

Attachment 6a  
Laboratory Assessments 2021-22 and earlier

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Vessel/Vial #	99-00	Method in development during cycle.												Branch	Lab Contact
								Measured but not reported, as MECs were contaminated with those analytes.													
								01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22			
<b>Aldehydes+A11:U561</b>																					
Acetaldehyde	Serum	LBX2AL	46	1/3rd+Smokers	4	150											D		TVB	Silva/De Jesus	
Acrolein	Serum	LBXACAL	46	1/3rd+Smokers	4	150											D		TVB	Silva/De Jesus	
Benzaldehyde	Serum	LBXBZAL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Butyraldehyde (butanal)	Serum	LBX4AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Crotonaldehyde	Serum	LBXCRAT	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Decanal	Serum	LBX10AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Furaldehyde	Serum	LBXFRAL	46	1/3rd+Smokers	4	150												D		TVB	Silva/De Jesus
Heptanal	Serum	LBX7AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
n-Hexanal	Serum	LBX6AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Isobutyraldehyde	Serum	N/A	46	1/3rd+Smokers	4	150												D		TVB	Silva/De Jesus
Isovaleraldehyde (isopentaldehyde)	Serum	LBXI5AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Nonanal	Serum	LBX9AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Octanal	Serum	LBX8AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
o-Tolualdehyde	Serum	LBXTLAL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Pentanal	Serum	LBX5AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
Propionaldehyde (propanol)	Serum	LBX3AL	46	1/3rd+Smokers	4	150											*	D		TVB	Silva/De Jesus
trans-Hexanal	Serum	N/A	46	1/3rd+Smokers	4	150												D		TVB	Silva/De Jesus
trans-Octenal	Serum	N/A	46	1/3rd+Smokers	4	150												D		TVB	Silva/De Jesus
trans-Nonenal	Serum	N/A	46	1/3rd+Smokers	4	150												D		TVB	Silva/De Jesus
<b>Disinfection By-Products - Volatile Organic Compounds (VOCs) - Trihalomethanes &amp; MTBE</b>																					
Bromodichloromethane	Water	LBXWBM	26	1/3rd	4				*	*	*	*	D							TVB	Chambers/De Jesus
Dibromochloromethane (Chlorodibromomethane)	Water	LBXWCM	26	1/3rd	4				*	*	*	*	D							TVB	Chambers/De Jesus
Tribromomethane (Bromoform)	Water	LBXWBF	26	1/3rd	4				*	*	*	*	D							TVB	Chambers/De Jesus
Trichloromethane (Chloroform)	Water	LBXWCF	26	1/3rd	4				*	*	*	*	D							TVB	Chambers/De Jesus
MTBE	Water	LBXWME	26	1/3rd	4				*	*	*	*	D							TVB	Chambers/De Jesus
<b>Volatile Organic Compounds (VOCs)</b>																					
α-Pinene	Whole Blood	LBXVAPN	26	1/2, 12+yr	4	54		*										*	*	TVB	Chambers/De Jesus
2-Hexanone	Whole Blood	LBXV2HN	26	1/2, 12+yr	4	54												WD	*	TVB	Chambers/De Jesus
Bromodichloromethane	Whole Blood	LBXVBM	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Dibromochloromethane (Chlorodibromomethane)	Whole Blood	LBXVCM	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Tribromomethane (Bromoform)	Whole Blood	LBXVBF	26	1/2, 12+yr	4	54		*	*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Trichloromethane (Chloroform)	Whole Blood	LBXVCF	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Benzene	Whole Blood	LBXVBZ	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Chlorobenzene	Whole Blood	LBXVCB	26	1/2, 12+yr	4	54		*	*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,2-Dichlorobenzene	Whole Blood	LBXV1D	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,3-Dichlorobenzene	Whole Blood	LBXV3B	26	1/2, 12+yr	4	54		*	*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,4-Dichlorobenzene (Paradichlorobenzene)	Whole Blood	LBXVDB	26	1/2, 12+yr	4	54		*	*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,2-Dibromo-3-chloropropane (DBCP)	Whole Blood	LBXV2P	26	1/2, 12+yr	4	54			*	*	*	*	D							TVB	Chambers/De Jesus
2,5-Dimethylfuran	Whole Blood	LBX2DF	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Ethylbenzene	Whole Blood	LBXVEB	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Vessel/Vial #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact
Dichloromethane (Methylene chloride)	Whole Blood	LBXVMC	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Trichloroethene (Trichloroethylene)	Whole Blood	LBXVTC	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Tetrachloroethene (Perchloroethylene)	Whole Blood	LBXV4C	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Dibromomethane	Whole Blood	LBXVDM	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
1,1-Dichloroethane	Whole Blood	LBXV1A	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
1,2-Dichloroethane (Ethylene dichloride)	Whole Blood	LBXV2A	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,1-Dichloroethene (Vinylidene chloride)	Whole Blood	LBXV1E	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
cis-1,2-Dichloroethene	Whole Blood	LBXV2C	26	1/2, 12+yr	4	54		*	*	*	*	*	*	D					TVB	Chambers/De Jesus
trans-1,2-Dichloroethene	Whole Blood	LBXV2T	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
1,2-Dichloropropane	Whole Blood	LBXVDP	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
1,1,1-Trichloroethane (Methyl chloroform)	Whole Blood	LBXVTE	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,1,2-Trichloroethane	Whole Blood	LBXV2E	26	1/2, 12+yr	4	54		*	*	*	*	*	*	D					TVB	Chambers/De Jesus
1,1,2,2-Tetrachloroethane	Whole Blood	LBXV4E	26	1/2, 12+yr	4	54			*	*	*	*	*	D					TVB	Chambers/De Jesus
Tetrachloromethane (Carbon tetrachloride)	Whole Blood	LBXVCT	26	1/2, 12+yr	4	54		*	*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Hexachloroethane	Whole Blood	LBXVHE	26	1/2, 12+yr	4	54		*	*	*	*	*	*	D					TVB	Chambers/De Jesus
Diethyl ether	Whole Blood	LBXVDEE	26	1/2, 12+yr	4	54		*						*	*	*	*	*	TVB	Chambers/De Jesus
Isobutyronitrile	Whole Blood	LBXVIBN	26	1/2, 12+yr	4	54		*						WD	*	*	*	*	TVB	Chambers/De Jesus
Methyl-tert-butyl ether (MTBE)	Whole Blood	*LBXVME	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Nitrobenzene	Whole Blood	LBXVNB	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Styrene	Whole Blood	LBXVST	26	1/2, 12+yr	4	54			*	*	*	*	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	x <sup>1</sup>	*	*	TVB	Chambers/De Jesus
Toluene	Whole Blood	LBXVTO	26	1/2, 12+yr	4	54			*	*	*	*	x <sup>1</sup>	*	*	x <sup>1</sup>	*	*	TVB	Chambers/De Jesus
m-p-Xylene	Whole Blood	LBXVXY	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
o-Xylene	Whole Blood	LBXVOX	26	1/2, 12+yr	4	54			*	*	*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Isopropylbenzene (Cumene)	Whole Blood	LBXVIPB	26	1/2, 12+yr	4	54					*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,2-Dibromoethane	Whole Blood	LBXVDE	26	1/2, 12+yr	4	54					*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,4-Dioxane	Whole Blood	LBXVDX	26	1/2, 12+yr	4	54						*	*	*	*	WD	D		TVB	Chambers/De Jesus
Furan	Whole Blood	LBXVFN	26	1/2, 12+yr	4	54					*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
n-Hexane	Whole Blood	LBXV06	26	1/2, 12+yr	4	54						*	*	*	*	*	*	*	TVB	Chambers/De Jesus
Nitromethane	Whole Blood	*LBXNM	26	1/2, 12+yr	4	54					*	*	*	D					TVB	Chambers/De Jesus
1,1,1,2-Tetrachloroethane	Whole Blood	LBX4CE	26	1/2, 12+yr	4	54					*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
1,2,3-Trichloropropane	Whole Blood	LBXVTP	26	1/2, 12+yr	4	54					*	*	*	*	*	*	*	*	TVB	Chambers/De Jesus
α,α,α-Trifluorotoluene	Whole Blood	LBXVFTT	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
Benzonitrile	Whole Blood	LBXVBZN	26	1/2, 12+yr	4	54								WD	*	*	*	*	TVB	Chambers/De Jesus
1-Bromopropane/Propyl bromide	Whole Blood	LBXVBP	26	1/2, 12+yr	4	54								WD	D				TVB	Chambers/De Jesus
Chloroethane	Whole Blood	LBXVEC	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
Cyclohexane	Whole Blood	LBXVC6	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
Ethyl acetate	Whole Blood	LBXVEA	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
n-Heptane	Whole Blood	LBXV07N	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
Methyl isobutyl ketone	Whole Blood	LBXVMIK	26	1/2, 12+yr	4	54								WD	WD	*	*	*	TVB	Chambers/De Jesus
Methylcyclopentane	Whole Blood	LBXVMCP	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
n-Octane	Whole Blood	LBXV08N	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
Tetrahydrofuran	Whole Blood	LBXVTHF	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	VesSEL/WIA I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact
Vinyl bromide	Whole Blood	LBXVVB	26	1/2, 12+yr	4	54								*	*	*	*	*	TVB	Chambers/De Jesus
<b>Perfluoroalkyl and Polyfluoroalkyl Substances: Surfactants</b>																				
Perfluorobutane sulfonic acid (PFBS)	Serum	LBXPFBS	64	1/3rd	24	90			*	*	*	*	*	*	D				OAT	Botelho
Perfluorodecanoic acid (PFDeA)	Serum	LBXPFDE	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Perfluorododecanoic acid (PFDDA)	Serum	LBXPFDO	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	D			OAT	Botelho
Perfluoroheptanoic acid (PFHpA)	Serum	LBXPFHP	64	1/3rd	24	90	*	*	*	*	*	*	*	*	D				OAT	Botelho
Perfluorohexane sulfonic acid (PFHxS)	Serum	LBXPFHS	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Perfluorononanoic acid (PFNA)	Serum	LBXPFNA	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Perfluorooctanoic acid (PFOA)	Serum	LBXPFSA	64	1/3rd	24	90	*	*	*	*	*	*	*	D					OAT	Botelho
Perfluorooctane sulfonic acid (PFOS)	Serum	LBXPFOS	64	1/3rd	24	90	*	*	*	*	*	*	*	D					OAT	Botelho
Perfluorooctane sulfonamide (PFOSA)	Serum	LBXPFSA	64	1/3rd	24	90	*	*	*	*	*	*	*	D					OAT	Botelho
2-(N-Ethyl- Perfluorooctane sulfonamido) acetic acid (Et-PFOA-AcOH)	Serum	LBXEPAH	64	1/3rd	24	90	*	*	*	*	*	*	*	D					OAT	Botelho
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid (Me-PFOA-AcOH)	Serum	LBXMPAH	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Perfluoroundecanoic acid (PFUA)	Serum	LBXPFUA	64	1/3rd	24	90	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
n-Perfluorooctanoic acid (n-PFOA)	Serum	LBXNFOA	64	1/3rd	24	90								SURPLUS	*	*	*	*	OAT	Botelho
Branched Perfluorooctanoic acid isomers (Sb-PFOA)*	Serum	LBXBFOA	64	1/3rd	24	90								SURPLUS	*	*	*	*	OAT	Botelho
n-Perfluorooctane sulfonic (n-PFOS)	Serum	LBXNFOS	64	1/3rd	24	90								SURPLUS	*	*	*	*	OAT	Botelho
Perfluoromethylheptane sulfonic acid isomers (Sm-PFOS)*	Serum	LBXMFOS	64	1/3rd	24	90								SURPLUS	*	*	*	*	OAT	Botelho
Dodecafluoro-3H-4,8-dioxanoate (ADONA)	Serum	64	64	1/3rd	24	90										SURPLUS	D		OAT	Botelho
Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoate (GENX)	Serum	64	64	1/3rd	24	90										SURPLUS	D		OAT	Botelho
9-chlorohexadecafluoro-3-oxanonane-1-sulfonate (9CL-PF)	Serum	64	64	1/3rd	24	90										SURPLUS	D		OAT	Botelho
Perfluoro-1-heptanesulfonate (PFHpS)	Serum	64	64	1/3rd	24	90										SURPLUS	*	*	OAT	Botelho
Perfluorohexanoate (PFHxA)	Serum	64	64	1/3rd	24	90										SURPLUS	*	*	OAT	Botelho
<b>Personal Care and Consumer Product Chemicals and Metabolites</b>																				
Butyl paraben	Urine	URXBUP	31	1/3rd	24	67				*	*	*	*	*	*	*	*	*	OAT	Botelho
Hydroxy Butyl paraben	Urine	URXHBUP	31	1/3rd	24	67										SURPLUS	*	*	OAT	Botelho
Ethyl paraben	Urine	URXEPPB	31	1/3rd	24	67				*	*	*	*	*	*	*	*	*	OAT	Botelho
Methyl paraben	Urine	URXMPB	31	1/3rd	24	67				*	*	*	*	*	*	*	*	*	OAT	Botelho
Propyl paraben	Urine	URXPPB	31	1/3rd	24	67				*	*	*	*	*	*	*	*	*	OAT	Botelho
Triclocarban	Urine	URXTLC	31	1/3rd	24	67								*	*	*	*	*	OAT	Botelho
Triclosan	Urine	URXTRS	31	1/3rd	24	67			*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Bisphenol A	Urine	URXBPH	31	1/3rd	24	67			*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Bisphenol F	Urine	URXBPF	31	1/3rd	24	67								*	*	*	*	*	OAT	Botelho
Bisphenol S	Urine	URXBPS	31	1/3rd	24	67								*	*	*	*	*	OAT	Botelho
Di-hydroxy avobenzene	Urine	31	31	1/3rd	24	67										SURPLUS	*	*	OAT	Botelho
Benzophenone-3	Urine	URXBP3	31	1/3rd	24	67			*	*	*	*	*	*	*	*	*	*	OAT	Botelho
4-tert-Octyl phenol	Urine	URX4TO	31	1/3rd	24	67			WD	*	*	*	D						OAT	Botelho
2,4-Dichlorophenol	Urine	URXDCCB	31	1/3rd	24	67	* WD	* WD	WD	*	*	*	*	*	*	*	*	*	OAT	Botelho
2,5-Dichlorophenol	Urine	URX14D	31	1/3rd	24	67	* WD	* WD	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
<b>Phthalate and Phthalate Alternative Metabolites</b>																				
Mono-benzyl phthalate (MBZP)	Urine	URXMZP	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-2-hydroxybutyl phthalate (MHBP)	Urine	URXMHBP	11	1/3rd	24	67								SURPLUS	*	*	*	*	OAT	Botelho
Mono-n-butyl phthalate (MnBP)	Urine	URXMNB	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-iso-butyl phthalate (MiBP)	Urine	URXMIB	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-2-hydroxyisobutyl phthalate (MHIBP)	Urine	URXHIBP	11	1/3rd	24	67								SURPLUS	*	*	*	*	OAT	Botelho
Mono-cyclohexyl phthalate (MCHP)	Urine	URXMCP	11	1/3rd	24	67	*	*	*	*	*	*	D						OAT	Botelho
Mono-ethyl phthalate (MEP)	Urine	URXMCP	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-2-ethylhexyl phthalate (MEHP)	Urine	URXMHP	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-(2-ethyl-5-hydroxyhexyl) phthalate (MEHPP)	Urine	URXMHH	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-(2-ethyl-5-oxohexyl) phthalate (MEOHP)	Urine	URXMOH	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-(2-ethyl-5-carboxypentyl) phthalate (MECPP)	Urine	URXECP	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho
Mono-carboxisononyl phthalate (MCNP)	Urine	URXCNP	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho

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Mono-oxisodecyl phthalate (MODP)	Urine	URXMOPD	11	1/3rd	24	67									WD	WD	D		OAT	Botelho		
Mono-isononyl phthalate (MINP)	Urine	URXMNP	11	1/3rd	24	67			*	*	*	*	*	*	*	*	D		OAT	Botelho		
Mono-oxisononyl phthalate (MONP)	Urine	URXMONP	11	1/3rd	24	67									SURPLUS	*	*	*	OAT	Botelho		
Mono-carboxyisocetyl phthalate (MCOCP)	Urine	URXCOP	11	1/3rd	24	67					*	*	*	*	*	*	*	*	OAT	Botelho		
Mono-methyl phthalate (MMP)	Urine	URXMNM	11	1/3rd	24	67		*	*	*	*	*	*	D					OAT	Botelho		
Mono-(3-carboxypropyl) phthalate (MCPP)	Urine	URXMC1	11	1/3rd	24	67	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho		
Mono (2-ethyl-5-hydroxyhexyl) terephthalate (MEHHTP)	Urine	URXMHHT	11	1/3rd	24	67									SURPLUS	*	*	*	OAT	Botelho		
Mono (2-ethyl-5-carboxypentyl) terephthalate (MECPTP)	Urine	URXECTP	11	1/3rd	24	67									SURPLUS	*	*	*	OAT	Botelho		
Mono-n-octyl phthalate (MOP)	Urine	URXMOP	11	1/3rd	24	67	*	*	*	*	*	*	D						OAT	Botelho		
Cyclohexane 1,2-dicarboxylic acid mono hydroxy isononyl ester (MHNCH*)	Urine	URXMHN	11	1/3rd	24	67							*	*	*	*	*	*	OAT	Botelho		
Cyclohexane-1,2-dicarboxylic acid-mono(carboxyoctyl) ester (MCOCH)	Urine	URXMCOH	11	1/3rd	24	67								WD	*	*	*	*	OAT	Botelho		
<b>Flame Retardant Metabolites</b>																						
Bis(1-chloro-2-propyl) phosphate (BCPP)	Urine	URXBCPP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
Bis(2-chloroethyl) phosphate (BCEIP)	Urine	URXBCEP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
Bis(1,3-dichloro-2-propyl) phosphate (BDCPP)	Urine	URXBDCP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
Dibenzyl phosphate (DBzP)	Urine	URXDBZP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	D	D		OAT	Ospina	
Dibutyl phosphate (DBuP)	Urine	URXDBUP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
Di-p-cresylphosphate (DpCP)	Urine	URXDPCP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	D				OAT	Ospina	
Di-o-cresylphosphate (DoCP)	Urine	URXDOCP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	D				OAT	Ospina	
Di-cresyl phosphates (DCPs)	Urine		52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	D	D		OAT	Ospina	
Diphenyl phosphate (DPHP)	Urine	URXDPHP	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
2,3,4,5-Tetrabromobenzoic acid (TBBA)	Urine	URXTBBA	52	1/3rd	26	48 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
2-((isopropyl)phenyl) phenyl phosphate (iPPPP)	Urine	URXIPPP	52	1/3rd	27	49 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
4-(tert-butyl)phenylphenyl phosphate (tBPPP)	Urine	URXBPPP	52	1/3rd	28	50 & 49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
<b>Fungicides and Metabolites</b>																						
Ethyleneurea (ETU)	Urine	URXETU			26	48			*	*	*	D								OAT	Calafat	
Propyleneurea (PTU)	Urine	URXPTU			26	48		WD	WD	*	*	D								OAT	Calafat	
ortho-Phenylphenol	Urine	URXOPP			26	48		WD	WD	*	*	*	D							OAT	Calafat	
Pentachlorophenol	Urine	URXPCP			26	48			*	D										OAT	Calafat	
<b>Herbicides and Metabolites</b>																						
Atrazine	Urine	URXAAZ	15	1/3rd	26	48	*	*	WD	WD	*	D								OAT	Calafat	
Atrazine mercapturate	Urine	URXATZ	15	1/3rd	26	48	*	*	WD	WD	*	D								OAT	Calafat	
Desethyl atrazine	Urine	URXDTZ	15	1/3rd	26	48			WD	WD	*	D								OAT	Calafat	
Desethyl atrazine mercapturate	Urine	URXDTZ	15	1/3rd	26	48			WD	WD	*	D								OAT	Calafat	
Desisopropyl atrazine	Urine	URXSIS	15	1/3rd	26	48			WD	WD	*	D								OAT	Calafat	
Desisopropyl atrazine mercapturate	Urine	URXSISM	15	1/3rd	26	48			WD	WD	*	D								OAT	Calafat	
Diaminotriazine	Urine	URXDCZ	15	1/3rd	26	48			WD	WD	*	D								OAT	Calafat	
2,4-Dichlorophenoxyacetic acid	Urine	URX24D	15	1/3rd	26	48	*	*	WD	WD	*	*	*	*	*	*	*	*	*	OAT	Ospina	
N-(phosphonomethyl)glycine (Glyphosate)	Urine	URXGLYP	34	1/3rd	26	49								SURPLUS	SURPLUS	SURPLUS	*	*	*	OAT	Ospina	
N-Acetyl-AMPA	Urine	URXNAMP		1/3rd	26	49														SURPLUS	OAT	Ospina
N-Acetyl-glyphosate	Urine	URXNAGY		1/3rd	26	49														SURPLUS	OAT	Ospina
Aminomethylphosphonic acid (AMPA)	Urine		34	1/3rd	26	49								SURPLUS	SURPLUS	SURPLUS		D		OAT	Ospina	
Dicamba (3,6-dichloro-2-methoxybenzoic acid)	Urine	URXDICA		1/3rd	26	48														SURPLUS	OAT	Ospina
3,6 Dichlorosalicylic acid (dicamba metabolite)	Urine	URXDCA		1/3rd	26	48														SURPLUS	OAT	Ospina
Glufosinate (Phosphinothricin; (RS)-2-Amino-4-(hydroxymethyl)phosphonylbutanoic acid)	Urine	URXGLUF		1/3rd	26	49														SURPLUS	OAT	Ospina
N-Acetyl-glufosinate (N-acetylphosphinothricin)	Urine	URXNAGU		1/3rd	26	49														SURPLUS	OAT	Ospina
4-(Methylphosphinic)propionic acid (glufosinate metabolite)	Urine	URXMPPA		1/3rd	26	49														SURPLUS	OAT	Ospina
2,4,5-Trichlorophenoxyacetic acid	Urine	URX25T	15	1/3rd	26	48	*	*	WD	WD	*	*	D							SURPLUS	OAT	Ospina
<b>Herbicides: Substituted Ureas</b>																						

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Vesle/Wial #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact	
Bensulfuron-methyl	Urine	URXBMS	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Chlorsulfuron	Urine	URXCHS	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Ethametsulfuron-methyl	Urine	URXEMM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Foramsulfuron	Urine	URXFRM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Halosulfuron	Urine	URXHLS	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Mesosulfuron-methyl	Urine	URXMSM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Metsulfuron-methyl	Urine	URXMTM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Nicosulfuron	Urine	URXNOS	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Oxasulfuron	Urine	URXOXS	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Primisulfuron-methyl	Urine	URXPIM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Prosulfuron	Urine	URXPRO	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Rimsulfuron	Urine	URXRIM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Sulfometuron-methyl	Urine	URXSMM	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Sulfosulfuron	Urine	URXSSF	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Thifensulfuron-methyl	Urine	URXTHF	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Triasulfuron	Urine	URXTRA	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Triflusulfuron-methyl	Urine	URXTRN	38	1/3rd	26	48			*	*	*	D							OAT	Calafat	
<b>Insect Repellent</b>																					
N,N-Diethyl- <i>meta</i> -toluamide (DEET)	Urine	URXDEE	30	1/3rd	26	48	*	*	WD	WD	*	*	*	*	D				OAT	Ospina	
3-(Diethylcarbamoyl)benzoic acid (DEET acid)	Urine	URXDEA	30	1/3rd	26	48				WD	*	*	*	*	*	*	*	*	OAT	Ospina	
N,N-Diethyl-3-(hydroxymethyl)benzamide (Desethyl hydroxy DEET)	Urine	URXDHD	30	1/3rd	26	48				WD	*	*	*	*	D				OAT	Ospina	
3-(Ethylcarbamoyl)benzoic acid (MEA)	Urine	URX3MEA	30	1/3rd	26	48									SURPLUS	*	*	*	OAT	Ospina	
<b>Neonicotinoid Pesticides and Metabolites</b>																					
Acetamiprid (ACET)	Urine	URXACET	30	1/3rd	26	48									SURPLUS	SURPLUS	*	D	OAT	Ospina	
Clothianidin (CLOT)	Urine	URXCLOT	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Imidacloprid (IMID)	Urine	URXIMID	30	1/3rd	26	48									SURPLUS	SURPLUS	*	D	OAT	Ospina	
5-Hydroxyimidacloprid (OHIM)	Urine	URXOHIM	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
N-Desmethylacetamiprid (AND)	Urine	URXAND	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Thiacloprid (THIA)	Urine	URXTHIA	30	1/3rd	26	48									SURPLUS	SURPLUS	*	D	OAT	Ospina	
Clothianidin Desmethyl (CLOD)	Urine	URXCLOD	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Clothianidin Urea (CLOU)	Urine	URXCLOU	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Flupyradifurone (FLUP)	Urine	URXFLUP	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Imidacloprid Guanidine (IMIG)	Urine	URXIMIG	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Nitenpyram Desmethyl (NITD)	Urine	URXNITD	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Thiamethoxam Desmethyl (TMXD)	Urine	URXTMXD	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Sulfoxaflor 1 (SLF1)	Urine	URXSLF1	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
Sulfoxaflor 2 (SLF2)	Urine	URXSLF2	30	1/3rd	26	48									SURPLUS	SURPLUS	*	*	OAT	Ospina	
<b>Organophosphorus Insecticides: Dialkyl Phosphate Metabolites</b>																					
Dimethylphosphate	Urine	URXOP1	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
Dimethylthiophosphate	Urine	URXOP3	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
Dimethyldithiophosphate	Urine	URXOP5	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
Diethylphosphate	Urine	URXOP2	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
Diethylthiophosphate	Urine	URXOP4	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
Diethyldithiophosphate	Urine	URXOP6	34	1/3rd	26	49	*	*	*	*	*	D	*	*	*	*	*	*	OAT	Ospina	
<b>Organophosphorus Insecticides: Specific Pesticides and Metabolites</b>																					
Malathion dicarboxylic acid	Urine	URXMAL	15	1/3rd	26	48	*	*	WD	WD	*	*	*	*	*	*	*	D	OAT	Ospina	
3,5,6-Trichloro-2-pyridinol (TCPy)	Urine	URXCPM	15	1/3rd	26	48	*	*	WD	WD	*	*	*	*	*	*	*	*	OAT	Ospina	
2-diethylamino-6-methyl pyrimidin-4-ol	Urine	N/A	15	1/3rd					WD	WD	D				*	*	*	*	OAT	Ospina	
2-Isopropyl-4-methyl-6-hydroxypyrimidine (oxypyrimidine)	Urine	URXOXY	15	1/3rd	26	48	*	*	WD	WD	*	*	*	*	*	*	*	D	OAT	Ospina	
<i>para</i> -Nitrophenol	Urine	URXPAR	15	1/3rd	26	48	*	*	WD	WD	*	*	*	*	*	*	*	*	OAT	Ospina	
Dimethoate	Urine	URXMTO	40	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Omethoate	Urine	URXOMO	40	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Acephate	Urine	URXAPE	40	1/3rd	26	48			*	*	*	D							OAT	Calafat	
Methamidaphos	Urine	URXMMI	40	1/3rd	26	48			*	*	*	D							OAT	Calafat	

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Ves/Via I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact	
<b>Phenylpyrazole insecticides (fipronil)</b>																					
Fipronil ((RS)-5-Amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(trifluoromethylsulfinyl)pyrazole-3-carbonitrile)	Urine	URXFIPR		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
Fipronil desulfanyl	Urine	URXFIPD		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
Fipronil Sulfone	Urine	URXFIPS		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
Fipronil Carboxamide	Urine	URXFIPC		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
Fipronil Sulfide	Urine	URXFIFE		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
Hydroxy Fipronil	Urine	URXFHIP		1/3rd	26	48									• SURPLUS	• SURPLUS			OAT	Ospina	
<b>Carbamate/Other Pesticide Metabolites</b>																					
Carbifuranphenol	Urine	URXCBF	15	1/3rd	26	48	•	•	•	D									OAT	Calafat	
2-Isopropoxyphenol	Urine	URXPPX	15	1/3rd	26	48	•	•	•	D									OAT	Calafat	
<b>Pyrethroid Pesticides</b>																					
cis-3-(2,2-Dichlorovinyl)-2,2-dimethylcyclopropane carboxylic acid (cis-DCCA)	Urine	URXCDC	15	1/3rd	26	48		•	WD	WD	METHOD IN DEV	D							OAT	Ospina	
trans-3-(2,2-Dichlorovinyl)-2,2-dimethylcyclopropane carboxylic acid (trans-DCCA)	Urine	URXTCC	15	1/3rd	26	48		•	WD	WD	•	•	•	•	•	•	•	•	OAT	Ospina	
3-Phenoxybenzoic acid (3PBA)	Urine	URXOPM	15	1/3rd	26	48		•	WD	WD	•	•	•	•	•	•	•	•	OAT	Ospina	
4-Fluoro-3-phenoxybenzoic acid (4F3PBA)	Urine	URX4FP	15	1/3rd	26	48		•	WD	WD	•	•	•	•	•	•	•	•	D	OAT	Ospina
cis-3-(2,2-Dibromovinyl)-2,2-dimethylcyclopropane carboxylic acid (cis-DBCA)	Urine	URXCB3	15	1/3rd	26	48		•	WD	WD	•	•	•	•	•	•	•	•	D	OAT	Ospina
<b>Organochlorine Pesticides and Metabolites</b>																					
Aldrin	Serum	LBXALD	19	1/3rd	28	29			• SURPLUS										OAT	Sjodin	
Dieldrin	Serum	LBXDIE	19	1/3rd	28	29			• SURPLUS										OAT	Sjodin	
Oxychlorane	Serum	LBXOXY	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
Heptachlor Epoxide	Serum	LBXHPE	19	1/3rd	28	29			• SURPLUS										OAT	Sjodin	
trans-Nonachlor	Serum	LBXTNA	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
p,p'-DDT	Serum	LBXPDT	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
p,p'-DDE	Serum	LBXPDE	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
o,p'-DDT	Serum	LBXODT	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS								OAT	Sjodin	
Endrin	Serum	LBXEND	19	1/3rd	28	29			• SURPLUS										OAT	Sjodin	
Hexachlorobenzene	Serum	LBXHCB	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
beta-Hexachlorocyclohexane	Serum	LBXBHC	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
gamma-Hexachlorocyclohexane	Serum	LBXGHC	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	D					OAT	Sjodin	
Mirex	Serum	LBXMIR	19	1/3rd	28	29			• SURPLUS	• SURPLUS	• SURPLUS	P	P	P	P	•	•	•	OAT	Sjodin	
2,4,5-Trichlorophenol	Urine	URX1TB	21	1/3rd	24			•	•	•	•	D							OAT	Ye	
2,4,6-Trichlorophenol	Urine	URX3TB	21	1/3rd	24			•	•	•	•	D							OAT	Ye	
<b>Polybrominated Diphenyl Ethers and Brominated Biphenyl 153</b>																					
2,2',4'-Tribromodiphenyl ether (BDE 17)	Serum	LBXBR1	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,4,4'-Tribromodiphenyl ether (BDE 28)	Serum	LBXBR2	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4'-Tetrabromodiphenyl ether (BDE 47)	Serum	LBXBR3	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,3',4,4'-Tetrabromodiphenyl ether (BDE 66)	Serum	LBXBR66	24	1/3rd	28	92 & 93			•	P	P	P	P	P	D				OAT	Sjodin	
2,2',3,4,4'-Pentabromodiphenyl ether (BDE 85)	Serum	LBXBR4	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4',5-Pentabromodiphenyl ether (BDE 99)	Serum	LBXBR5	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4',6-Pentabromodiphenyl ether (BDE 100)	Serum	LBXBR6	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4',5,5'-Hexabromodiphenyl ether (BDE 153)	Serum	LBXBR7	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4',5,6'-Hexabromodiphenyl ether (BDE 154)	Serum	LBXBR8	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',3,4,4',5',6'-Heptabromodiphenyl ether (BDE 183)	Serum	LBXBR9	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',3,3',4,4',5,5',6,6'-Decabromodiphenyl ether (BDE 209)	Serum	LBXBR11	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
2,2',4,4',5,5'-Hexabromobiphenyl (BB 153)	Serum	LBXBB1	24	1/3rd	28	92 & 93			•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
<b>Polychlorinated Dibenzo-p-dioxins</b>																					
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)	Serum	LBXD05	17	1/3rd	28	29 & 89	•	•	•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	Serum	LBXD02	17	1/3rd	28	29 & 89		•	•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)	Serum	LBXD03	17	1/3rd	28	29 & 89	•	•	•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)	Serum	LBXD04	17	1/3rd	28	29 & 89	•	•	•	P	P	P	P	P	P	•	•	•	OAT	Sjodin	

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Ves/Ve/Wia I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	Serum	LBXD07	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)	Serum	LBXD01	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	Serum	LBXTCD	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
<b>Polychlorinated Dibenzofurans</b>																				
1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)	Serum	LBXF08	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,4,7,8-Heptachlorodibenzofuran (HpCDF)	Serum	LBXF09	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)	Serum	LBXF04	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)	Serum	LBXF05	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,7,8-Hexachlorodibenzofuran (HxCDF)	Serum	LBXF06	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)	Serum	LBXF07	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	Serum	LBXF10	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)	Serum	LBXF02	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)	Serum	LBXF03	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,7,8-Tetrachlorodibenzofuran (TCDF)	Serum	LBXF01	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
<b>Dioxin-like Polychlorinated Biphenyls: Coplanar PCBs</b>																				
3,4,4',5-Tetrachlorobiphenyl (PCB 81)	Serum	LBXTC2	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
3,3',4,4',5-Pentachlorobiphenyl (PCB 126)	Serum	LBXPBC	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
3,3',4,4',5,5'-Hexachlorobiphenyl (PCB 169)	Serum	LBXHXC	17	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
<b>Dioxin-like Polychlorinated Biphenyls: Mono-ortho-Substituted PCBs</b>																				
2,3,3',4,4'-Pentachlorobiphenyl (PCB 105)	Serum	LBX105	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,3',4,4'-Pentachlorobiphenyl (PCB 114)	Serum	LBX114	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,4,4',5-Pentachlorobiphenyl (PCB 118)	Serum	LBX118	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,4,4',5-Pentachlorobiphenyl (PCB 123)	Serum	LBX123	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,3,3',4,4',5-Hexachlorobiphenyl (PCB 156)	Serum	LBX156	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,3',4,4',5'-Hexachlorobiphenyl (PCB 157)	Serum	LBX157	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,4,4',5,5'-Hexachlorobiphenyl (PCB 167)	Serum	LBX167	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,3,3',4,4',5,5'-Heptachlorobiphenyl (PCB 189)	Serum	LBX189	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
<b>Polychlorinated Biphenyls: Non-Dioxin-Like</b>																				
2,4,4'-Trichlorobiphenyl (PCB 28)	Serum	LBX028	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,5-Tetrachloro biphenyl (PCB 44)	Serum	LBX044	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',4,5-Tetrachloro biphenyl (PCB 49)	Serum	LBX049	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',5,5'-Tetrachlorobiphenyl (PCB 52)	Serum	LBX052	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,3,4,4'-Tetrachlorobiphenyl (PCB 66)	Serum	LBX066	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,4,4',5-Tetrachlorobiphenyl (PCB 74)	Serum	LBX074	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4,5-Pentachlorobiphenyl (PCB 87)	Serum	LBX087	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',4,4',5-Pentachlorobiphenyl (PCB 99)	Serum	LBX099	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',4,5,5'-Pentachlorobiphenyl (PCB 101)	Serum	LBX101	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,3,3',4',6-Pentachlorobiphenyl (PCB 110)	Serum	LBX110	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,3',4,4'-Hexachlorobiphenyl (PCB 128)	Serum	LBX128	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,4,4',5' and 2,3,3',4,4',6-Hexachlorobiphenyl (PCB 138 & 158)	Serum	LBX138	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4,5,5'-Hexachlorobiphenyl (PCB 146)	Serum	LBX146	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4',5',6-Hexachlorobiphenyl (PCB 149)	Serum	LBX149	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,5,5',6-Hexachlorobiphenyl (PCB 151)	Serum	LBX151	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	Serum	LBX153	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,4',5-Heptachlorobiphenyl (PCB 170)	Serum	LBX170	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,5,5'-Heptachlorobiphenyl (PCB 172)	Serum	LBX172	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,3',4,5',6-Heptachlorobiphenyl (PCB 177)	Serum	LBX177	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,3',5,5',6-Heptachlorobiphenyl (PCB 178)	Serum	LBX178	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4,4',5,5'-Heptachlorobiphenyl (PCB 180)	Serum	LBX180	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4,4',5',6-Heptachlorobiphenyl (PCB 183)	Serum	LBX183	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,4',5,5',6-Heptachlorobiphenyl (PCB 187)	Serum	LBX187	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)	Serum	LBX194	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,4',5,6-Octachlorobiphenyl (PCB 195)	Serum	LBX195	19	1/3rd	28	29 & 89	*	*	*	P	P	D				*	*	*	OAT	Sjodin
2,2',3,3',4,4',5,6' and 2,2',3,4,4',5,5',6-Octachlorobiphenyl (PCB 196 & 203)	Serum	LBX196	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,5,5',6-Octachlorobiphenyl (PCB 199)	Serum	LBX199	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl (PCB 206)	Serum	LBX206	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin
2,2',3,3',4,4',5,5',6,6-Decachloro biphenyl (PCB 209)	Serum	LBX209	19	1/3rd	28	29 & 89	*	*	*	P	P	P	P	P	P	*	*	*	OAT	Sjodin

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Vesicle/Wal I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact	
<b>Polycyclic Aromatic Hydrocarbon Metabolites</b>																					
2-Hydroxyfluorene	Urine	URXP04	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
3-Hydroxyfluorene	Urine	URXP03	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
9-Hydroxyfluorene	Urine	URXP17	9	1/3rd	31	66	*	*	*	*	*	*	*	D					OAT	Botelho	
1-Hydroxyphenanthrene	Urine	URXP06	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
2-Hydroxyphenanthrene	Urine	URXP07	9	1/3rd	31	66	*	*	*	*	*	*	*	D					OAT	Botelho	
3-Hydroxyphenanthrene	Urine	URXP05	9	1/3rd	31	66	*	*	*	*	*	*	*	D					OAT	Botelho	
2 & 3-Hydroxyphenanthrene	Urine	URXP25	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
4-Hydroxyphenanthrene	Urine	URXP19	9	1/3rd	31	66	*	*	*	*	*	*	*	D					OAT	Botelho	
1-Hydroxypyrene	Urine	URXP10	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
1-Hydroxynaphthalene (1-Naphthol)	Urine	URXP01	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
2-Hydroxynaphthalene (2-Naphthol)	Urine	URXP02	9	1/3rd	31	66	*	*	*	*	*	*	*	*	*	*	*	*	OAT	Botelho	
<b>Caffeine and Metabolites</b>																					
5-acetylamino-6-amino-3-methyluracil	Urine	URXAMU		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1-methyluric acid	Urine	URXMU1		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
3-methyluric acid	Urine	URXMU2		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
7-methyluric acid	Urine	URXMU3		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,3-dimethyluric acid	Urine	URXMU4		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,7-dimethyluric acid	Urine	URXMU5		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
3,7-dimethyluric acid	Urine	URXMU6		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,3,7-trimethyluric acid	Urine	URXMU7		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1-methylxanthine	Urine	URXMX1		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
3-methylxanthine	Urine	URXMX2		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
7-methylxanthine	Urine	URXMX3		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,3-dimethylxanthine (theophylline)	Urine	URXMX4		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,7-dimethylxanthine (paraxanthine)	Urine	URXMX5		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
3,7-dimethylxanthine (theobromine)	Urine	URXMX6		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
1,3,7-trimethylxanthine (caffeine)	Urine	URXMX7		1/3rd	54	128	SURPLUS	SURPLUS				*	*	*	D				NBB	Rybak	
<b>Fatty acids (30)</b>																					
Capric acid (C10:0)	Plasma /Serum	LBXCAP		1/3rd	54	70							*	*	D				NBB	Schleicher	
Lauric acid (C12:0)	Plasma /Serum	LBXLAR		1/3rd	54	70							*	*	D				NBB	Schleicher	
Myristic acid (C14:0)	Plasma /Serum	LBXMR1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Pentadecanoic acid (C15:0)	Plasma /Serum	LBXPEN		1/3rd	54	70							*	*	D				NBB	Schleicher	
Palmitic acid (C16:0)	Plasma /Serum	LBXPM1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Margaric acid (C17:0)	Plasma /Serum	LBXMR		1/3rd	54	70							*	*	D				NBB	Schleicher	
Stearic acid (C18:0)	Plasma /Serum	LBXST1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Arachidic acid (C20:0)	Plasma /Serum	LBXAR1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Docosanoic acid (C22:0)	Plasma /Serum	LBXDA1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Tricosanoic acid (C23:0)	Plasma /Serum	LBXTSA		1/3rd	54	70							*	*	D				NBB	Schleicher	
Lignoceric acid (C24:0)	Plasma /Serum	LBXLG1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Myristoleic acid (14:1n-5)	Plasma /Serum	LBXML1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Palmitoleic acid (16:1n-7)	Plasma /Serum	LBXPL1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
cis-Vaccenic acid (18:1n-7)	Plasma /Serum	LBXVC1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Oleic acid (18:1n-9)	Plasma /Serum	LBXOL1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Eicosenoic acid (20:1n-9)	Plasma /Serum	LBXEN1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Docosenoic acid (22:1n-9)	Plasma /Serum	LBXDE1		1/3rd	54	70							D						NBB	Schleicher	
Nervonic acid (24:1n-9)	Plasma /Serum	LBXNR1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Linoleic acid (18:2n-6)	Plasma /Serum	LBXLNA		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
alpha-Linolenic acid (18:3n-3)	Plasma /Serum	LBXALN		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
gamma-Linolenic acid (18:3n-6)	Plasma /Serum	LBXGLA		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Stearidonic acid (C18:4n-3)	Plasma /Serum	LBXSD1		1/3rd	54	70							*	*	D				NBB	Schleicher	
Eicosadienoic acid (20:2n-6)	Plasma /Serum	LBXED1		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
homo-gamma-Linolenic acid (20:3n-6)	Plasma /Serum	LBXHGL		1/3rd	54	70		*	SURPLUS				*	*	D				NBB	Schleicher	
Eicosatrienoic acid (C20:3n-9)	Plasma /Serum	LBXET1		1/3rd	54	70							*	*	D				NBB	Schleicher	

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	VesSEL/WIA I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact	
Arachidonic acid (20:4n-6)	Plasma /Serum	LBXARA		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
Eicosapentaenoic acid (20:5n-3)	Plasma /Serum	LBXEPA		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
Docosatetraenoic acid (22:4n-6)	Plasma /Serum	LBXDTA		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
Docosapentaenoic acid (22:5n-3)	Plasma /Serum	LBXDP3		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
Docosapentaenoic acid (22:5n-6)	Plasma /Serum	LBXDP6		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
Docosahexaenoic acid (22:6n-3)	Plasma /Serum	LBXDHA		1/3rd	54	70			SURPLUS				*	*	D				NBB	Schleicher	
<b>Fatty acids in RBCs</b>																					
% alpha-Linolenic acid (C18:3n3)	RBC	ALNP		1/3rd	54	222											*	C	NBB	Schleicher	
% Arachidic acid (C20:0)	RBC	AR1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Arachidonic acid (C20:4n6)	RBC	ARAP		1/3rd	54	222											*	C	NBB	Schleicher	
% Docosanoic acid (C22:0)	RBC	DA1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Docosahexaenoic acid (C22:6n3)	RBC	DHAP		1/3rd	54	222											*	C	NBB	Schleicher	
% Docosapentaenoic acid 3 (C22:5n3)	RBC	DP3P		1/3rd	54	222											*	C	NBB	Schleicher	
% Docosapentaenoic acid 6 (C22:5n6)	RBC	DP6P		1/3rd	54	222											*	C	NBB	Schleicher	
% Docosatetraenoic acid (C22:4n6)	RBC	DTAP		1/3rd	54	222											*	C	NBB	Schleicher	
% 11,14-Eicosadienoic acid (C20:2n6)	RBC	ED1P		1/3rd	54	222											*	C	NBB	Schleicher	
% 11-Eicosenoic acid (C20:1n9)	RBC	EN1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Eicosapentaenoic acid (C20:5n3)	RBC	EPAP		1/3rd	54	222											*	C	NBB	Schleicher	
% gamma-Linolenic acid (C18:3n6)	RBC	GLAP		1/3rd	54	222											*	C	NBB	Schleicher	
% homo-gamma-Linolenic acid (C20:3n6)	RBC	HGLP		1/3rd	54	222											*	C	NBB	Schleicher	
% Tetracosanoic acid (C24:0)	RBC	LG1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Linoleic acid (C18:2n6)	RBC	LNAP		1/3rd	54	222											*	C	NBB	Schleicher	
% Myristic acid (C14:0)	RBC	MR1P		1/3rd	54	222											*	C	NBB	Schleicher	
% 15-Tetracosenoic acid (C24:1n9)	RBC	NR1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Oleic acid (C18:1n9)	RBC	OL1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Palmitoleic acid (C16:1n7)	RBC	PL1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Palmitic acid (C16:0)	RBC	PM1P		1/3rd	54	222											*	C	NBB	Schleicher	
% Stearic acid (C18:0)	RBC	ST1P		1/3rd	54	222											*	C	NBB	Schleicher	
<b>Fat-Soluble Vitamins and Micronutrients</b>																					
Vitamin A	Serum	LBXVIA		1/3rd	54	15				*	D						*	D	C	NBB	Schleicher
Vitamin E	Serum	LBXVIE		1/3rd	54	15			*	D							*	D		NBB	Schleicher
Retinyl palmitate	Serum	LBXRPL		1/3rd	54	15			*	D							*	D		NBB	Schleicher
Retinyl stearate	Serum	LBXRST		1/3rd	54	15			*	D							*	D		NBB	Schleicher
gamma-Tocopherol	Serum	LBXGTC		1/3rd	54	15			*	D							*	D		NBB	Schleicher
delta-Tocopherol	Serum			1/3rd	54	15												C		NBB	Schleicher
alpha-carotene	Serum	LBXALC		1/3rd	54	15			*	D							*	D		NBB	Schleicher
trans-beta-Carotene	Serum	LBXBEC		1/3rd	54	15			*	D							*	D		NBB	Schleicher
cis-beta-Carotene	Serum	LBXCBC		1/3rd	54	15			*	D							*	D		NBB	Schleicher
alpha-Cryptoxanthin	Serum	LBXARY		1/3rd	54	15											*	D		NBB	Schleicher
beta-Cryptoxanthin	Serum	LBXCRY		1/3rd	54	15			*	D							*	D		NBB	Schleicher
Lutein/zeaxanthin combined or measured and reported as separate analytes	Serum	LBXLUZ		1/3rd	54	15			*	D							*	D		NBB	Schleicher
trans-Lycopene	Serum	LBXLYC		1/3rd	54	15			*	D							*	D		NBB	Schleicher
Total lycopene	Serum	LBXTLY		1/3rd	54	15			*	D							*	D		NBB	Schleicher
25-OH Vitamin D (D2 + D3)	Serum	LBXVIDMS		1/3rd	54	70			*	*	*	*	*	*	*	*	*	D	C	NBB	Schleicher
25-OH Vitamin D2	Serum	LBXVD2MS		1/3rd	54	70			*	*	*	*	*	*	*	*	*	D	C	NBB	Schleicher
25-OH Vitamin D3	Serum	LBXVD3MS		1/3rd	54	70			*	*	*	*	*	*	*	*	*	D	C	NBB	Schleicher
epimer-25-OH Vitamin D3	Serum	LBXVE3MS		1/3rd	54	70			*	*	*	*	*	*	*	*	*	D	C	NBB	Schleicher
<b>Iron-Status and Inflammation Indicators</b>																					
Ferritin	Serum	LBXFER		1/3rd	54	99			*	*	*	*	D		*	*	*	*	C	NBB	Pfeiffer
Transferrin receptor	Serum	LBXTRF		1/3rd	54	99			*	*	*	*	D		*	*	*	*	C	NBB	Pfeiffer
Alpha-acid-1-glycoprotein	Serum	AGP		1/3rd	54	99													C	NBB	Pfeiffer
Iron	Serum	N/A		1/3rd																NBB	Pfeiffer
TIBC	Serum	N/A		1/3rd																NBB	Pfeiffer
Transferrin saturation	Serum	N/A		1/3rd																NBB	Pfeiffer
Protoporphyrin	Serum	N/A		1/3rd																NBB	Pfeiffer
<b>Phytoestrogens</b>																					

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Daidzein	Urine	URXDAZ	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
Enterodiol	Urine	URXETD	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
Enterolactone	Urine	URXETL	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
Equol	Urine	URXEQU	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
Genistein	Urine	URXGNS	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
O-Desmethylnangolensin	Urine	URXDMA	13	1/3rd	54	65	*	*	*	*	*	*	D						NBB	Rybak	
<b>Water Soluble Vitamins and Related Compounds</b>																					
Folate (Serum)	Serum	LBXFOL		1/3rd	54	110			*	*	*	*	D						NBB	Pfeiffer	
Folate (RBC)	RBC	LBXRBF		1/3rd	54	3			*	*	*	*		*	*	*	*	C	NBB	Zhang	
Folate forms by LC-MS/MS (Serum)		-		1/3rd																	
Total folate (calculated)		LBXFOLSI		1/3rd									*	*	*	*	*	C	NBB	Qari	
5-Methyltetrahydrofolate	Serum	LBXSF1		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
Folic acid	Serum	LBXSF2		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
5-Formyltetrahydrofolate	Serum	LBXSF3		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
Tetrahydrofolate	Serum	LBXSF4		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
5,10-Methylenetetrahydrofolate	Serum	LBXSF5		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
MeFox oxidation product	Serum	LBXSF6		1/3rd	54	110				*			*	*	*	*	*	C	NBB	Qari	
Folate forms by LC-MS/MS (RBC)		-		1/3rd																	
Total folate (calculated)	RBC	RBF7		1/3rd													*	C	NBB	Qari	
5-Methyltetrahydrofolate	RBC	RF1		1/3rd	54	221											*	C	NBB	Qari	
Folic acid	RBC	RF2		1/3rd	54	221											*	C	NBB	Qari	
5-Formyltetrahydrofolate	RBC	RF3		1/3rd	54	221											*	C	NBB	Qari	
Tetrahydrofolate	RBC	RF4		1/3rd	54	221											*	C	NBB	Qari	
5,10-Methylenetetrahydrofolate	RBC	RF5		1/3rd	54	221											*	C	NBB	Qari	
MeFox oxidation product	RBC	RF6		1/3rd	54	221											*	C	NBB	Qari	
Homocysteine	Plasma	LBXHCY		1/3rd					*	*	D								NBB	Pfeiffer	
Methylmalonic acid	Plasma/Serum	LBXMMMA		1/3rd	54	12			*	D			*	*	D				NBB	Pfeiffer	
Vitamin B12	Serum	LBXB12		1/3rd	54	12		*	*	*		*	*	*	D				NBB	Pfeiffer	
Vitamin B6 (pyridoxal-5'-phosphate)	Serum	LBXPLP		1/3rd				*	*	*	*	*	D						NBB	Pfeiffer	
Vitamin B6 (4-pyridoxic acid)	Serum	LBX4PA		1/3rd				*	*	*	*	*	D						NBB	Pfeiffer	
Vitamin C (ascorbic acid)	Serum	LBXVIC		1/3rd	54	79			*	*	D				*	*	D	C	NBB	Pfeiffer	
<b>Tobacco Biomarkers: Cotinine and Nicotine Analogs</b>																					
Anabasine	Urine	URXANBT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Anatabine	Urine	URXANTT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Cotinine	Serum	LBXCOT	1	Full 3+ yr	59	17	*	*	*	*	*	*	*	*	*	*	*	*	TVB	Seyler/Wang	
Cotinine	Urine	URXCOTT	1	3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Cotinine-n-oxide	Urine	URXCOXT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Hydroxycotinine	Serum	LBXHCT	1	Full 3+ yr	59	17								*	*	*	*	*	TVB	Seyler/Wang	
Hydroxycotinine	Urine	URXHCTT	1	3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Neretinine	Urine	URXNNCT		3-5 full and 1/3 subset 6+	59	156								*	*	WD	WD	D	TVB	Feng/Wang	
Nicotine-1N-oxide	Urine	URXNOXT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Nonicotinine	Urine	URXNCTT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
Nicotine	Urine	URXNICT		3-5 full and 1/3 subset 6+	59	156								*	*	*	*	*	TVB	Feng/Wang	
4-Hydroxy-4-(3-pyridyl) butanoic acid	Urine	URXHPBT		3-5 full and 1/3 subset 6+	59	156								WD	*	*	*	*	TVB	Feng/Wang	
<b>Tobacco Biomarkers: Aromatic Amines</b>																					
1-Aminonaphthalene	Urine	URX1NP		1/3rd	59	152									WD	WD	WD	D	TVB	Seyler/Wang	
2-Aminonaphthalene	Urine	URX2NP		1/3rd	59	152				surplus				*	WD	WD	WD	D	TVB	Seyler/Wang	
4-Aminobiphenyl	Urine	URX4BP		1/3rd	59	152				surplus				*	WD	WD	WD	D	TVB	Seyler/Wang	
Anisidine	Urine	URXANS		1/3rd	59	152								*	WD	WD	WD	D	TVB	Seyler/Wang	
2,6-Dimethylaniline	Urine	URXDMN		1/3rd	59	152								*	WD	WD	WD	D	TVB	Seyler/Wang	
Quinoline	Urine	N/A		1/3rd	59	152								WD	WD	WD	WD	D	TVB	Seyler/Wang	
o-Toluidine	Urine	URXOTD		1/3rd	59	152				surplus				*	WD	WD	WD	D	TVB	Seyler/Wang	
<b>Tobacco Biomarkers: Heterocyclic Amines</b>																					
3-Amino-1,4-dimethyl-5H-pyrido[4,3-b]indole (Trp-P-1)	Urine	URXTRP1		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
2-Amino-3-methyl-9H-pyrido[2,3-b]indole (MeA-a-C)	Urine	URXMAAC		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
2-Amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (Ph1P)	Urine	URXPHIP		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
2-Amino-9H-pyrido[2,3-b]indole (A-a-C)	Urine	URXAAC		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
2-Amino-3-methylimidazo[4,5-f]quinoline (IQ)	Urine	URXIQ		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	

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2-Amino-6-methylpyrido[1,2-a:3',2'-d]imidazole (Glu-P1)	Urine	URXGLP1		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
2-Aminodipyrido[1,2-a:3',2'-d]imidazole (GLU-P2)	Urine	URXGLP2		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
Harman	Urine	URXHM		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
1-Methyl-3-amino-5H-pyrido[4,3-b]indole (Trp-P-2)	Urine	URXTRP2		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
Norharman	Urine	URXNHM		1/3rd	59	153								*	D	WD	WD	D	TVB	Wang	
<b>Tobacco Biomarkers: Tobacco-specific Nitrosamines (TSNAs)</b>																					
4-(Methylnitrosamino)-1-(3-pyridyl)-1-Butanol (NNAL)	Urine	URXNAL		3-5 full and 1/3 subset 6+	59	156					*	*	*	*	*	*	*	*	TVB	Wang	
4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)	Urine	URXNNK		3-5 full and 1/3 subset 6+	59	156								WD	WD	WD	WD	WD	TVB	Wang	
N-Nitrosanabasine (NAB)	Urine	URXNAB		3-5 full and 1/3 subset 6+	59	156								*	WD	WD	WD	WD	TVB	Wang	
N-Nitrosanatabine (NAT)	Urine	URXNAT		3-5 full and 1/3 subset 6+	59	156								*	WD	WD	WD	WD	TVB	Wang	
N-Nitrosanonicotine (NNN)	Urine	URXNNN		3-5 full and 1/3 subset 6+	59	156								*	WD	WD	WD	WD	TVB	Wang	
<b>Tobacco Biomarkers: Volatile N-Nitrosamines</b>																					
N-Nitrosodiethylamine (NDEA)	Urine	URXNDEA		1/3rd	59	151								SURPLUS	*	WD	D	D	D	TVB	Seyler/Wang
N-nitrosodimethylamine (NDMA)	Urine	URXNDMA		1/3rd	59	151								SURPLUS	WD	WD	D	D	D	TVB	Seyler/Wang
N-Nitrosoethylmethylamine (NMEA)	Urine	URXNMEA		1/3rd	59	151								SURPLUS	*	WD	D	D	D	TVB	Seyler/Wang
N-nitrosomorpholine (NMOR)	Urine	URXNMOR		1/3rd	59	151								SURPLUS	*	WD	D	D	D	TVB	Seyler/Wang
N-Nitrosopiperidine (NPIP)	Urine	URXNPIP		1/3rd	59	151								SURPLUS	*	WD	D	D	D	TVB	Seyler/Wang
N-Nitrosopyrrolidine (NPYR)	Urine	URXNPYP		1/3rd	59	151								SURPLUS	*	WD	D	D	D	TVB	Seyler/Wang
<b>Adducts of Hemoglobin</b>																					
Acrylonitrile	Packed RBCs	32		1/3rd, 6+yr	60	88												*	CCB	Vesper	
Acrylamide	Packed RBCs	LBXACR	33	Full set, then 1/3rd	60	88			*	*	D	D	NO PRBC		*	D	D	D	CCB	Vesper	
Glycidamide	Packed RBCs	LBXGLY	33	Full set, then 1/3rd	60	88			*	*	D	D	NO PRBC	*	*	D	D	D	CCB	Vesper	
Ethylene Oxide	Packed RBCs	LBXETH	33	Full set, then 1/3rd	60	88								*	*	*	*	D	CCB	Vesper	
Formaldehyde	Packed RBCs	LBXFOR	33	Full set, then 1/3rd	60	88								*	*	D	D	D	CCB	Vesper	
<b>Hormones and Binding Protein</b>																					
Estradiol (E2)	Serum	LBXEST		Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137								*	*	D	*	*	CCB	Vesper	
Testosterone (TT)	Serum	LBXTST		Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137							*	*	*	D	*	*	CCB	Vesper	
17α-Hydroxyprogesterone (17-OHP)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Progesterone (P4)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Estrone (E1)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Estrone sulfate (E1S)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Androstenedione (AD)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Dehydroepiandrosterone sulfate (DHEAS)	Serum			Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137											*	*	CCB	Vesper	
Steroid Hormone Binding Globulin	Serum	LBXSHBG		Proposed: Full Set, 6+ yr, only this Analyte 3-5 yr.	60	137								*	*	D	*	*	CCB	Vesper	
Anti-Mullerian hormone (AMH)	Serum			Full Set, 6+ yr	60	137											C	*	CCB	Vesper	
Follicle stimulating hormone (FSH)	Serum			Full Set, 6+ yr	60	137											C	*	CCB	Vesper	
Luteinizing hormone (LH)	Serum			Full Set, 6+ yr	60	137											C	*	CCB	Vesper	
<b>trans Fatty Acids</b>																					
trans-9-Hexadecenoic acid	Plasma	LBXHDT		1/3 set, 3+ yr	60	109	*					*	D					*	CCB	Vesper	
trans-9-Octadecenoic acid	Plasma	LBXOD9		1/3 set, 3+ yr	60	109	*					*	D					*	CCB	Vesper	
trans,trans-9,12-Octadecadienoic acid	Plasma	LBXOTT		1/3 set, 3+ yr	60	109	*					*	D					*	CCB	Vesper	
trans-11-Octadecanoic acid	Plasma	LBXOD1		1/3 set, 3+ yr	60	109	*					*	D					*	CCB	Vesper	
<b>Metals and Metalloids</b>																					
Antimony	Urine	URXUSB	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Arsenic (total)	Urine	URXUAS	7B	3-5 full and 1/3 subset 6+	61	220	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Arsenic (V) acid	Urine	URXUAS5	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Arsenobetaine	Urine	URXUAB	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Arsenocholine	Urine	URXUAC	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Arsenous (III) acid	Urine	URXUAS3	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Dimethylarsinic acid	Urine	URXUDMA	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Monomethylarsonic acid	Urine	URXUMMA	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	
Trimethylarsine oxide	Urine	URXUTM	7A	3-5 full and 1/3 subset 6+	61	86	*	*	*	*	*	*	*	D					IRAT	Ward	
Barium	Urine	URXUBA	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward	

Analyte/Chemical/Metabolite Name	Matrix	NCHS Variable/Analyte Code	Chemical Group	Sample Size (Unless Otherwise Listed)	Lab #	Ves/Via I #	99-00	01-02	03-04	05-06	07-08	09-10	11-12	13-14	15-16	17-18	19-20	21-22	Branch	Lab Contact
Beryllium	Urine	URXUBE	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	D						IRAT	Ward
Cadmium	Whole Blood	LBXBCD	3	Full; 1/2(13-14)	61	1	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Cadmium	Urine	URXUCD	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Cesium	Urine	URXUCS	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Chromium	Urine	URXUCM		3-5 full and 1/3 subset 6+	61	220		*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Chromium	Whole Blood	LBXBCR		Full 40+	61	216								*	*	D		IRAT	Ward	
Cobalt	Whole Blood	LBXBCO		Full 40+	61	216								*	*	D		IRAT	Ward	
Cobalt	Urine	URXUCO	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Copper	Serum	LBXSCU	48	1/3rd ages 12+	61	136							*	*	*	D		IRAT	Ward	
Lead	Whole Blood	LBXBPB	3	Full; 1/2(13-14)	61	1	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Lead	Urine	URXUPB	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Manganese	Whole Blood	LBXBMN	4	Full; 1/2(13-14)	61	1							*	*	*	*	*	*	IRAT	Ward
Manganese	Urine	URXUMN	7B	3-5 full and 1/3 subset 6+	61	50							*	*	*	*	*	*	IRAT	Ward
Mercury (total)	Whole Blood	LBXTHG	4	Full; 1/2(13-14)	61	1	*	Females 16-49 yr	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Mercury (inorganic)	Whole Blood	LBXIHG	4	Full; 1/2(13-14)	61	5	*		*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Mercury (ethyl)	Whole Blood	LBXBGE	4	Full; 1/2(13-14)	61	5							*	*	*	*	*	*	IRAT	Ward
Mercury (methyl)	Whole Blood	LBXBGM	4	Full; 1/2(13-14)	61	5							*	*	*	*	*	*	IRAT	Ward
Mercury	Urine	URXUHG	5	3-5 full and 1/3 subset 6+	61	62	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Molybdenum	Urine	URXUMO	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Nickel	Urine	URXXUNI		3-5 full and 1/3 subset 6+	61	220											*	*	IRAT	Ward
Platinum	Urine	URXUPT	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	D						IRAT	Ward
Selenium	Whole Blood	LBXBSE	4	Full; 1/2(13-14)	61	1							*	*	*	*	*	*	IRAT	Ward
Selenium	Serum	LBXSSE	48	1/3rd ages 12+	61	136							*	*	*	D			IRAT	Ward
Strontium	Urine	URXUSR	7B	3-5 full and 1/3 subset 6+	61	50							*	*	*	*	*	*	IRAT	Ward
Thallium	Urine	URXUTL	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Tin	Urine	URXUSN	7B	3-5 full and 1/3 subset 6+	61	50							*	*	*	*	*	*	IRAT	Ward
Tungsten	Urine	URXUTU	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Uranium	Urine	URXUUR	7B	3-5 full and 1/3 subset 6+	61	50	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Zinc	Serum	LBXSZN	48	1/3rd ages 12+	61	136							*	*	*	D			IRAT	Ward
Iodine	Urine	URXUIO		3-5 full and 1/3 subset 6+	61	62	*	*	*	*	*	*	*	*	*	*	*	*	IRAT	Ward
Iodine	Salt	LBXSL1		3-5 full and 1/3 subset 6+	61	227											*	D	IRAT	Ward
Iodine	Salt	LBXSL2		3-5 full and 1/3 subset 6+	61	228											*	D	IRAT	Ward
Fluoride	Water	LBXWFL		0-19 yrs and MEC examined	61	144											*	D	IRAT	Ward
Fluoride	Urine	URXUFL		6-19 yrs	61	217									*	*	D		IRAT	Ward
<b>Perchlorate and Other Anions</b>																				
Perchlorate	Urine	URXUP8	28	1/3rd	62	102		*	*	*	*	*	*	*	*	*	*	*	TVB	Morel
Perchlorate	Water	LBXWP8	28	1/3rd					*	D	D								TVB	Morel
Thiocyanate	Urine	URXSCN	28	1/3rd	62	102			*	*	*	*	*	*	*	*	*	*	TVB	Morel
Nitrate	Urine	URXNO3	28	1/3rd	62	102			*	*	*	*	*	*	*	*	*	*	TVB	Morel
Nitrate	Water	LBXWNG	28	1/3rd					*	D	D								TVB	Morel
Fluoride	Urine	URXUFL	28	1/3rd	62	217									WD	WD	D		TVB	Morel
Iodide	Water	LBXWIG	28	1/3rd				*	*	D	D								TVB	Morel
<b>Urinary Aromatic Diamines/Amines (formerly Diisocyanate metabolites and urinary amines)</b>																				
2,4-Diaminotoluene (4TDA)	Urine	URX4TDA			62	218													SURPLUS	Bhandari/De Jesus
2,6-Diaminotoluene (6TDA)	Urine	URX6TDA			62	218													SURPLUS	Bhandari/De Jesus
4,4'-Diaminodiphenylmethane (4MDA)	Urine	URX4MDA			62	218													SURPLUS	Bhandari/De Jesus
1,5-Diaminonaphthalene (5NDA)	Urine	URX5NDA			62	218													SURPLUS	Bhandari/De Jesus
p-Phenylenediamine (PPDA)	Urine	URXPPDA			62	218													SURPLUS	Bhandari/De Jesus
o-Phenylenediamine (OPDA)	Urine	URXOPDA			62	218													SURPLUS	Bhandari/De Jesus
5-Amino-1,3,3-trimethylcyclohexanemethylamine-(PPDA)	Urine	URXIPDA			62	218													SURPLUS	Bhandari/De Jesus
Hexamethylenediamine (HAD)	Urine	URXHDA			62	218													SURPLUS	Bhandari/De Jesus
β-N-Methylamino-L-alanine (BMAA)	Urine	URXBMAA			62	218													SURPLUS	Bhandari/De Jesus

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Trimethylamine N-oxide (TMAO)	Urine	URXTMAO			62	218							SURPLUS		WD	•	•		TVB	Bhandari/De Jesus
<b>Volatile Organic Compound Metabolites (VOC metabolites)</b>																				
N-Acetyl-S-(2-carbamoyl-ethyl)-L-cysteine (AAMA)	Urine	URXAAM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(N-methylcarbamoyl)-L-cysteine (AMCA)	Urine	URXAMC	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
2-Aminothiazoline-4-carboxylic acid (ATCA)	Urine	URXATC	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(benzyl)-L-cysteine (BMA)	Urine	URXBMA	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(n-propyl)-L-cysteine (BPMA)	Urine	URXBPM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(2-carboxyethyl)-L-cysteine (CEMA)	Urine	URXCEM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(1-cyano-2-hydroxyethyl)-L-cysteine (CYHA)	Urine	URXCYHA	46	1/3rd	62	102									•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(2-cyanoethyl)-L-cysteine (CYMA)	Urine	URXCYM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(1,2-dichlorovinyl)-L-cysteine (1DCV)	Urine	URX1DC	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(2,2-dichlorovinyl)-L-cysteine (2DCV)	Urine	URX2DC	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(3,4-dihydroxybutyl)-L-cysteine (DHBM)	Urine	URXDHB	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(dimethylphenyl)-L-cysteine (DPMA)	Urine	URXDPM	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(2-carbamoyl-2-hydroxyethyl)-L-cysteine (GAMA)	Urine	URXGAM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(2-hydroxyethyl)-L-cysteine (HEMA)	Urine	URXHEM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(3-hydroxypropyl)-L-cysteine (HPMA)	Urine	URXHPM	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(2-hydroxypropyl)-L-cysteine (HPM2)	Urine	URXHP2	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(3-hydroxypropyl-1-methyl)-L-cysteine (HPMM)	Urine	URXPM1	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(1-hydroxymethyl-2-propenyl)-L-cysteine (MHB1)	Urine	URXMB1	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(2-hydroxy-3-butenyl)-L-cysteine (MHB2)	Urine	URXMB2	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(4-hydroxy-2-butenyl)-L-cysteine (MHB3)	Urine	URXMB3	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(phenyl-2-hydroxyethyl)-L-cysteine (PHEM)	Urine	URXPHE	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(phenyl)-L-cysteine (PMA)	Urine	URXPMA	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(trichlorovinyl)-L-cysteine (TCVM)	Urine	URXTCV	46	1/3rd	62	102				•			•	•	•	D			TVB	Bhandari/De Jesus
Mandelic acid (MADA)	Urine	URXMAD	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
2-Methylhippuric acid (2MHA)	Urine	URX2MH	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
3- & 4-Methylhippuric acid (34MH)	Urine	URX34M	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
l,t-Muconic acid (MUCA)	Urine	URXMUC	46	1/3rd	62	102				WD			WD	WD	WD	•	•	•	TVB	Bhandari/De Jesus
Phenylglyoxylic acid (PHGA)	Urine	URXPHG	46	1/3rd	62	102				•			•	•	•	•	•	•	TVB	Bhandari/De Jesus
2-Thioxothiazolidine-4-carboxylic acid (TTCA)	Urine	URXTTC	46	1/3rd	62	102				•			•	•	WD	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(2-hydroxy-2-methyl-3-buten-1-yl)-L-cysteine (IPM2) + N-Acetyl-S-(2-hydroxy-3-methyl-3-buten-1-yl)-L-cysteine (IPM1)	Urine	URXIIPM1	46	1/3rd	62	102								WD	•	D			TVB	Bhandari/De Jesus
N-Acetyl-S-(4-hydroxy-2-methyl-2-buten-1-yl)-L-cysteine (IPMA3)	Urine	URXIIPM3	46	1/3rd	62	102									•	•	•	•	TVB	Bhandari/De Jesus
N-Acetyl-S-(((4-(Methylsulfinyl)butyl)amino)thioxomethyl)-L-cysteine (SUMA)	Urine		46	1/3rd	62	102													TVB	Bhandari/De Jesus