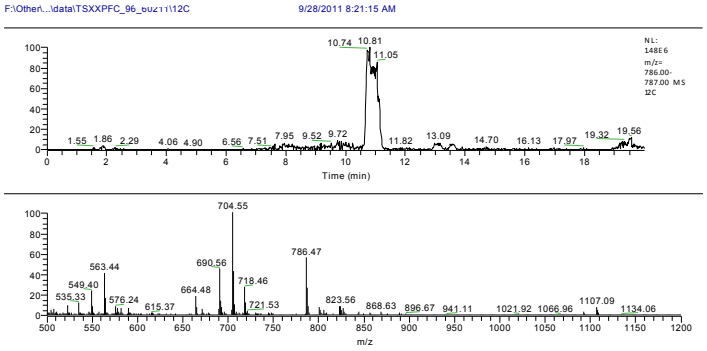
TSTNPFC +isoprene	733 801	
TSRQPFC	802	
TSRTPFC	775	

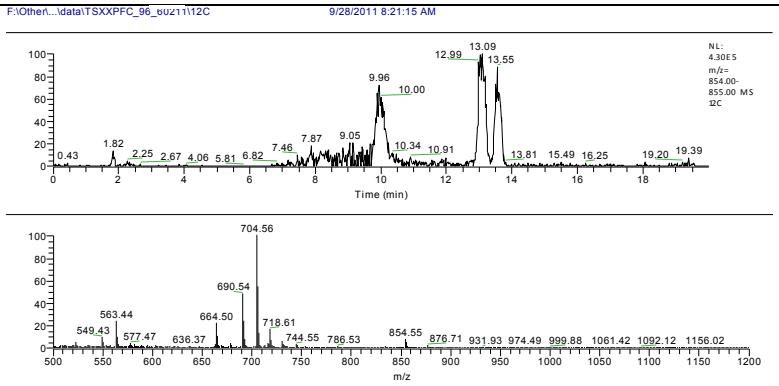
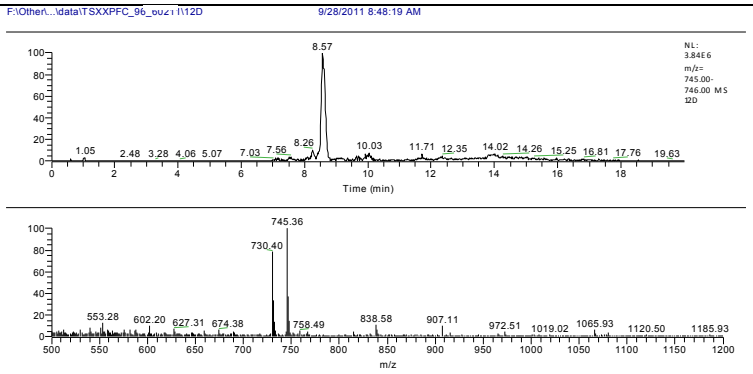
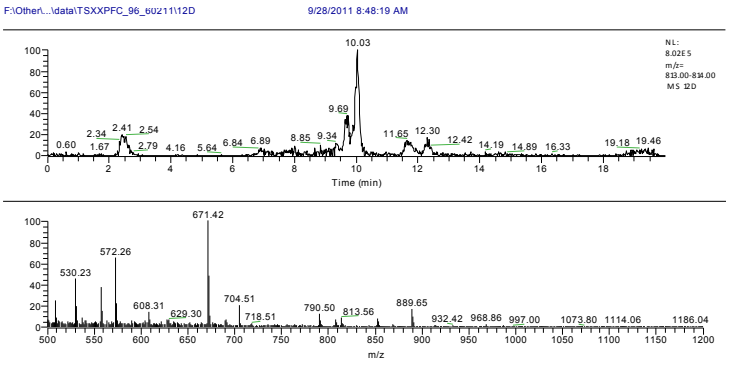
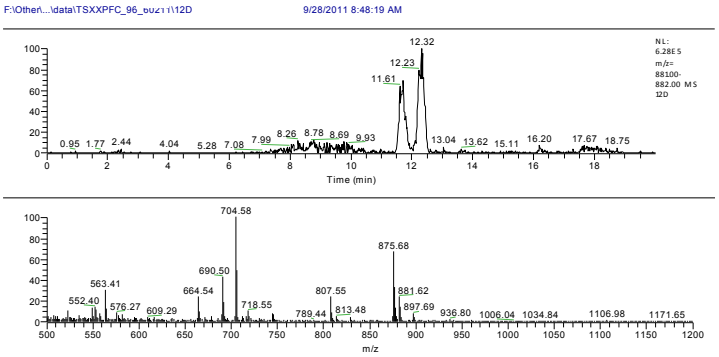
TSHPPFC	752	
TSVPPFC +isoprene	714 782	
TSLNPFC +isoprene	745 813	

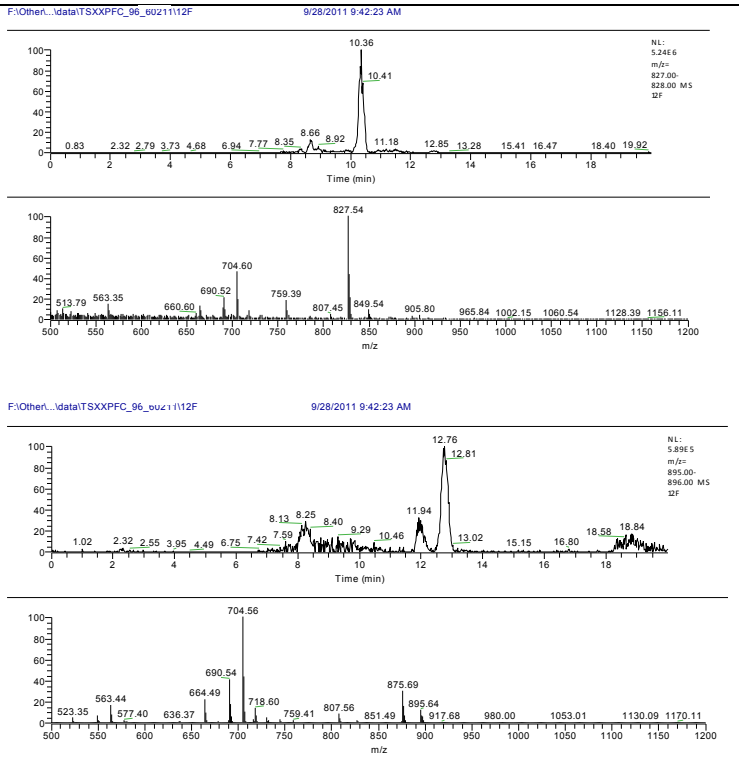
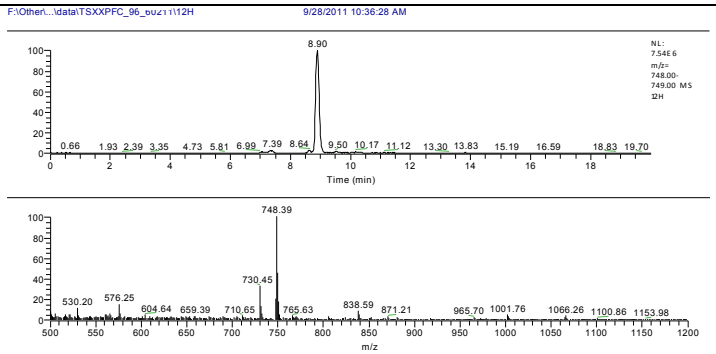
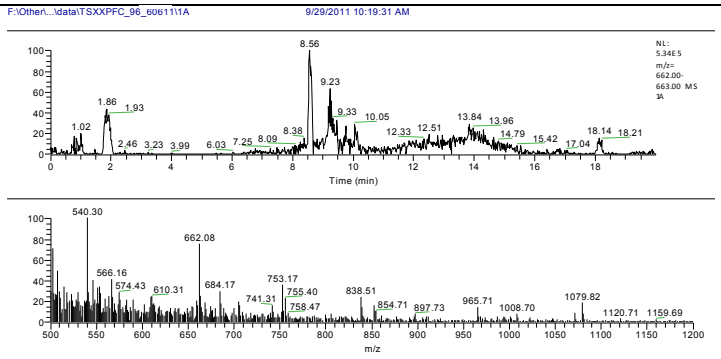
		
TSEKPFC	775	
TSTSPFC +isoprene	706 774	

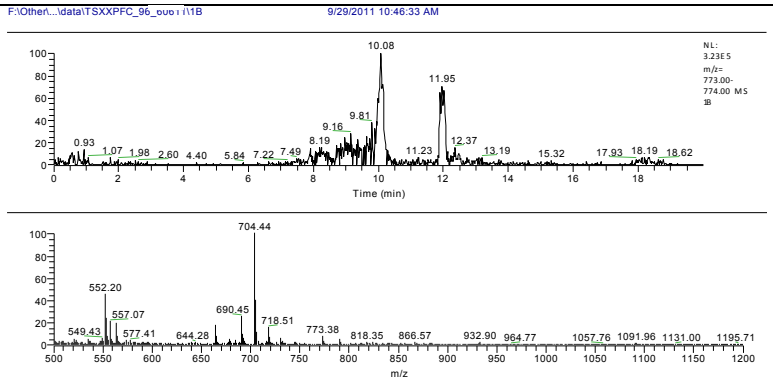
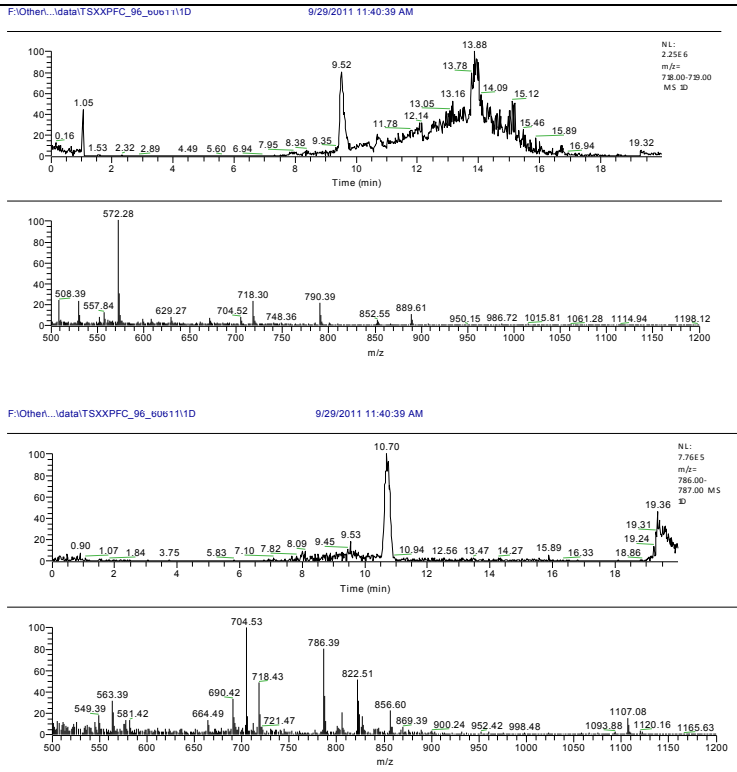
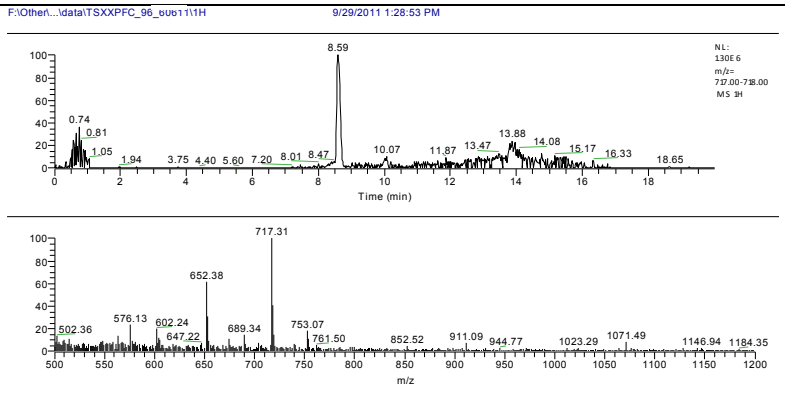
		
TSSSPFC	692	
TSDGPFC	690	
TSASPFC +isoprene	676 744	

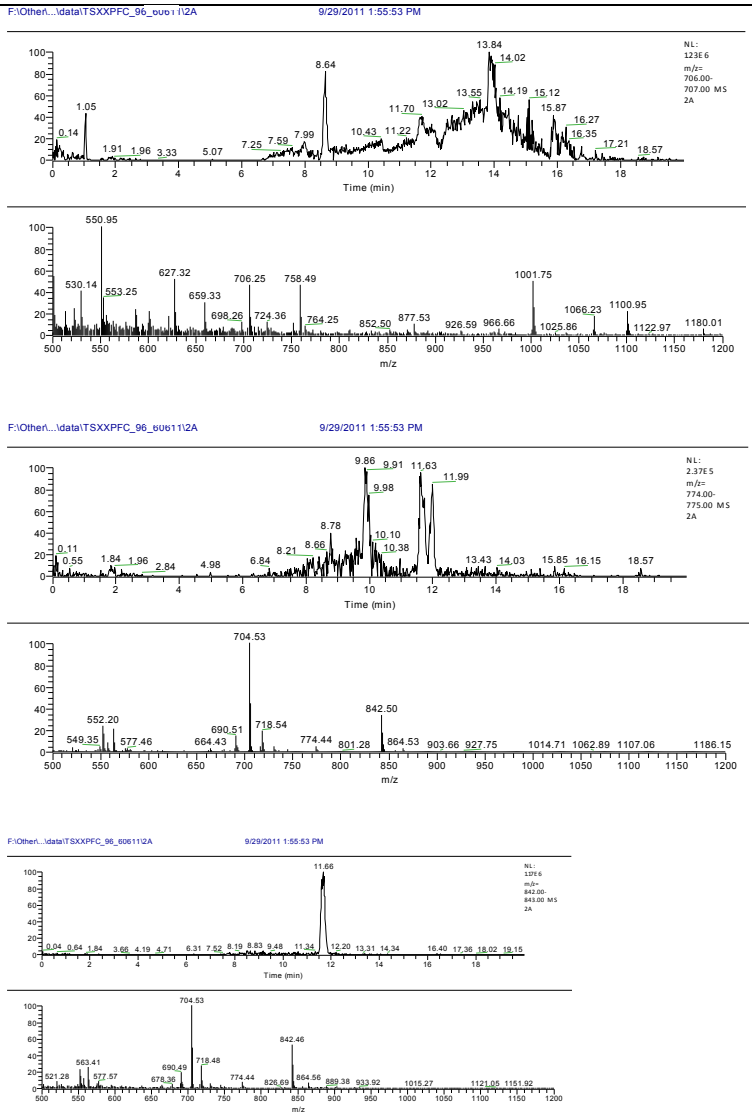
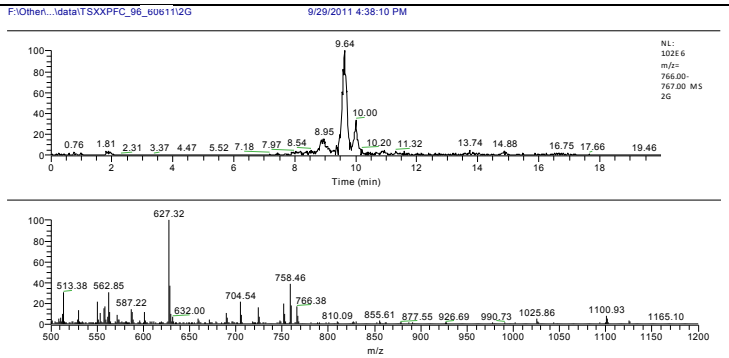
		
TSKVPFC	745	
TSRFPFC	821	
TSVWPFC +isoprene +2isoprene	803 871 939	

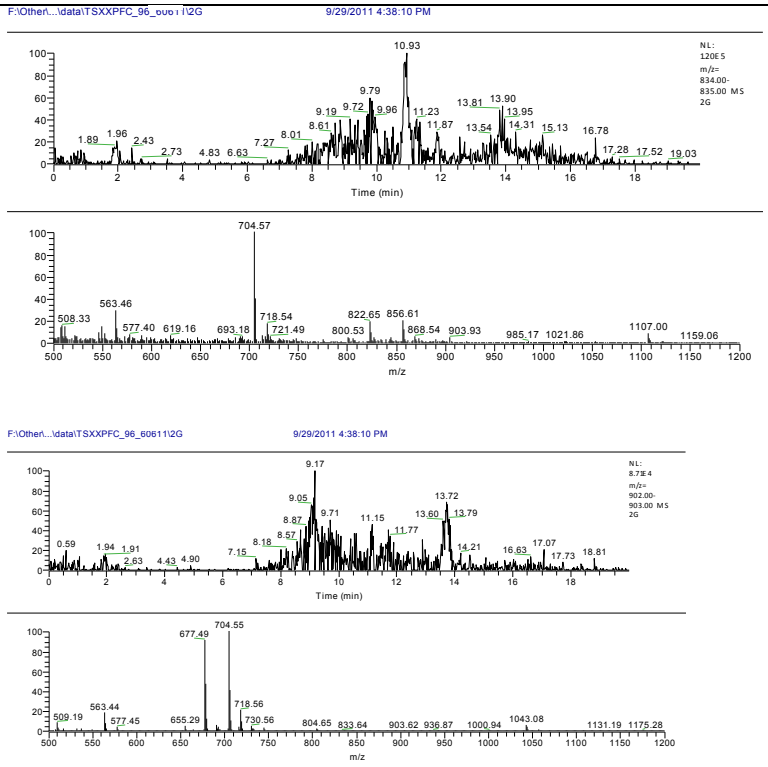
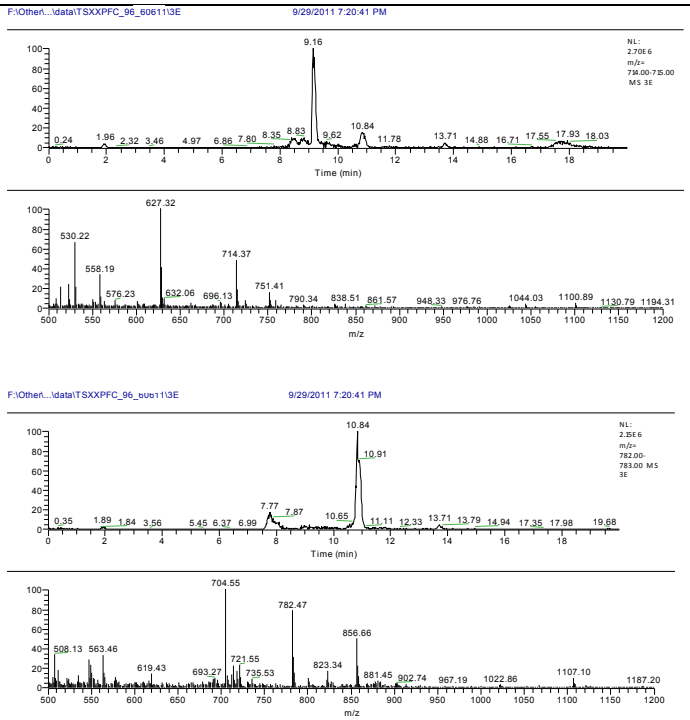
		 
TSISPFC +isoprene +2isoprene	718 786 854	 

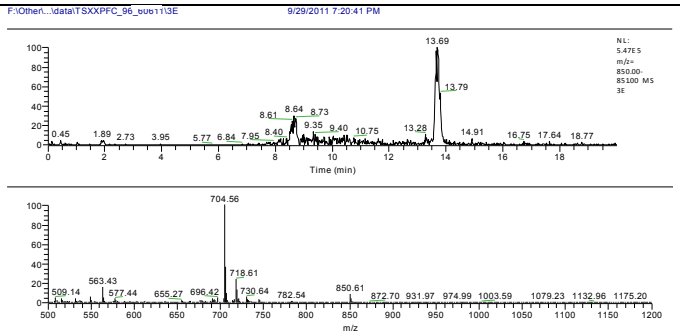
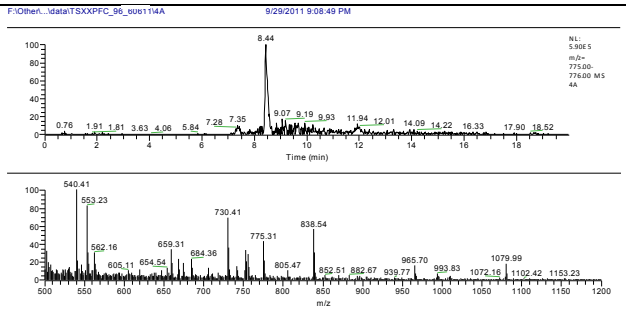
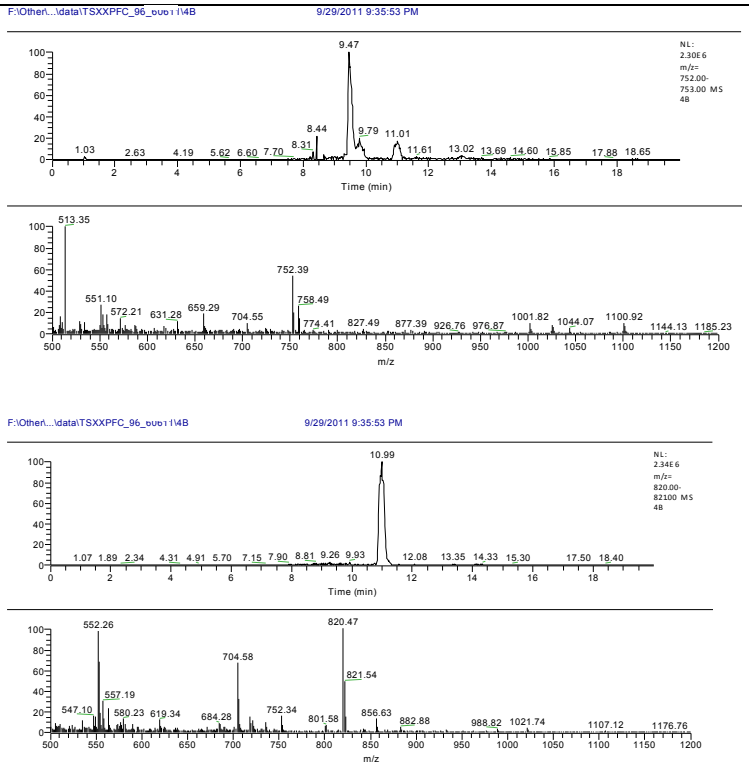
		
TSVQPFC +isoprene +2isoprene	745 813 881	  

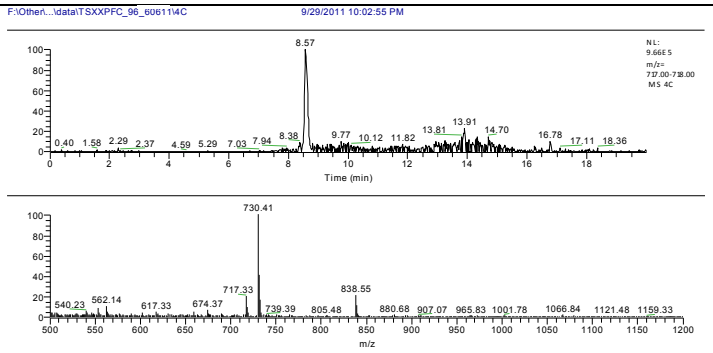
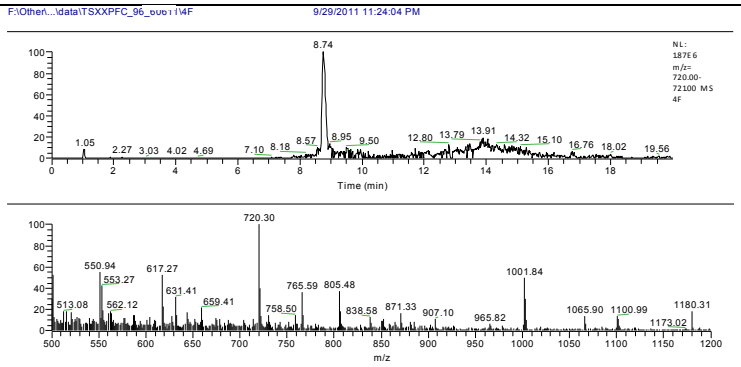
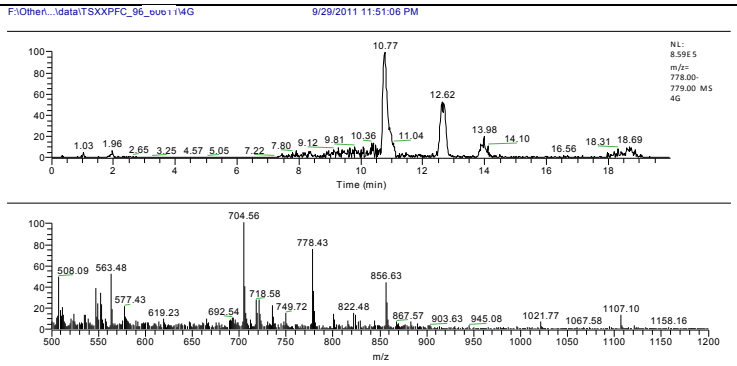
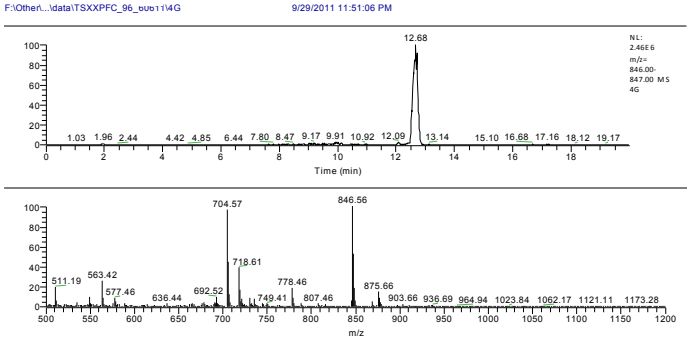
TSIQPFC +isoprene	827 895	
TSETPFC	748	
TSGSPFC	662	

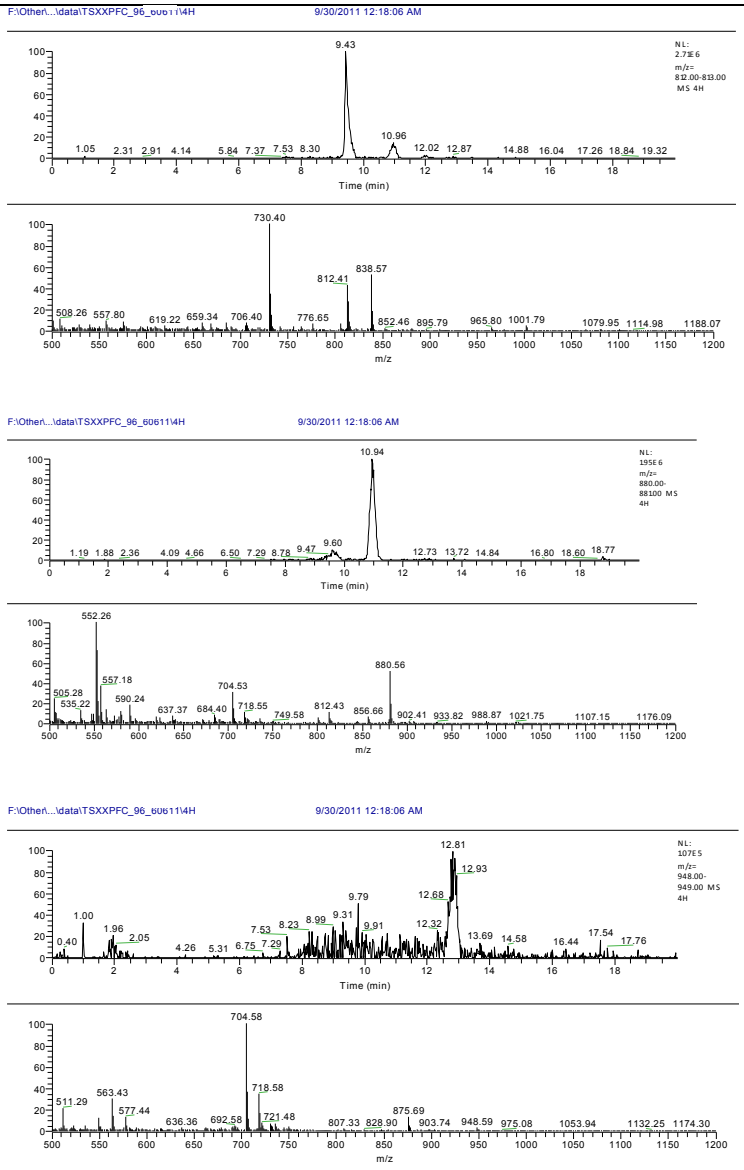
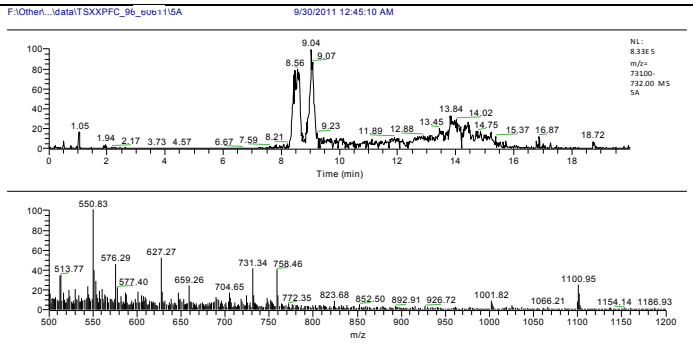
TSRVPFC	773	
TSSLPFC +isoprene	718 786	
TSQAPFC	717	

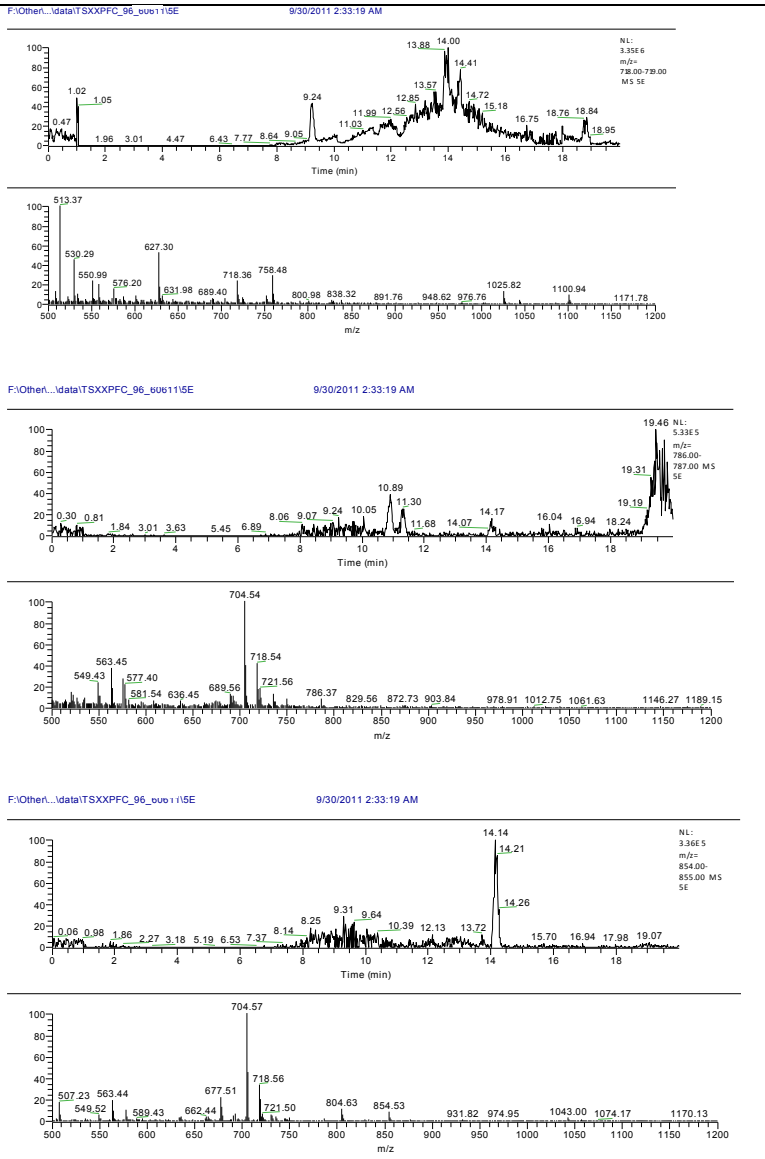
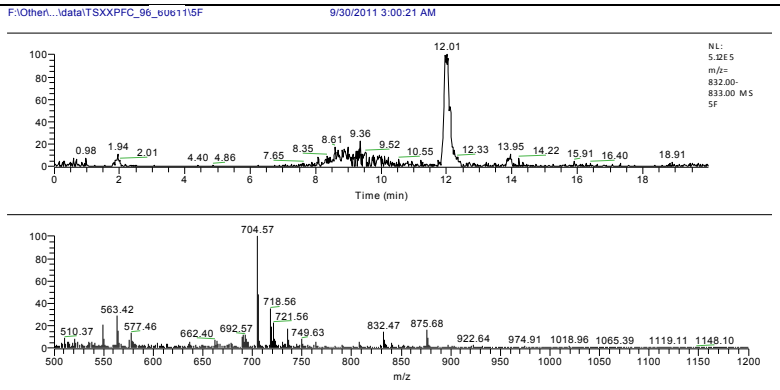
TSTSPFC +isoprene +2isoprene	706 774 842	
TSTFPFC +isoprene +2isoprene	766 834 902	

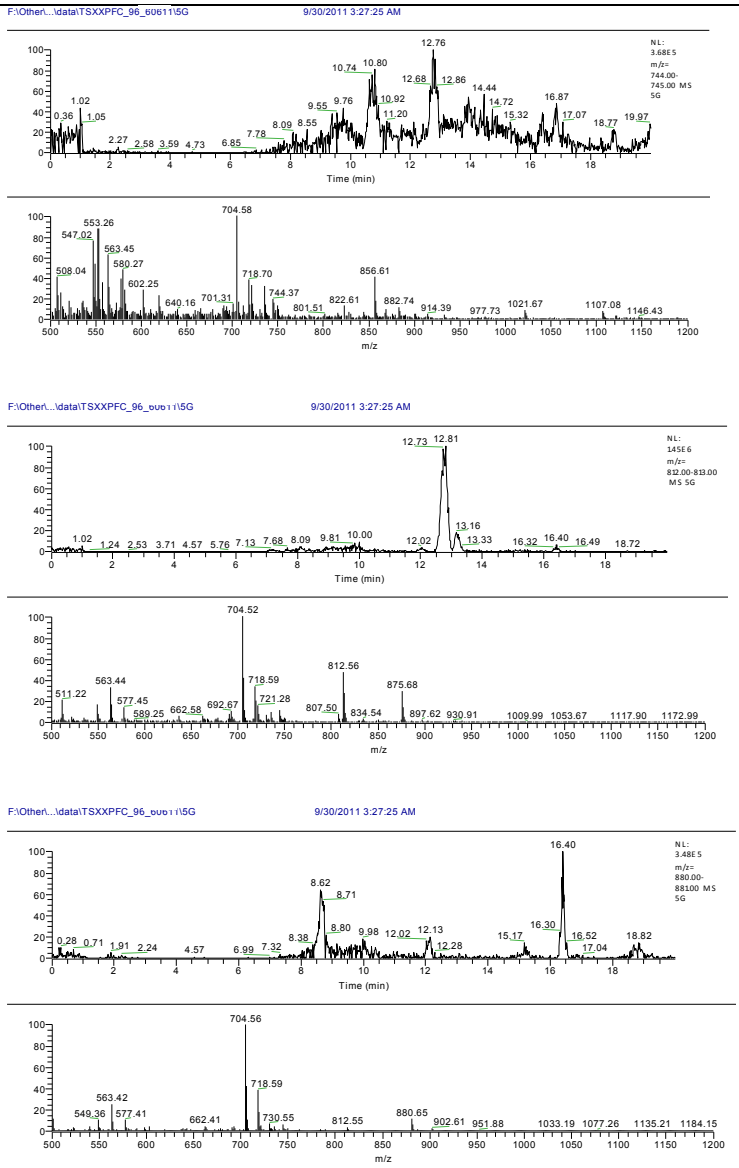
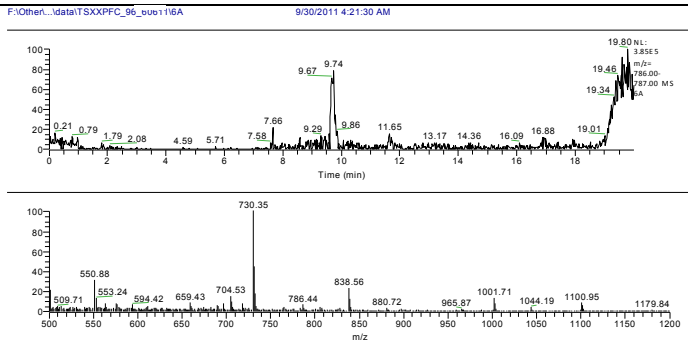
		
TSVPPFC +isoprene +2isoprene	714 782 850	

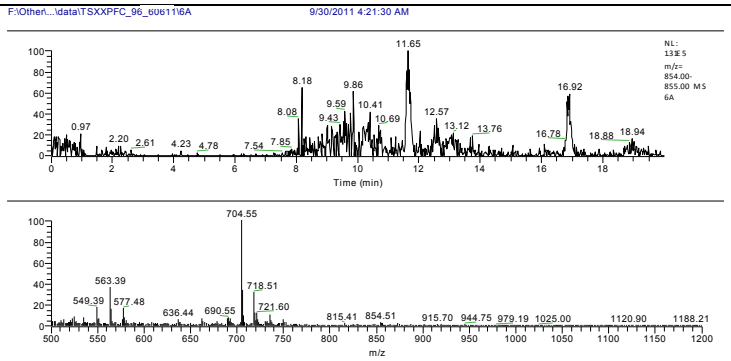
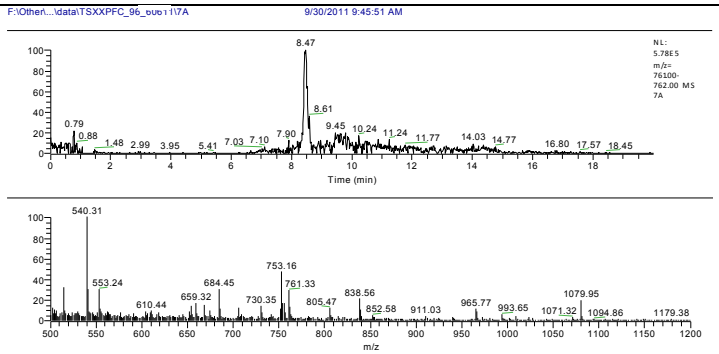
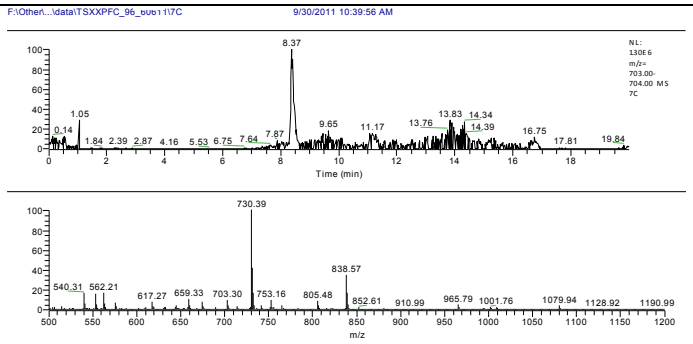
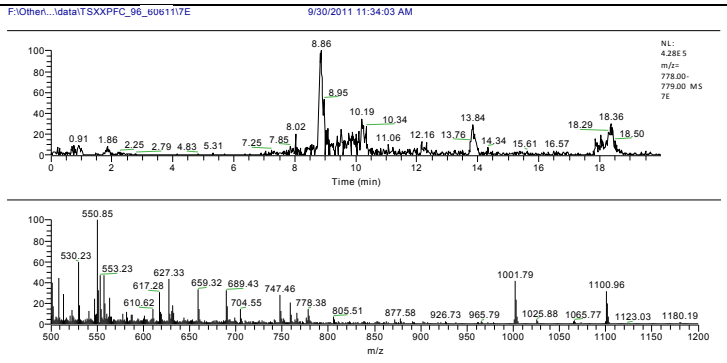
		
TSQEPFC	775	
TSFSPFC	752	

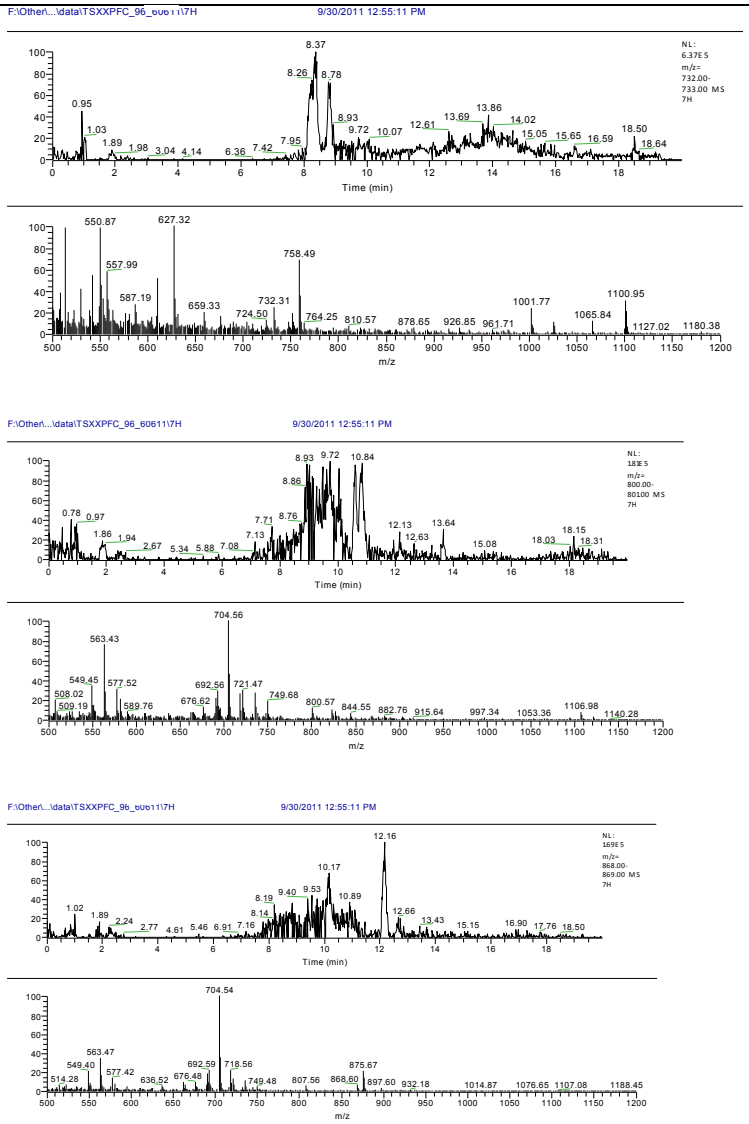
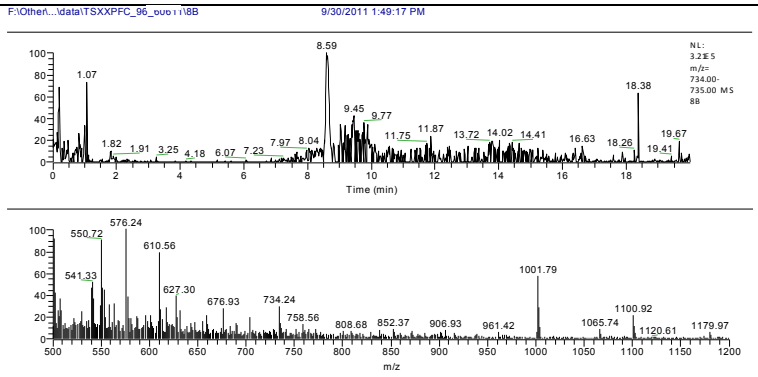
TSQAPFC	717	
TSTTPFC	720	
TSFLPFC +isoprene	778 846	 

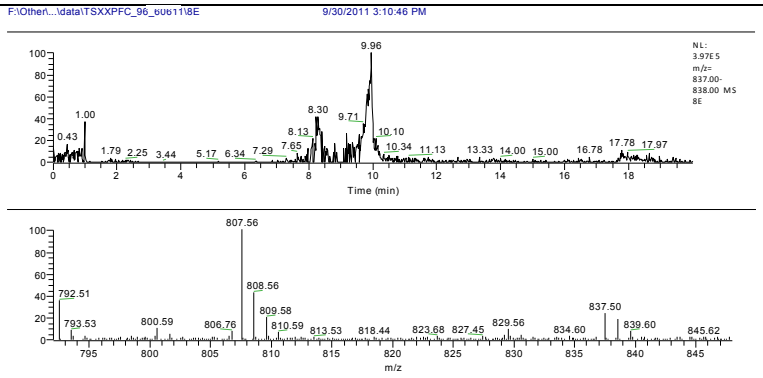
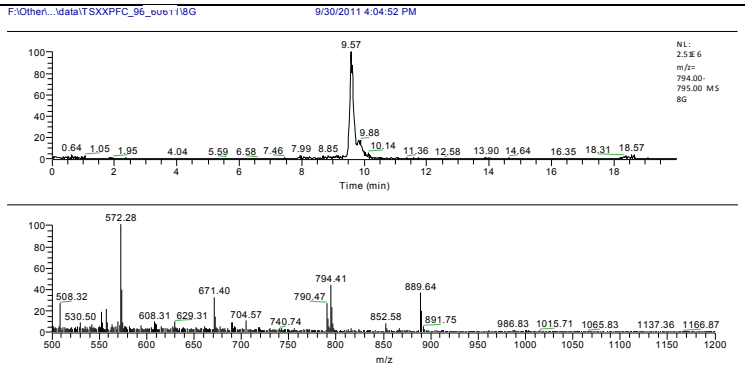
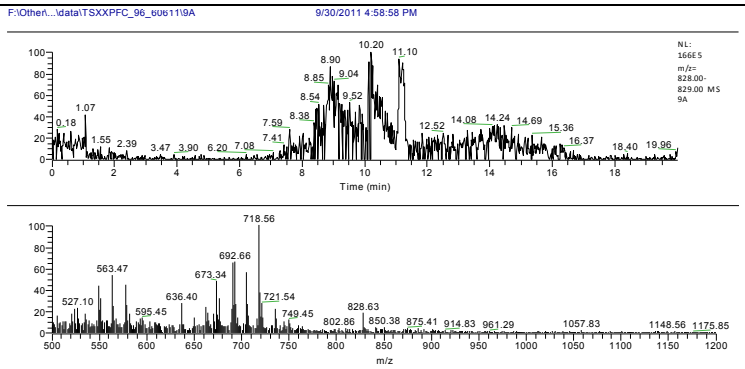
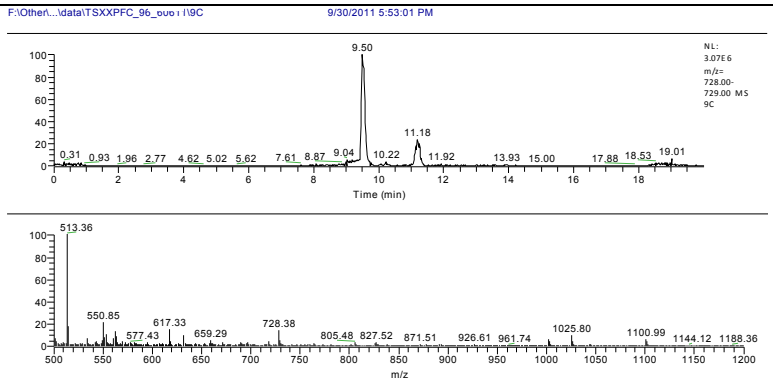
TSMYPFC +isoprene +2isoprene	812 880 948	
TSNVPFC	731	

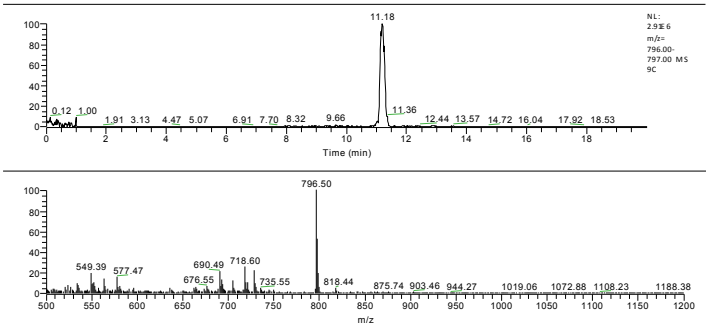
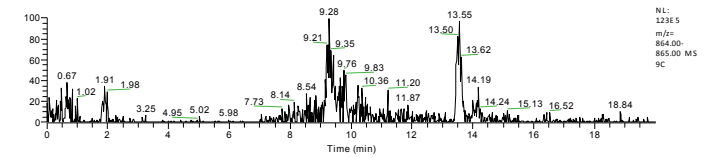
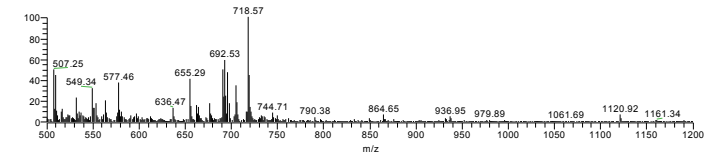
TSVTPFC +isoprene +2isoprene	718 786 854	
TSFVPFC +isoprene	832	

TSIIPFC +isoprene +2isoprene	744 812 880	
TSAEPFC +isoprene +2isoprene	786 854	

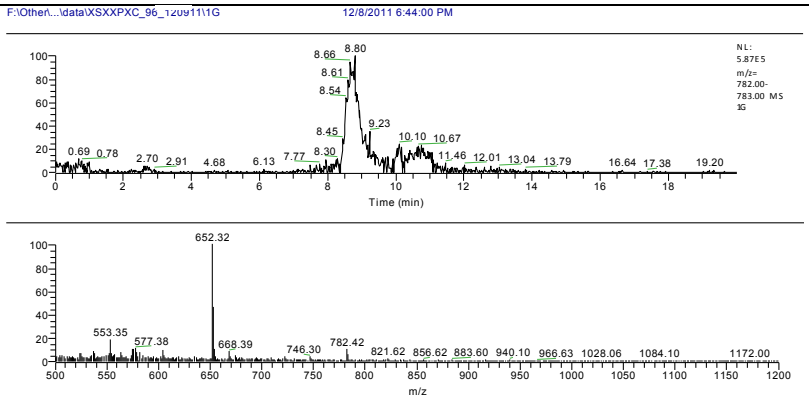
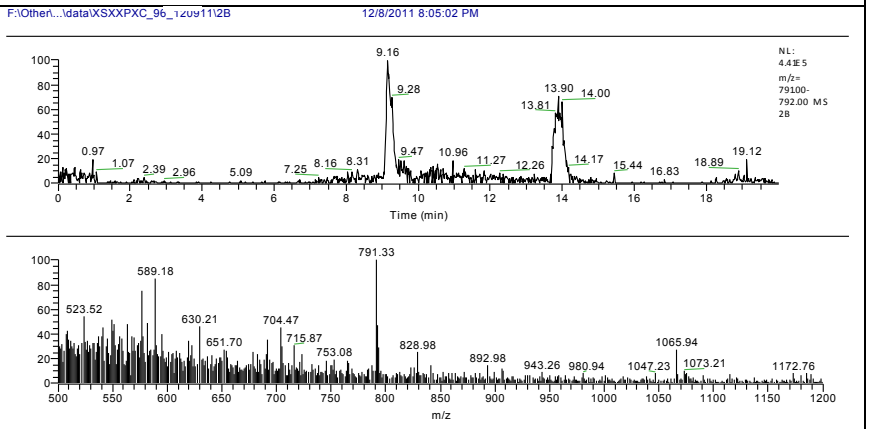
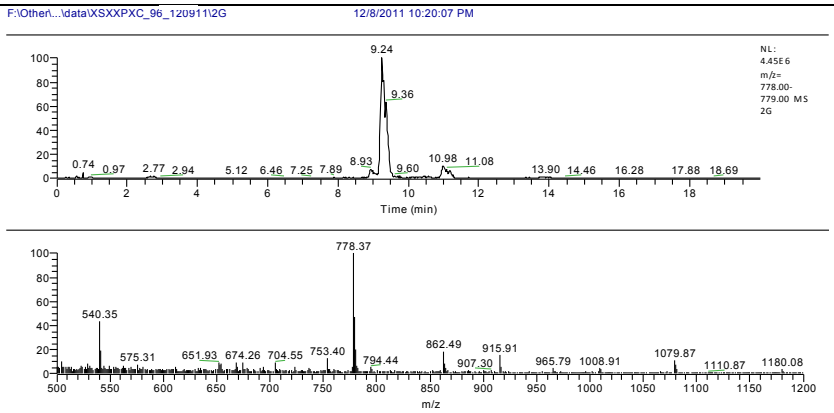
		
TSQDPFC	761	
TSQGPFC	703	
TSMEPFC	778	

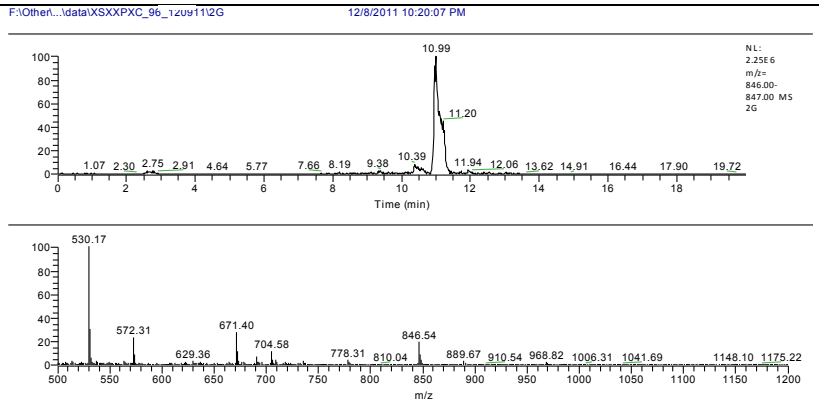
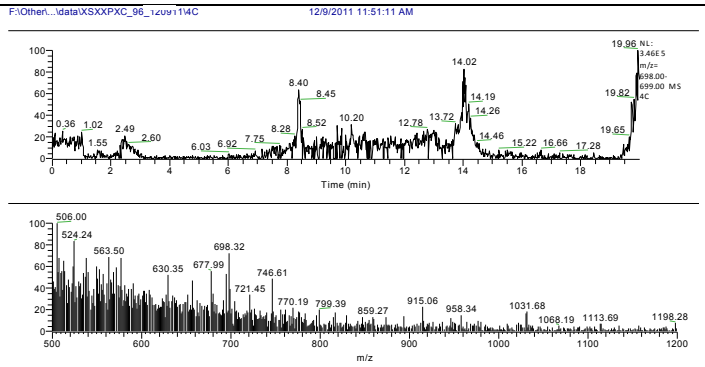
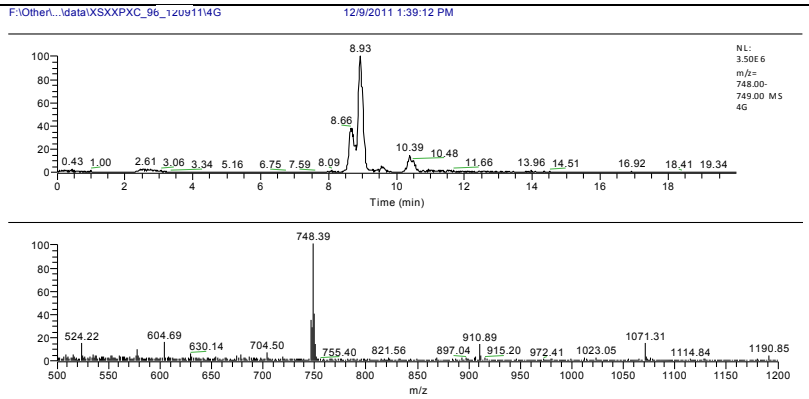
TSVDPFC +isoprene +2isoprene	732 800 868	
TSESPFC	734	

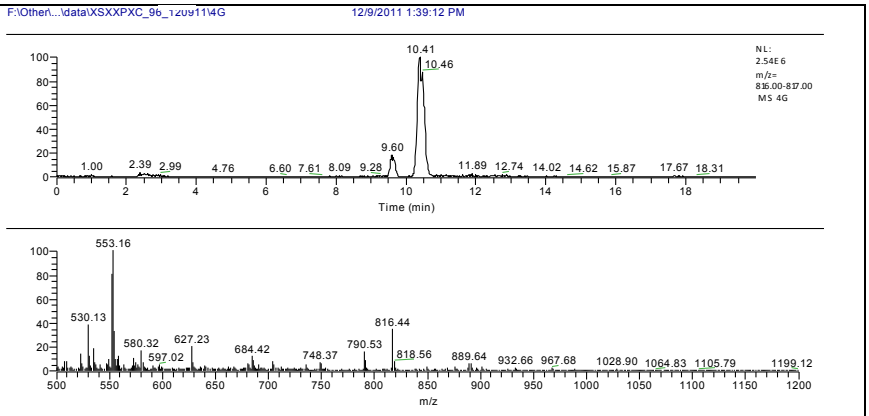
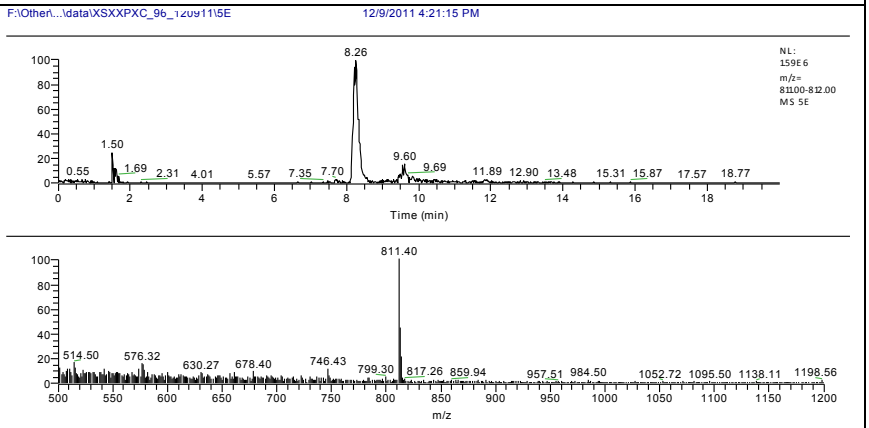
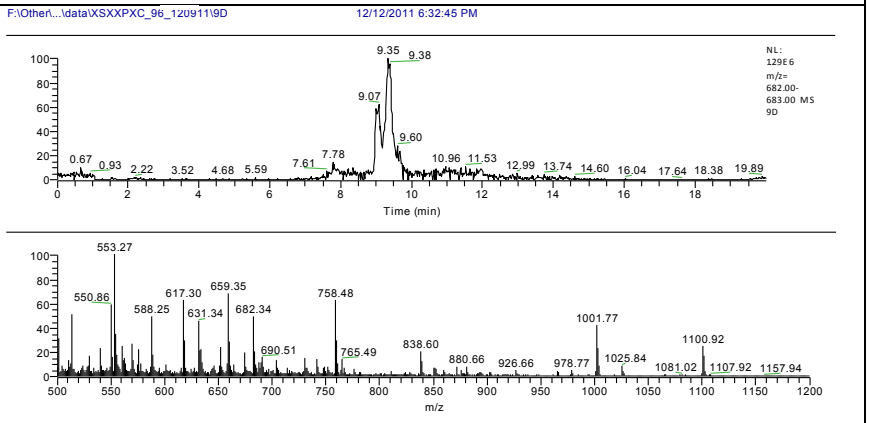
TSRYPFC	837	
TSEFPFC	794	
TSSSPFC +2isoprene	828	
TSLPPFC +isoprene +2isoprene	729 796 864	

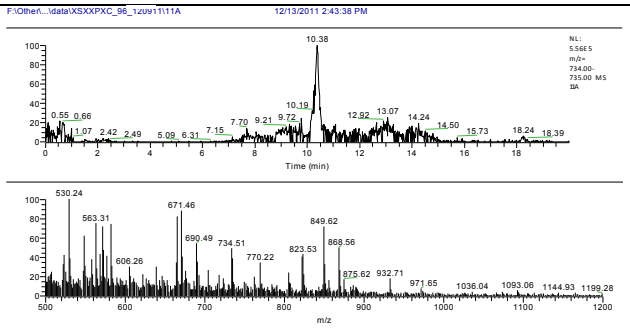
		F:\Other\...\data\TSXXPFC_96_60611\9C 9/30/2011 5:53:01 PM  F:\Other\...\data\TSXXPFC_96_60611\9C 9/30/2011 5:53:01 PM  

S4D. XSXXPXC

Sequence	*m/z*	Extracted ion chromatogram and mass spectrum at time point
DSEVPTC (+isoprene)	782	
TSYAPWC	791	
YSTIPMC (+isoprene)	778 846	

		
ESADPLC	698	
YSTTPLC (+isoprene)	748 816	

		
WSNLPQC	811	
VSEAPLC	682	

HSTIPLC	734	
QSWGPTC	742