

Characterization of missingness in untargeted MS-based metabolomics data sets and evaluation of missing data handling strategies

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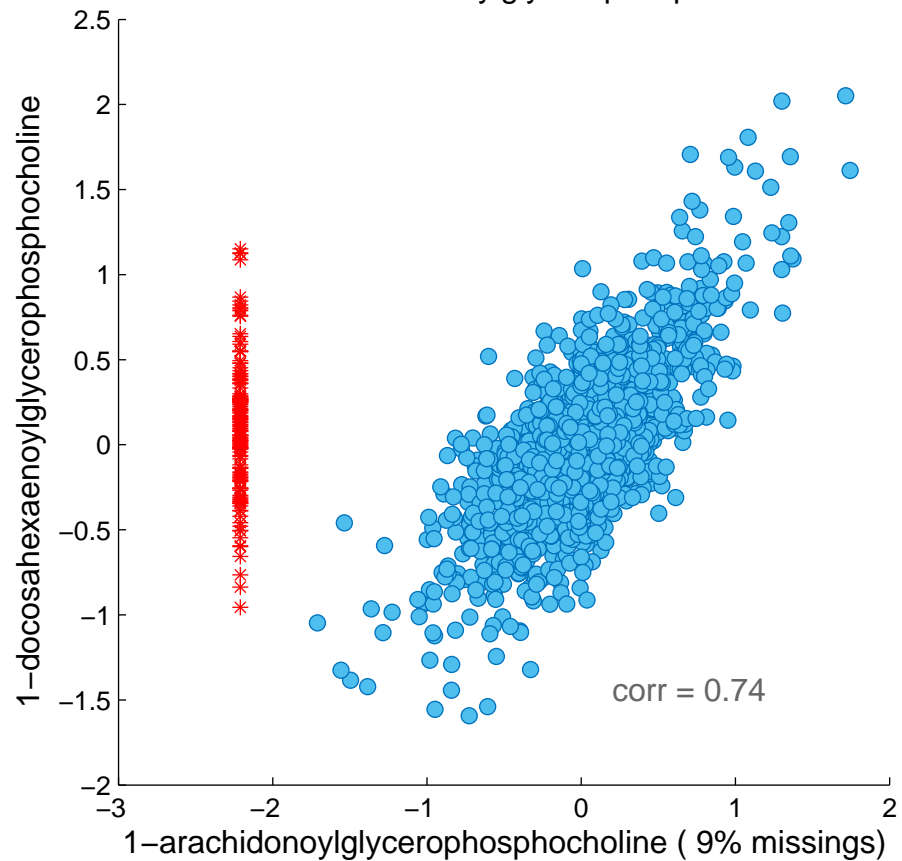
Supporting Information File S1: LOD tendency

As an explorative method to visualize the missingness mechanism of a metabolite m , a second (auxiliary) metabolite m_{aux} showing the strongest Pearson correlation to m was determined. Comparing the distribution of concentrations of metabolite m_{aux} for observations with and without observed m can provide information about whether or not missingness in m is systematic.

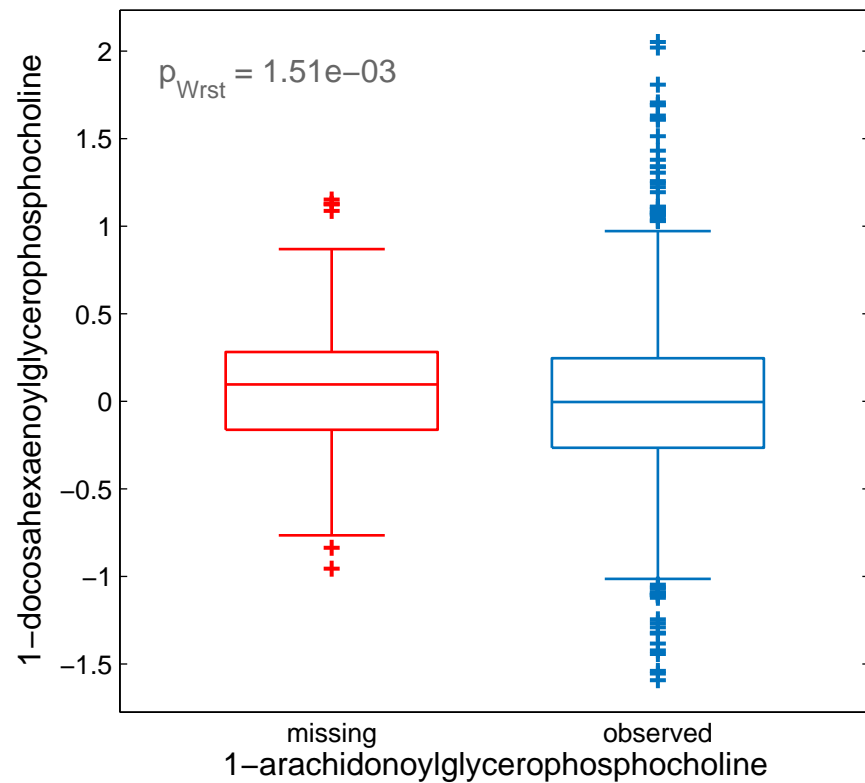
In the following, for all metabolites (x-axis) with more than 10% and less than 70% missing values a scatterplot with its auxiliary metabolite (y-axis) is shown. Blue dots correspond to observed concentrations in both metabolites. Red dots represent concentrations of the auxiliary metabolite in samples with missing values of the investigated metabolite. **corr** and **p** are Pearson correlation coefficient and corresponding p-value.

The boxplots compare the concentrations of the auxiliary metabolite between samples with missing and samples with measured values of the given metabolite. **p_{Wst}** is the p-value of a performed Wilcoxon-Mann-Whitney test. An LOD tendency is assumed is **p_{Wst}** is below $\alpha = 0.05$ after Bonferroni correction for multiple testing.

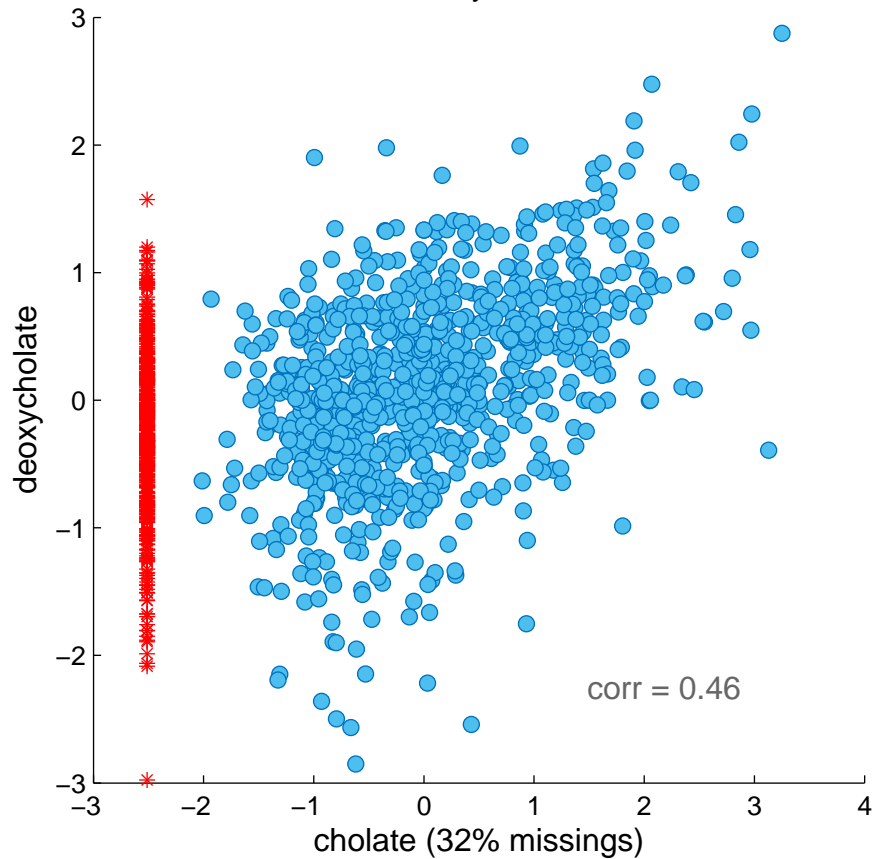
Missing values of 1–arachidonoylglycerophosphocholine
in 1–docosahexaenoylglycerophosphocholine



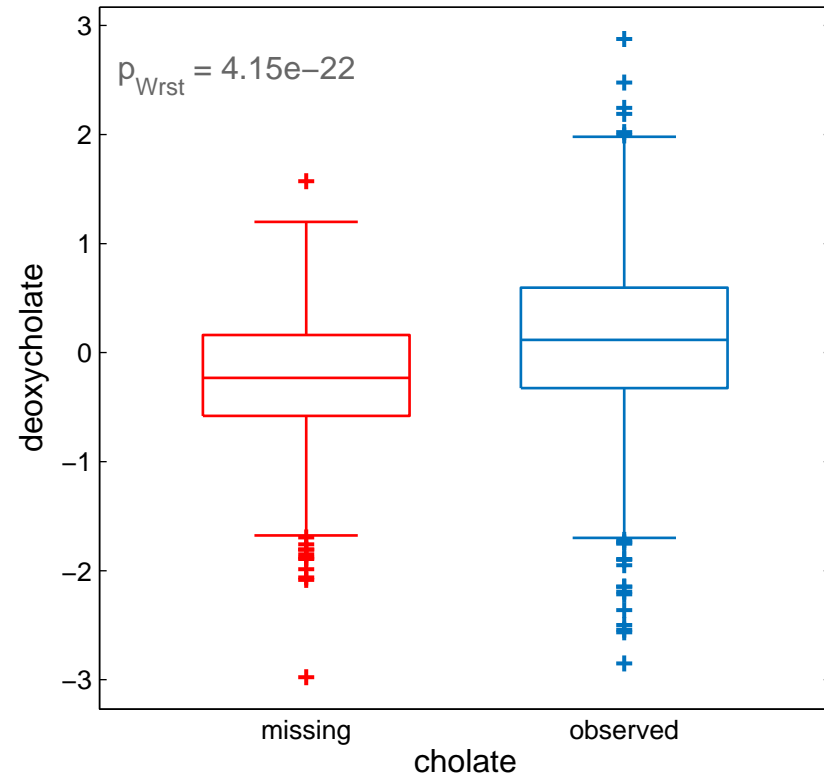
Concentrations of 1–docosahexaenoylglycerophosphocholine in
missing and observed 1–arachidonoylglycerophosphocholine



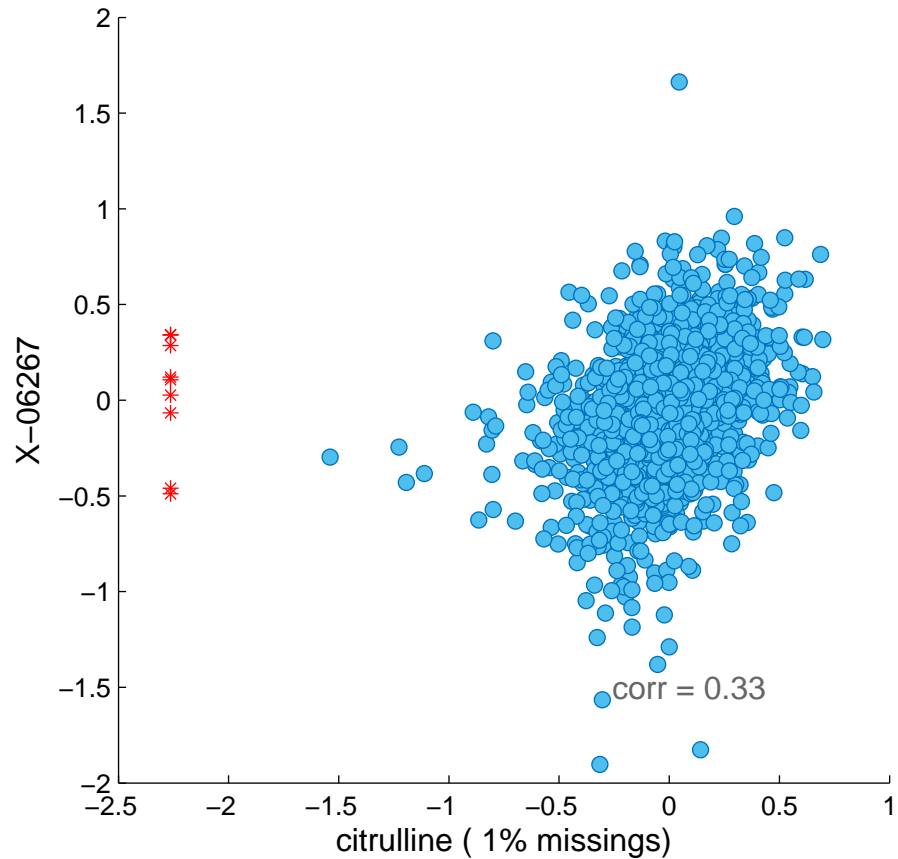
Missing values of cholate
in deoxycholate



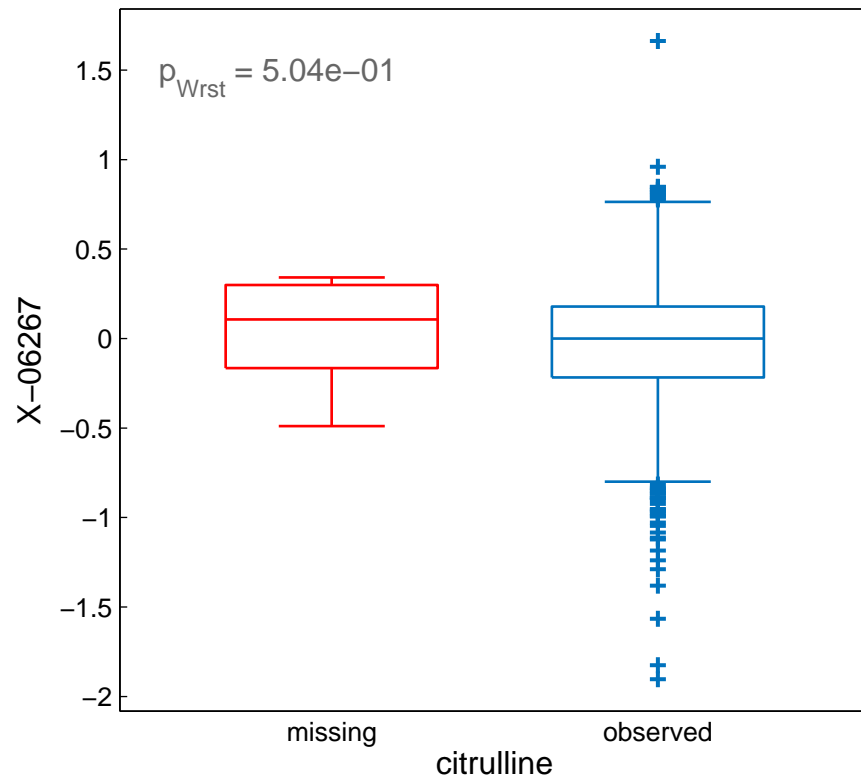
Concentrations of deoxycholate in
missing and observed cholate



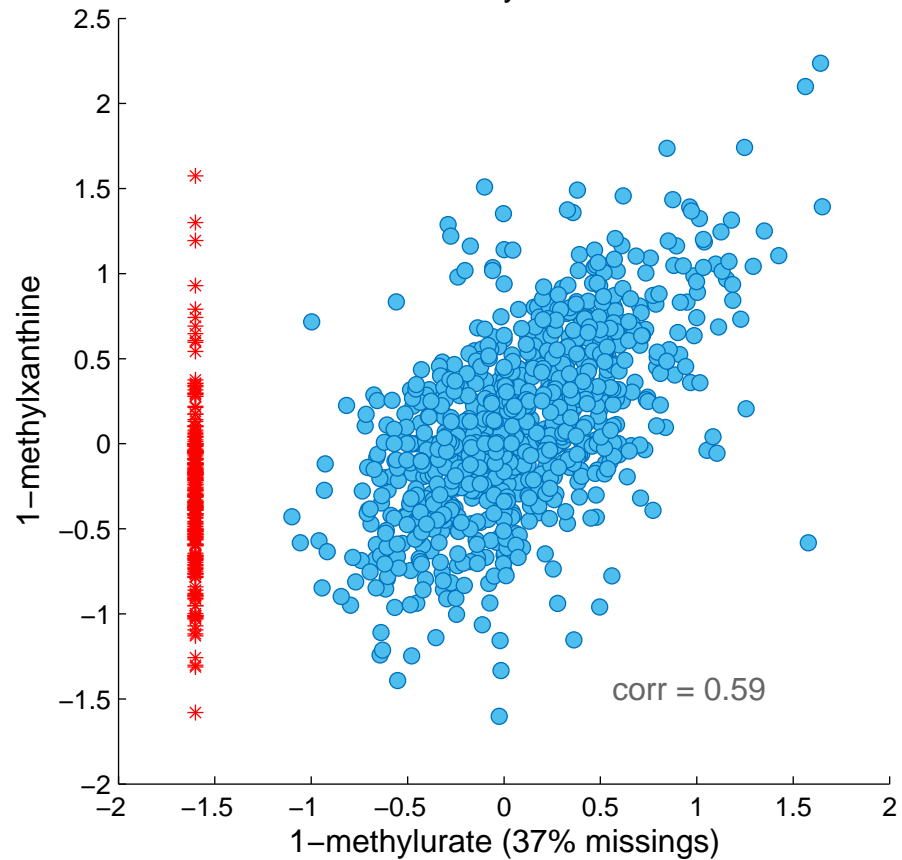
Missing values of citrulline
in X-06267



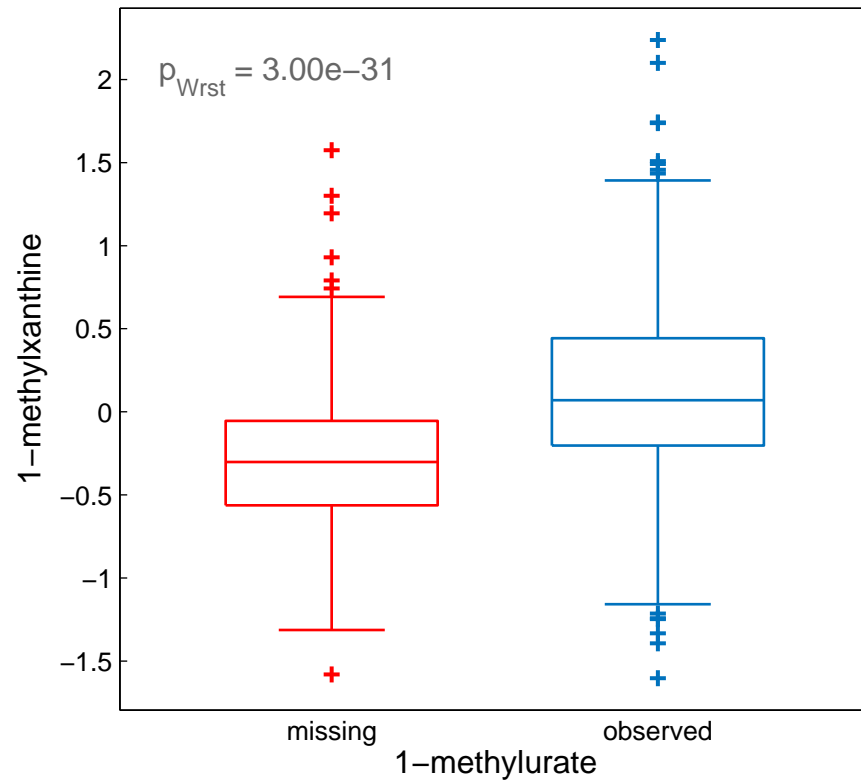
Concentrations of X-06267 in
missing and observed citrulline



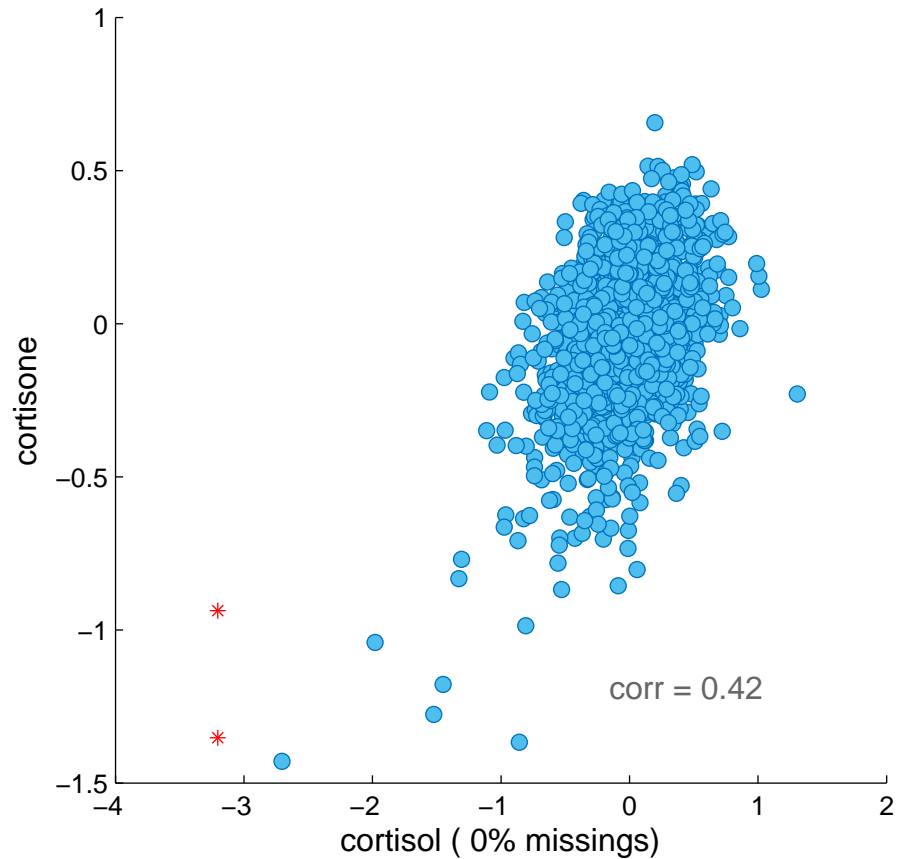
Missing values of 1-methylurate
in 1-methylxanthine



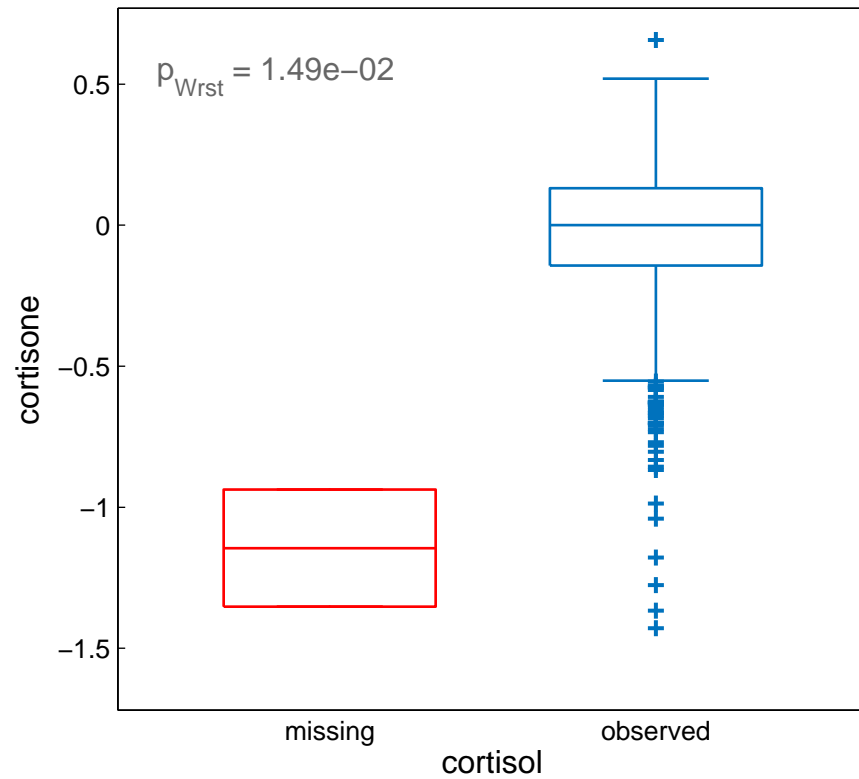
Concentrations of 1-methylxanthine in
missing and observed 1-methylurate



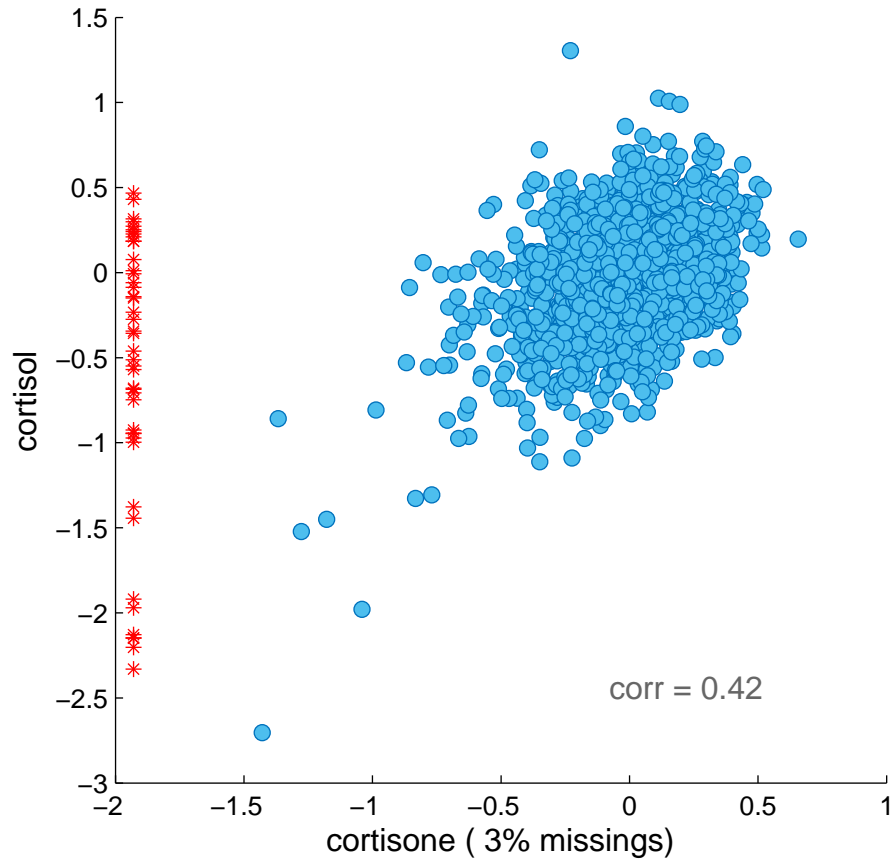
Missing values of cortisol
in cortisone



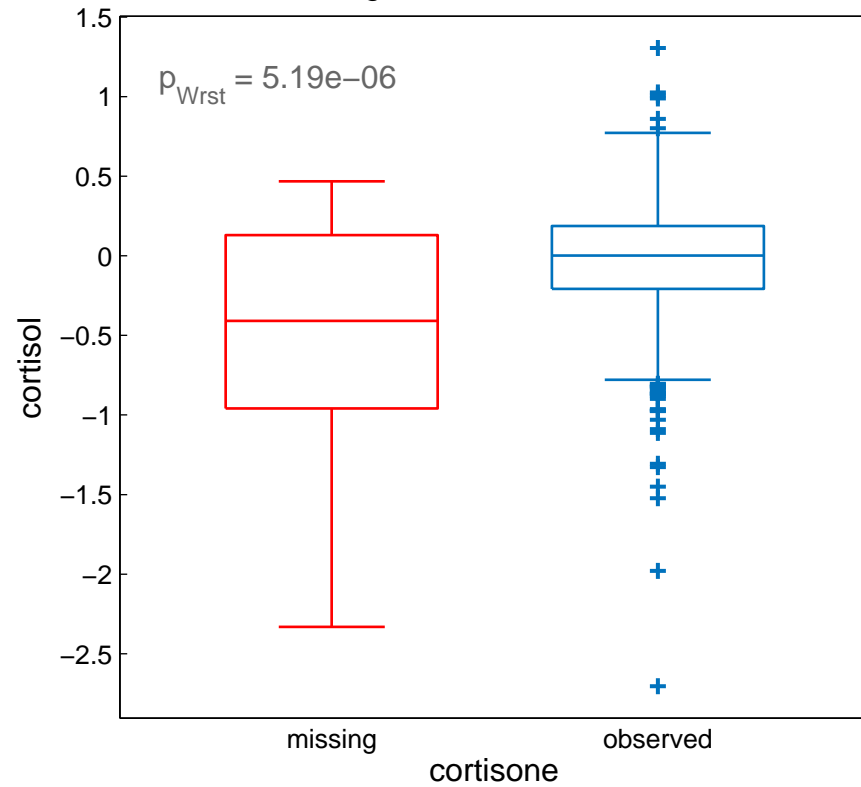
Concentrations of cortisone in
missing and observed cortisol



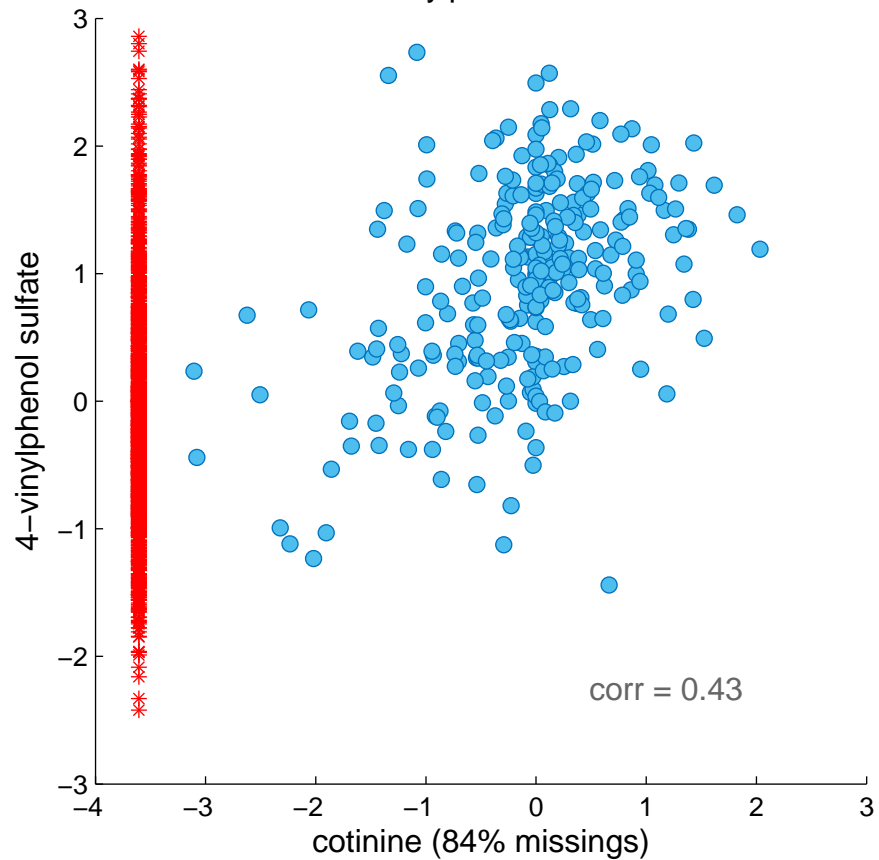
Missing values of cortisone
in cortisol



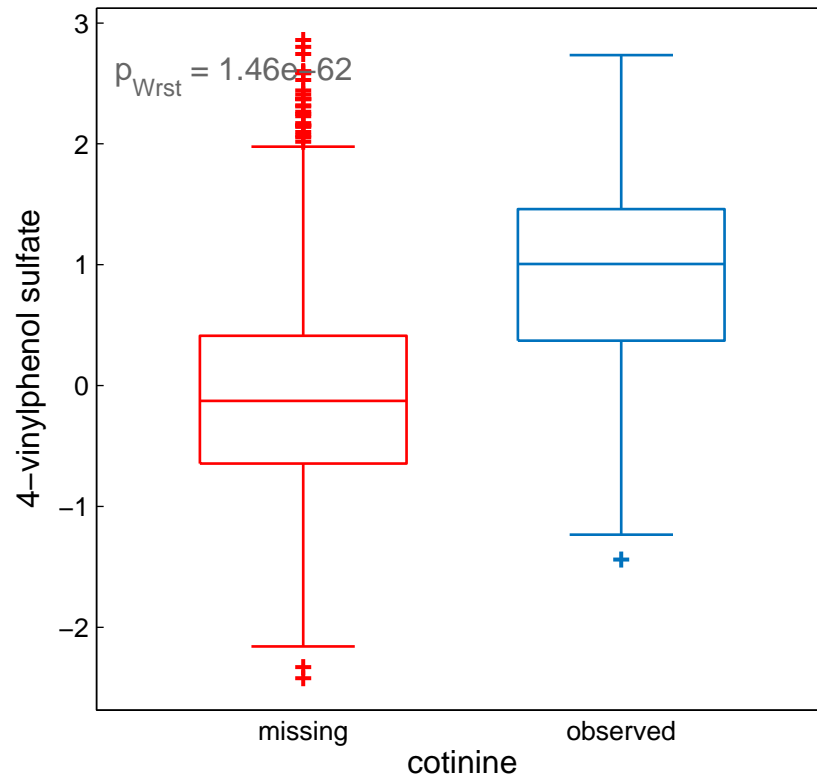
Concentrations of cortisol in
missing and observed cortisone



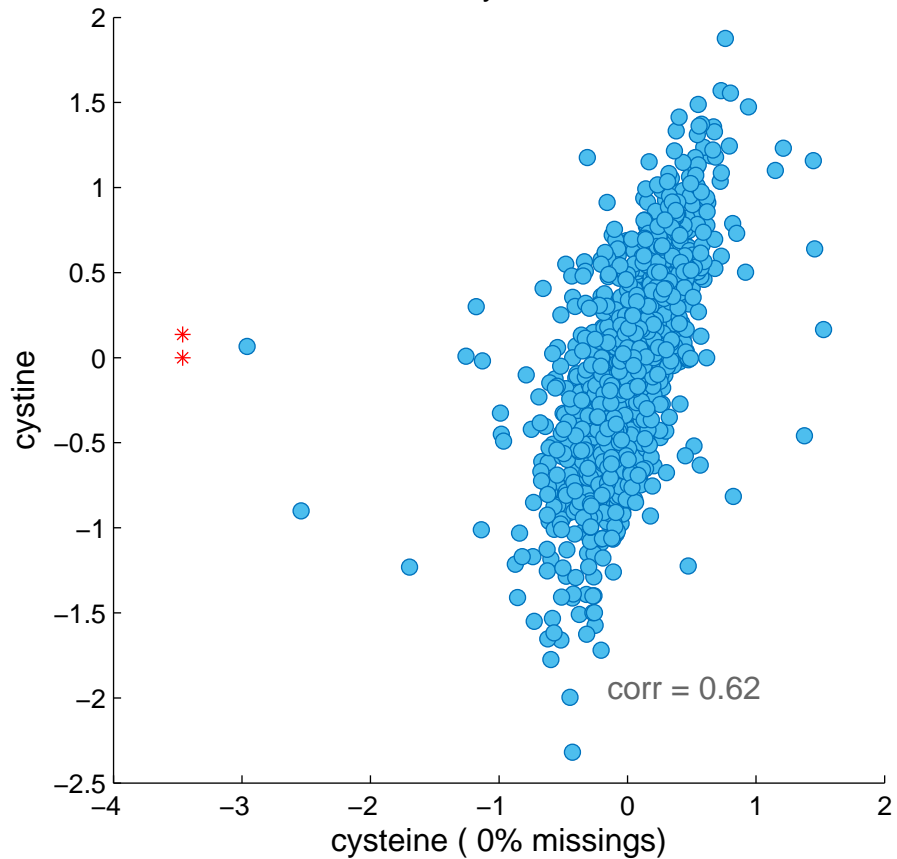
Missing values of cotinine
in 4-vinylphenol sulfate



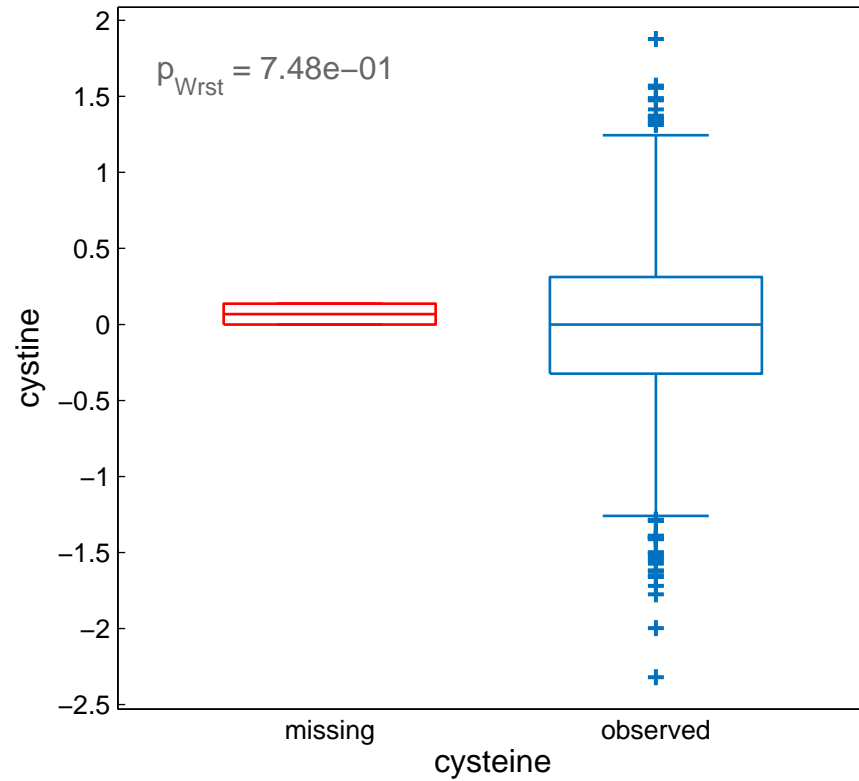
Concentrations of 4-vinylphenol sulfate in
missing and observed cotinine



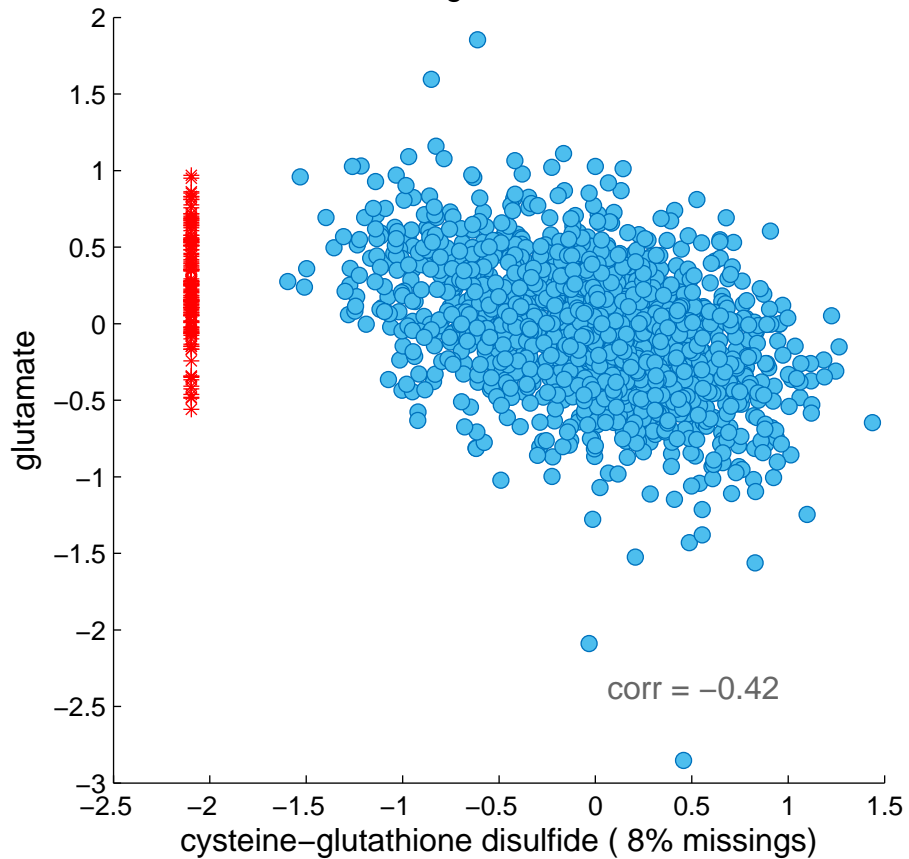
Missing values of cysteine
in cystine



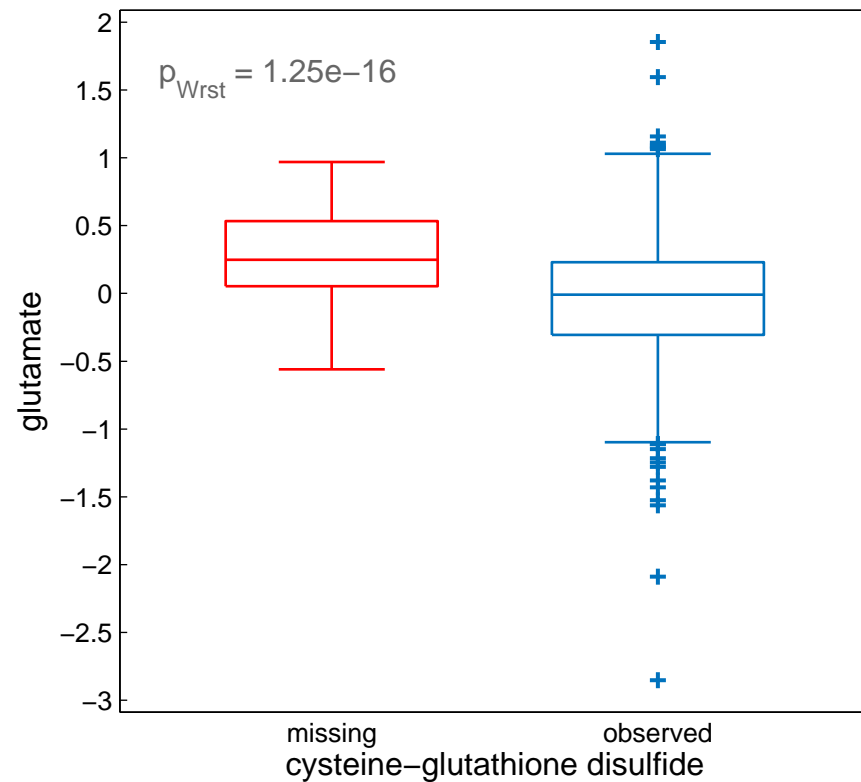
Concentrations of cystine in
missing and observed cysteine



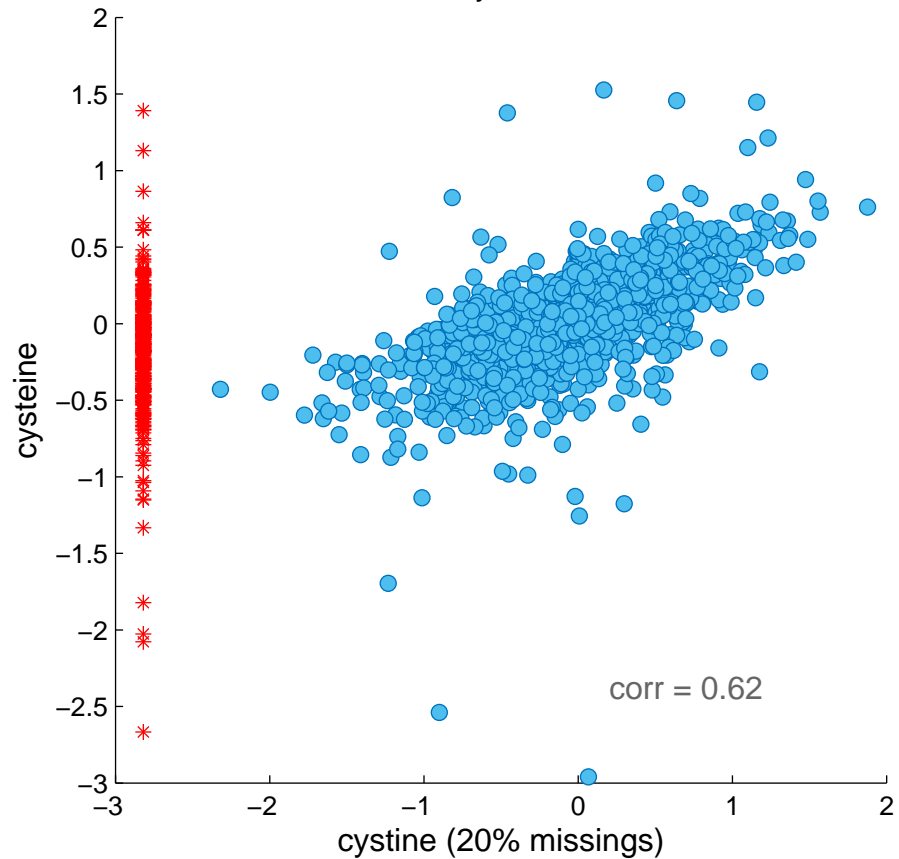
Missing values of cysteine–glutathione disulfide in glutamate



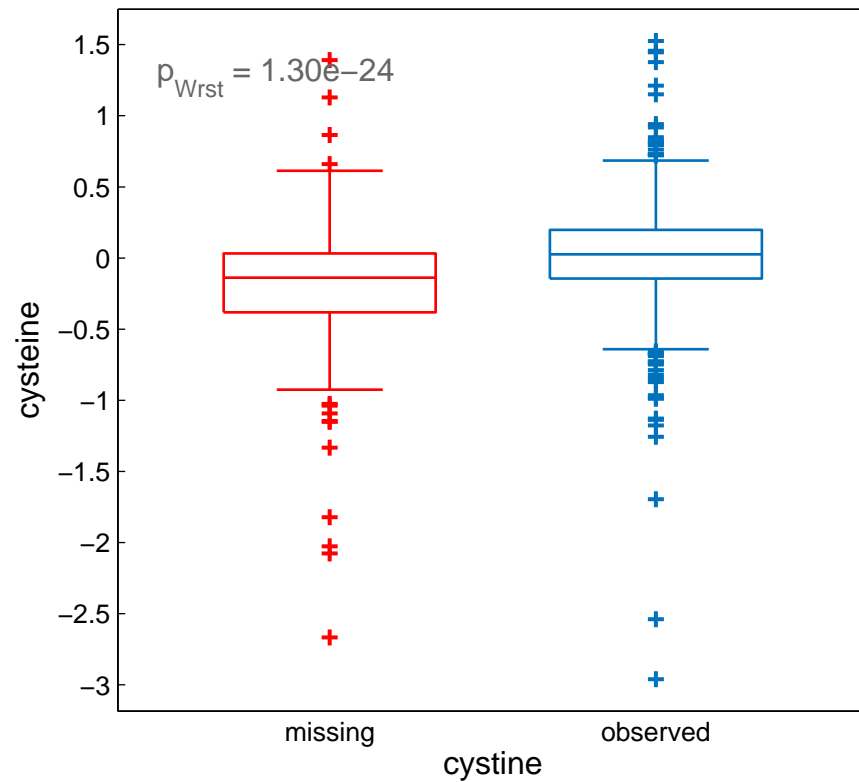
Concentrations of glutamate in missing and observed cysteine–glutathione disulfide



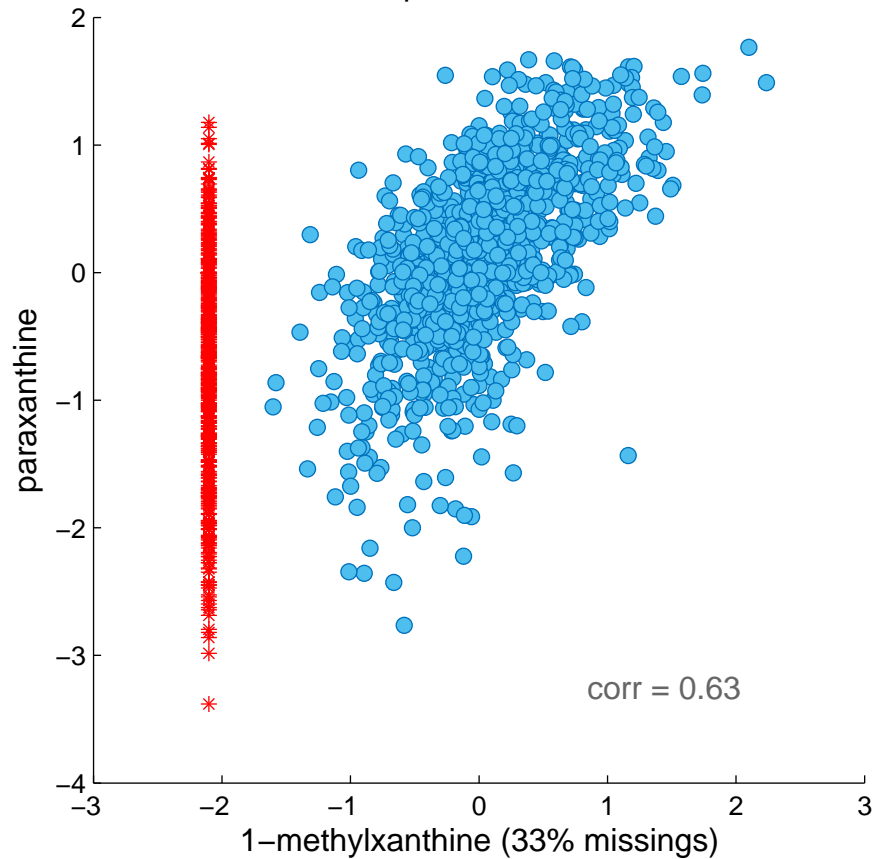
Missing values of cystine
in cystine



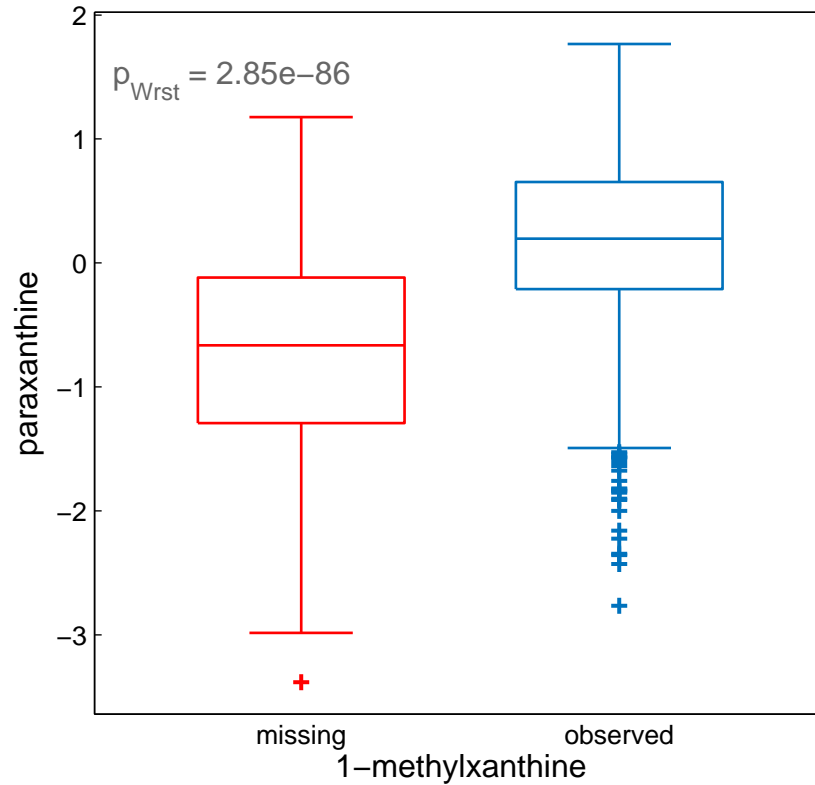
Concentrations of cystine in
missing and observed cystine



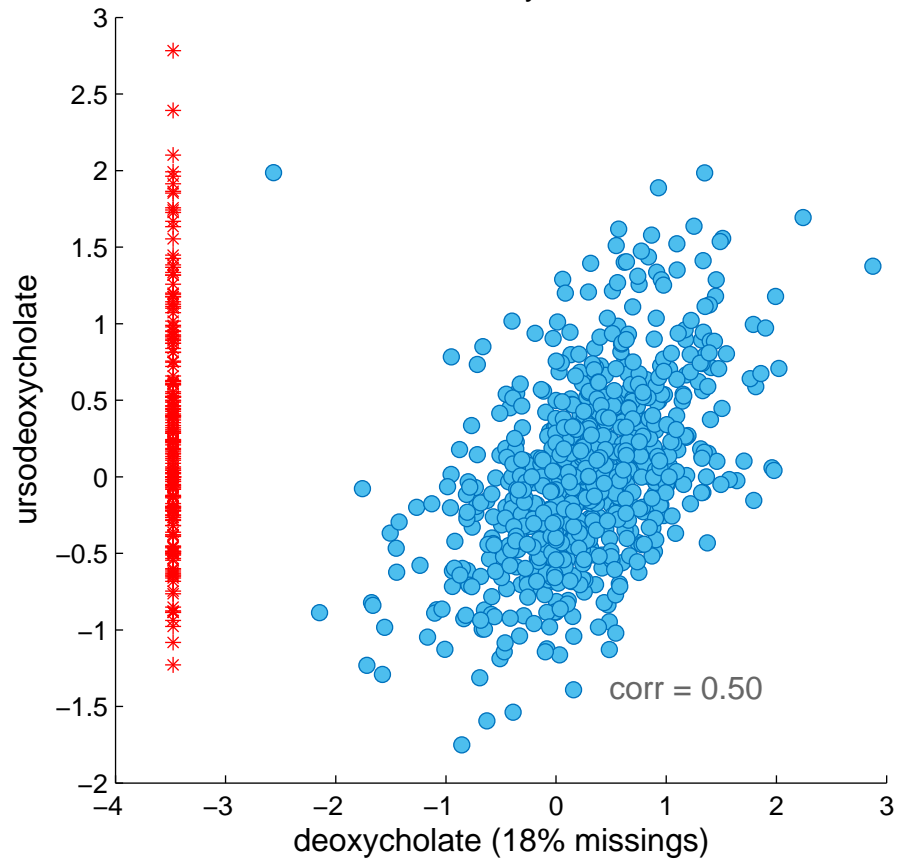
Missing values of 1-methylxanthine
in paraxanthine



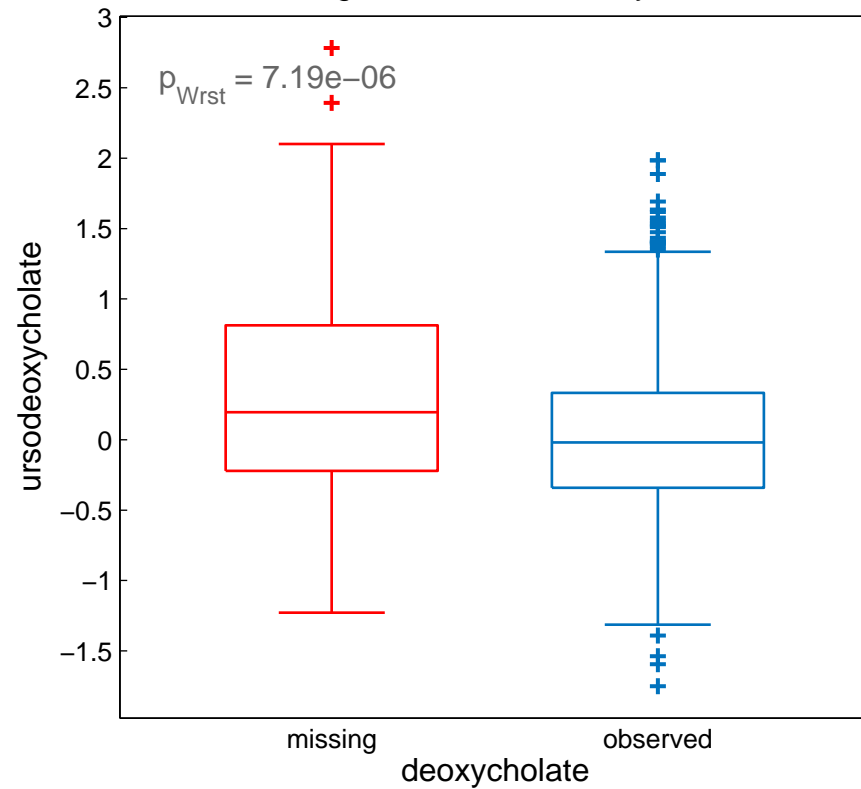
Concentrations of paraxanthine in
missing and observed 1-methylxanthine



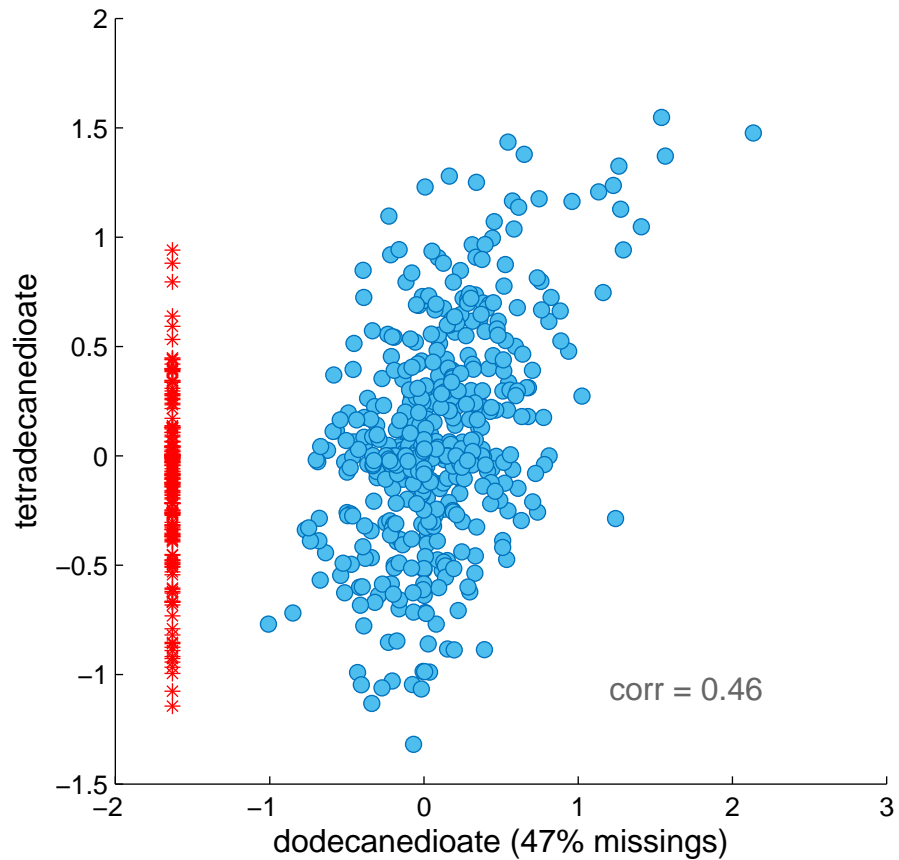
Missing values of deoxycholate
in ursodeoxycholate



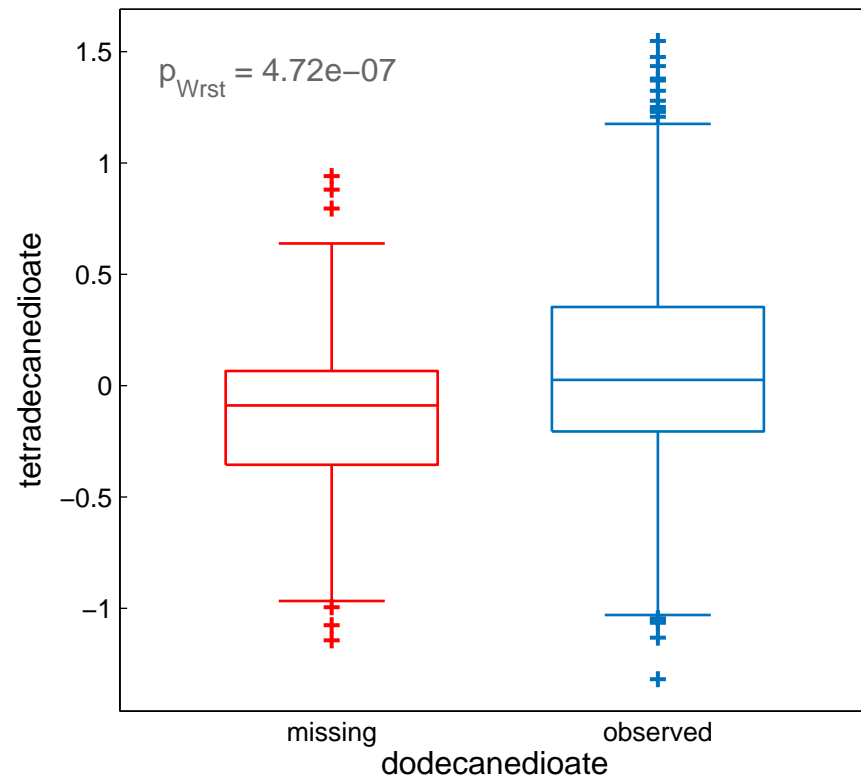
Concentrations of ursodeoxycholate in
missing and observed deoxycholate



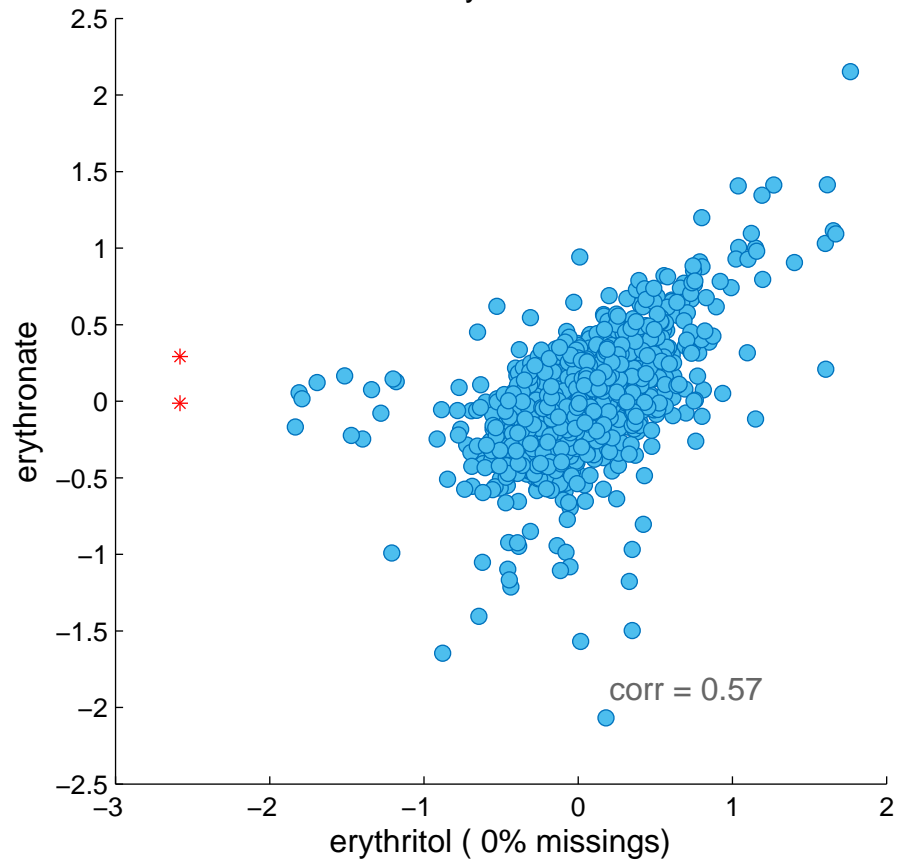
Missing values of dodecanedioate
in tetradecanedioate



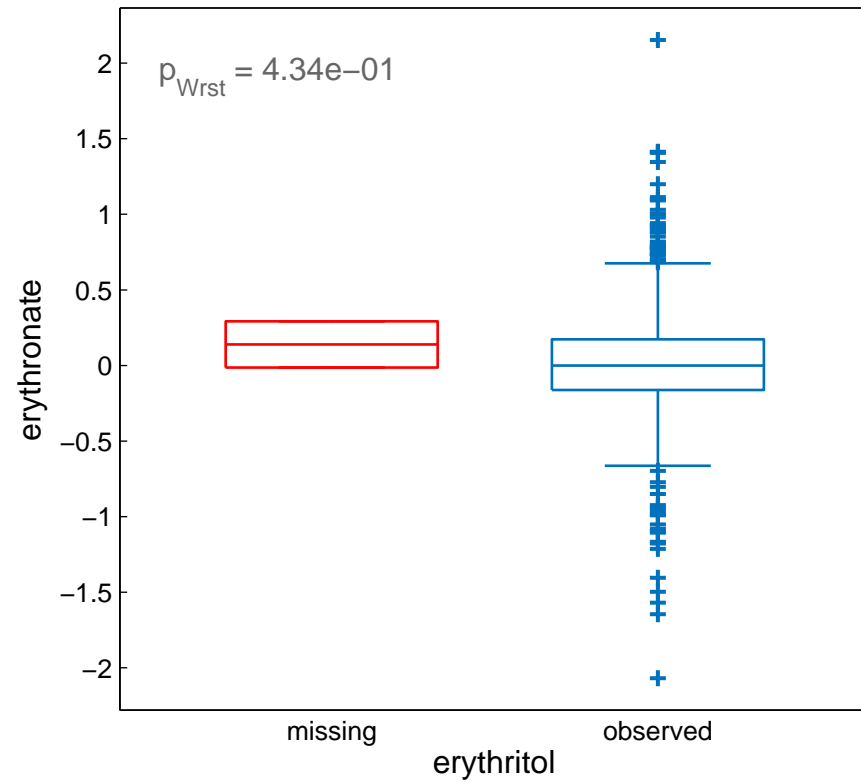
Concentrations of tetradecanedioate in
missing and observed dodecanedioate



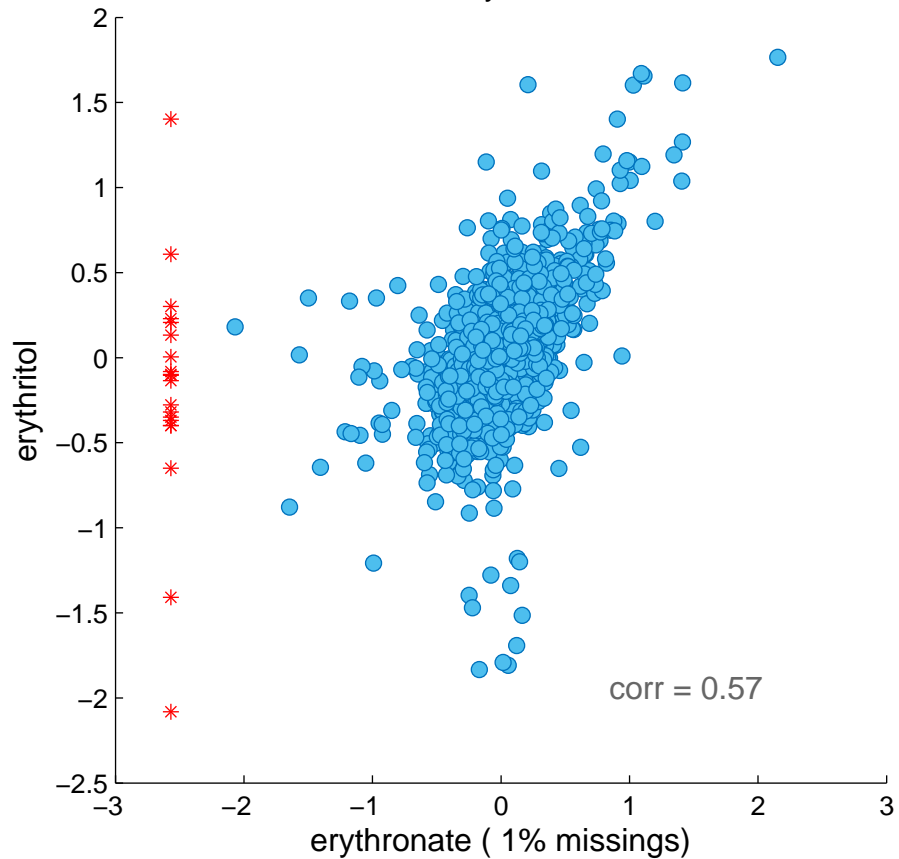
Missing values of erythritol
in erythrone



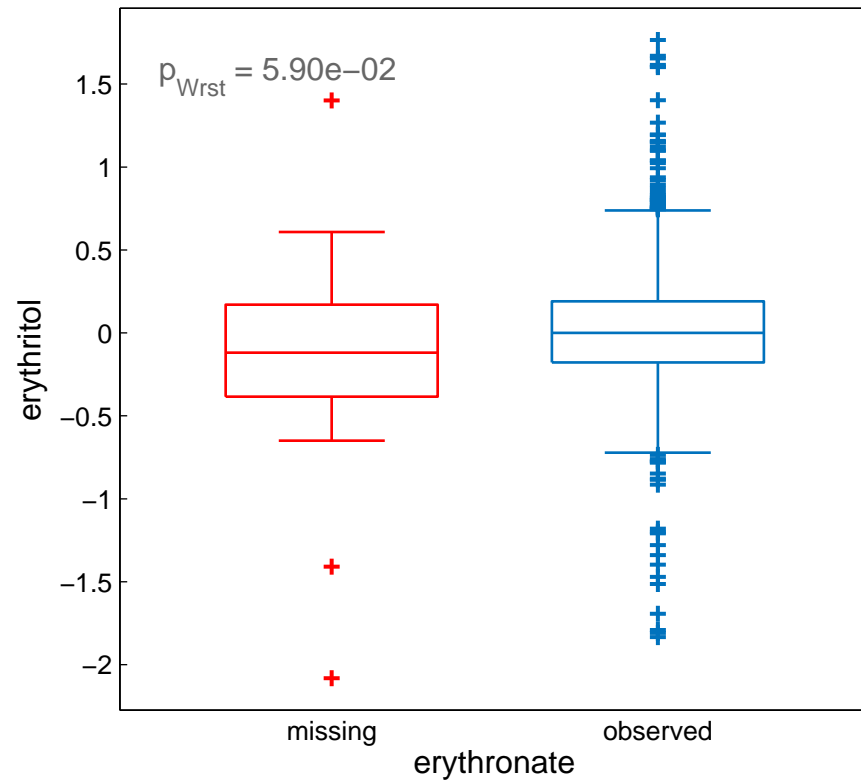
Concentrations of erythrone in
missing and observed erythritol



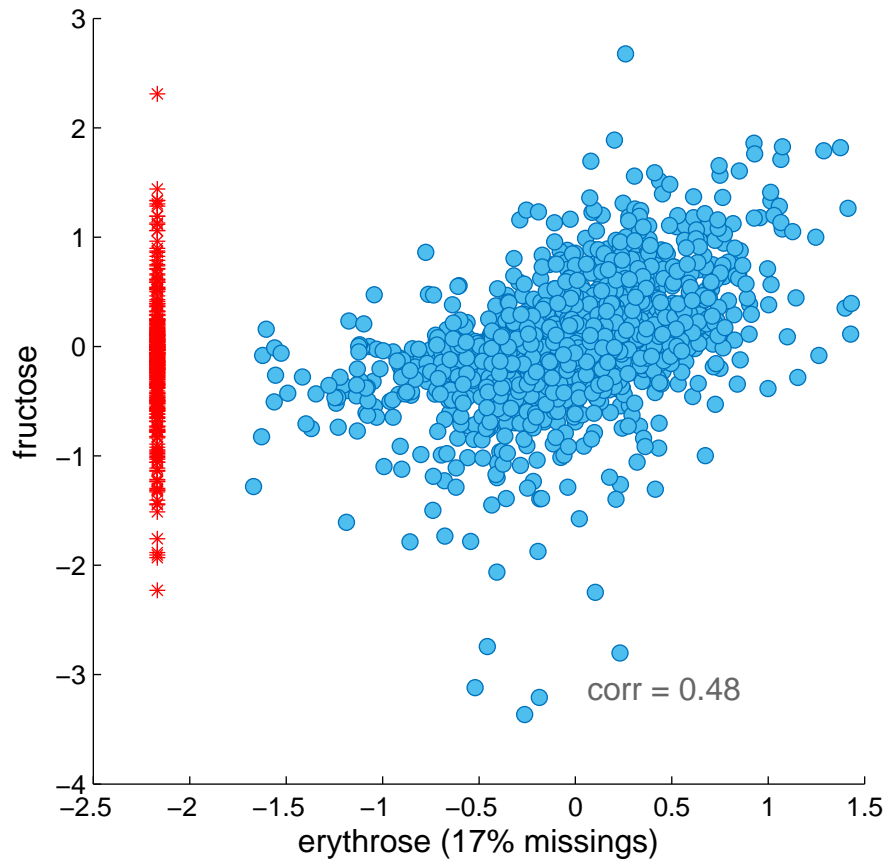
Missing values of erythronate in erythritol



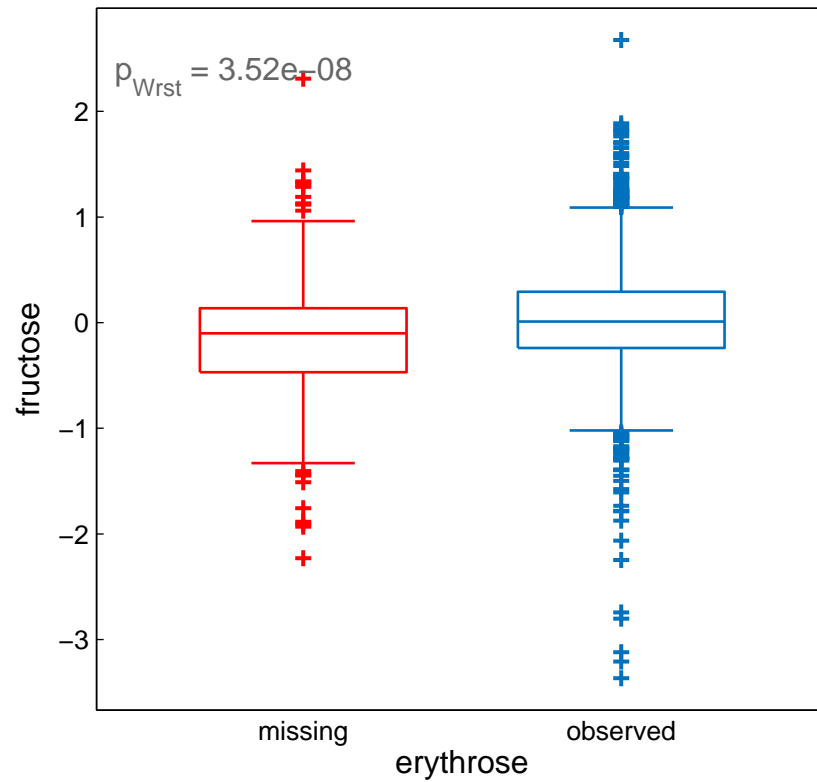
Concentrations of erythritol in missing and observed erythronate



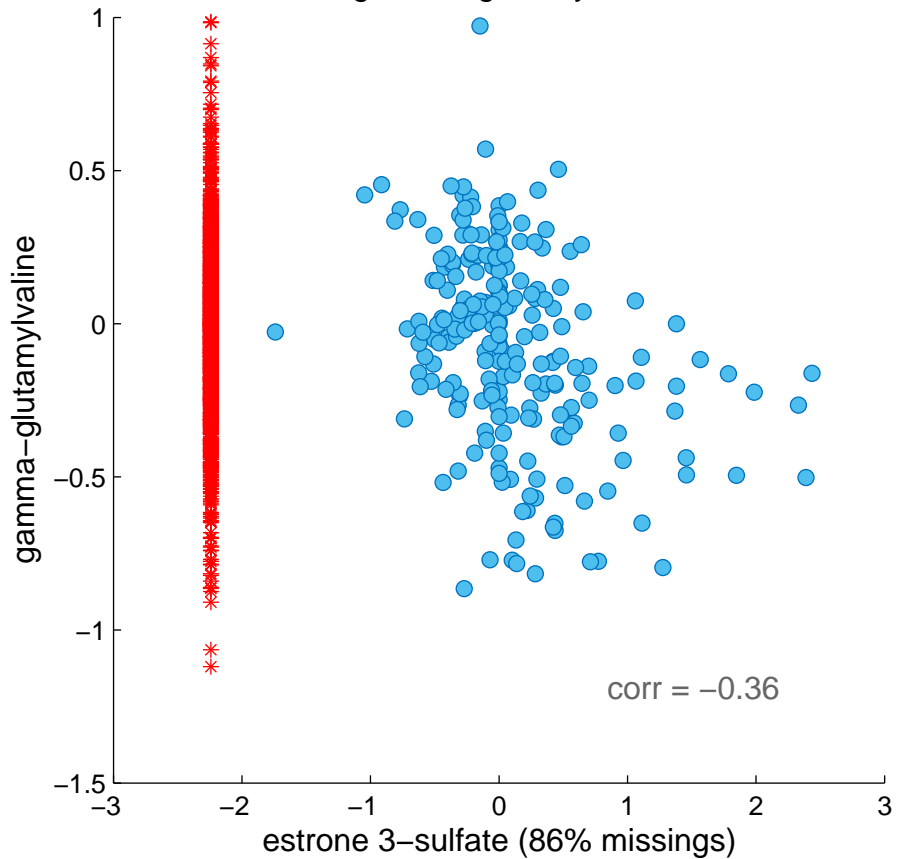
Missing values of erythrose
in fructose



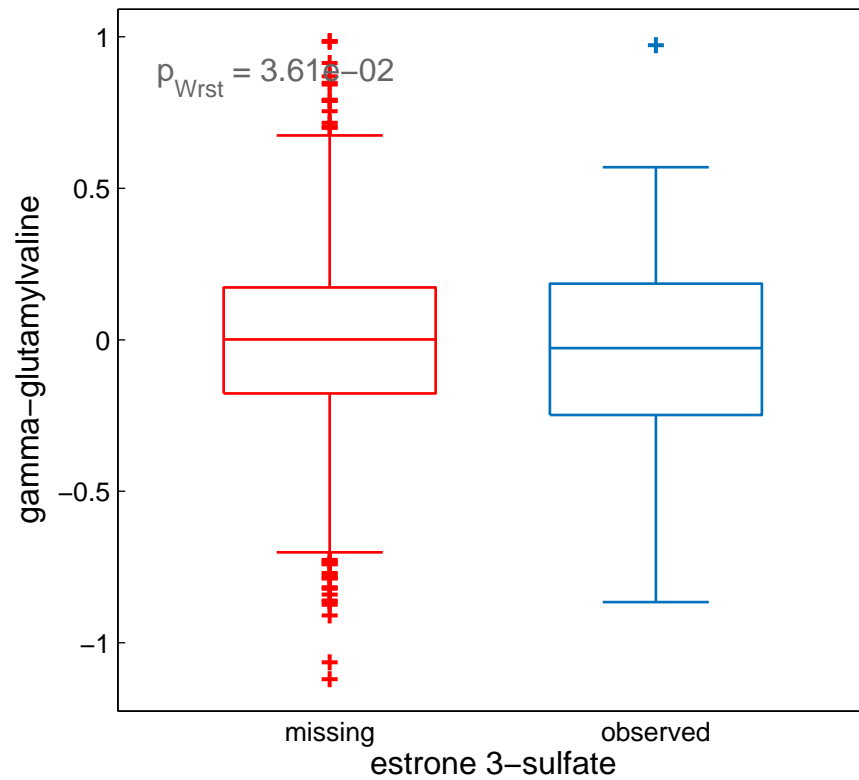
Concentrations of fructose in
missing and observed erythrose



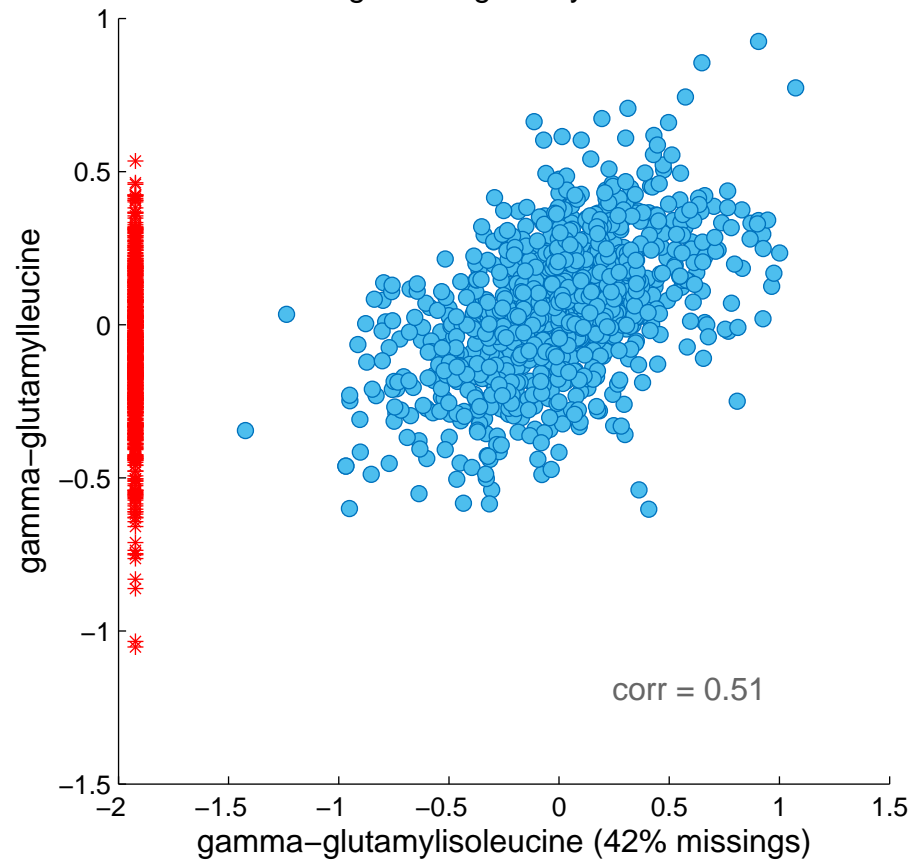
Missing values of estrone 3-sulfate
in gamma-glutamylvaline



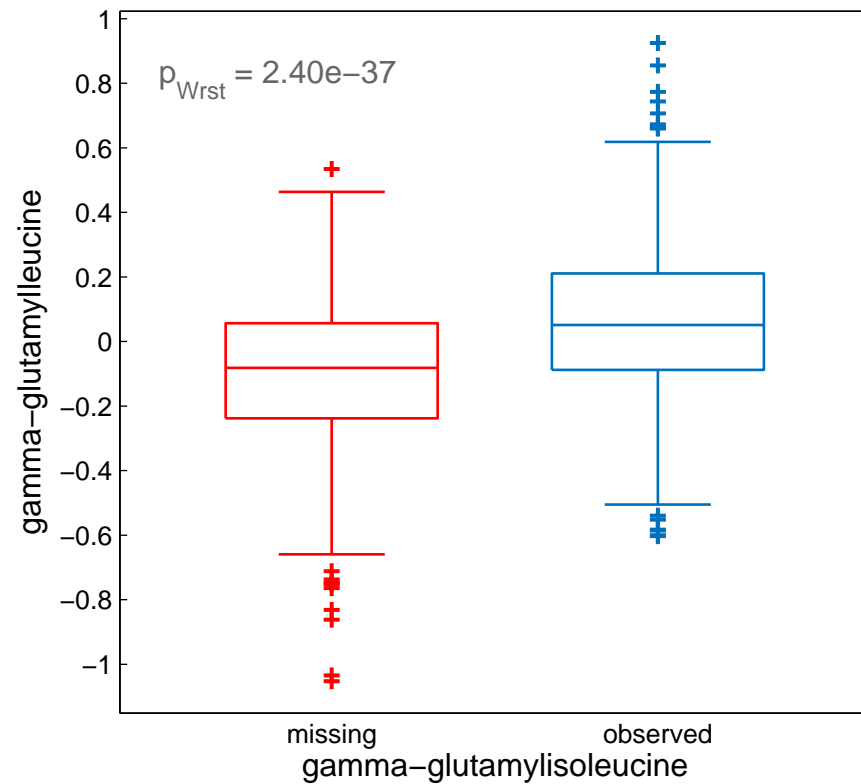
Concentrations of gamma-glutamylvaline
in missing and observed estrone 3-sulfate



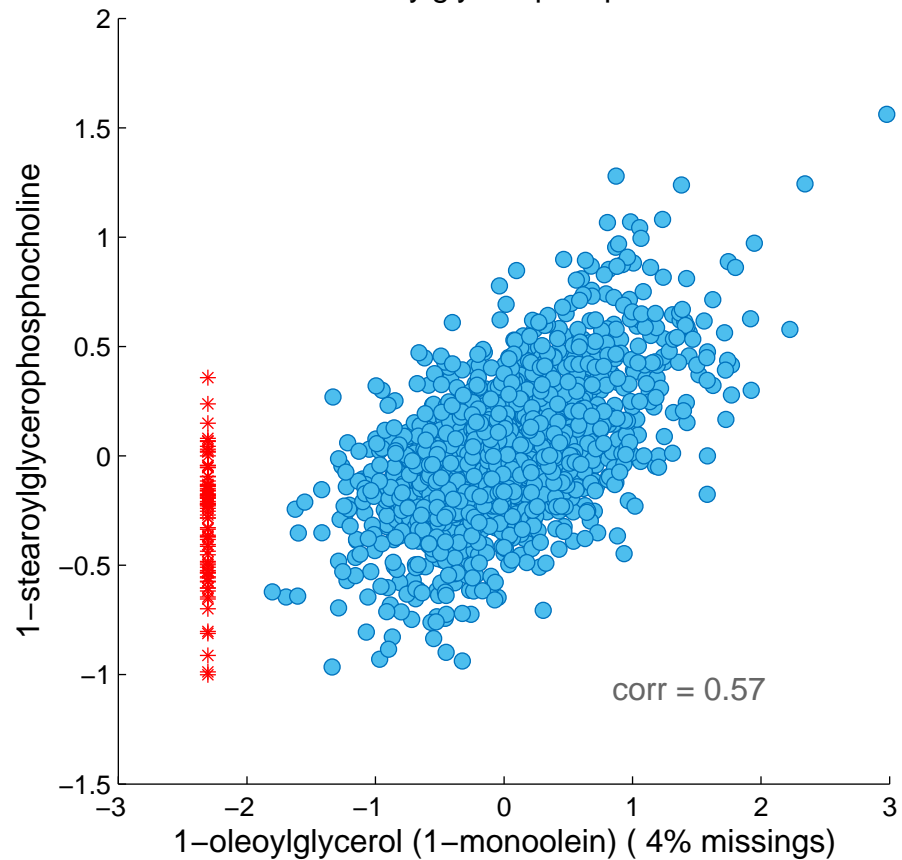
Missing values of gamma-glutamylisoleucine
in gamma-glutamylleucine



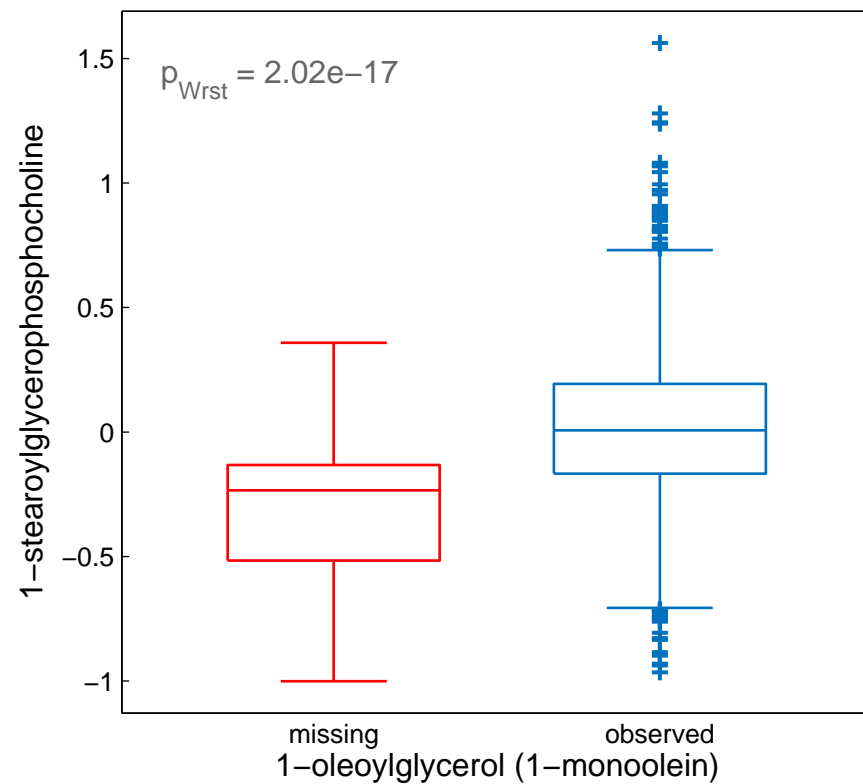
Concentrations of gamma-glutamylleucine in
missing and observed gamma-glutamylisoleucine



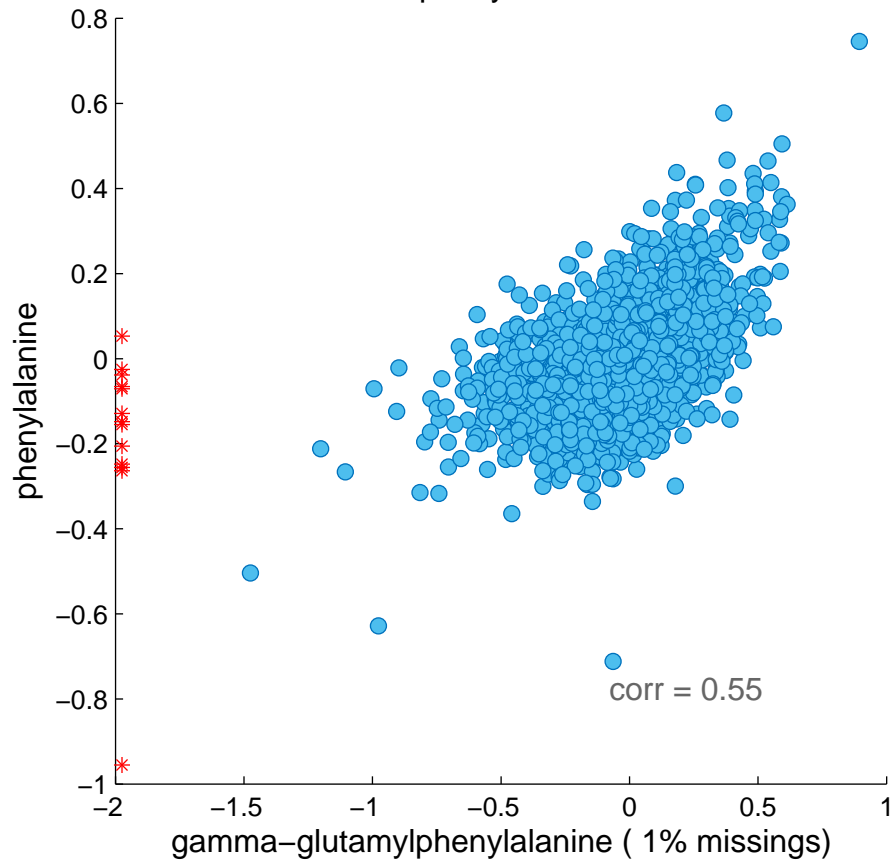
Missing values of 1-oleoylglycerol (1-monoolein)
in 1-stearoylglycerophosphocholine



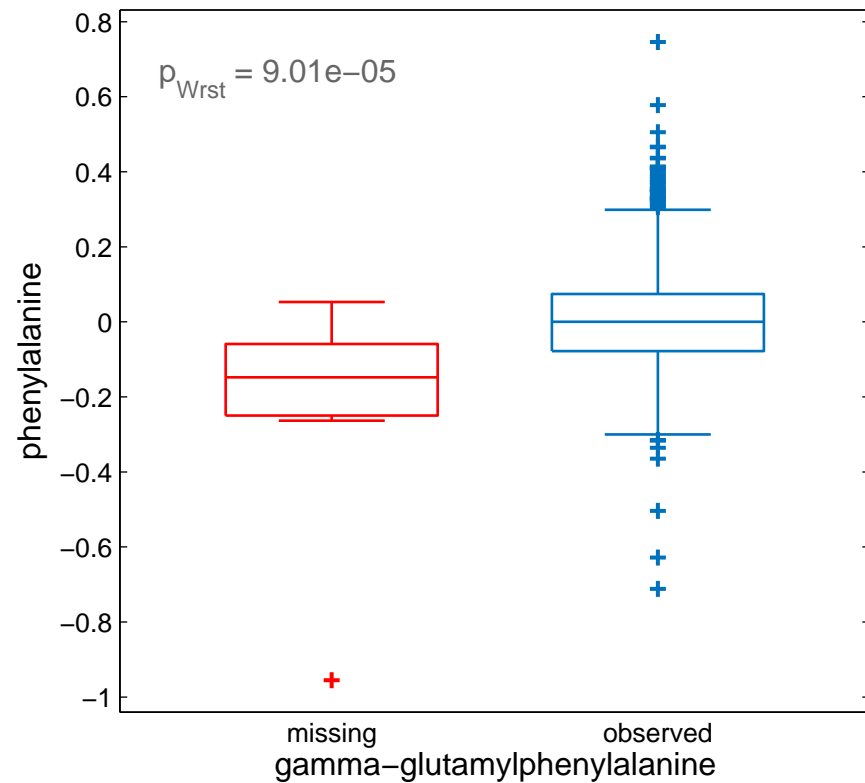
Concentrations of 1-stearoylglycerophosphocholine in
missing and observed 1-oleoylglycerol (1-monoolein)



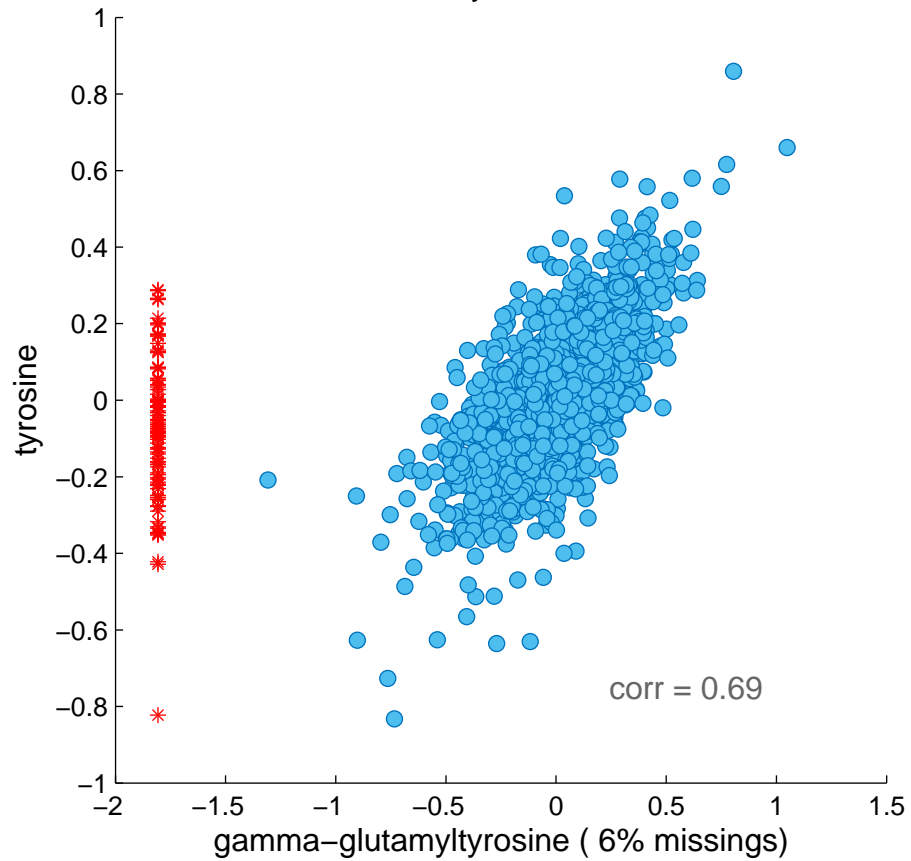
Missing values of gamma-glutamylphenylalanine
in phenylalanine



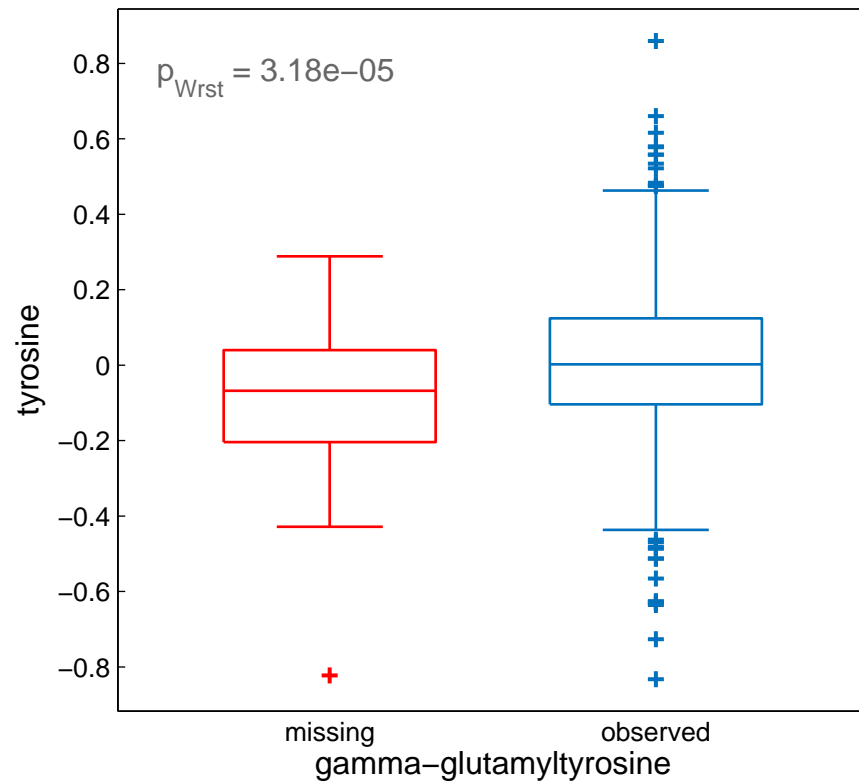
Concentrations of phenylalanine in
missing and observed gamma-glutamylphenylalanine



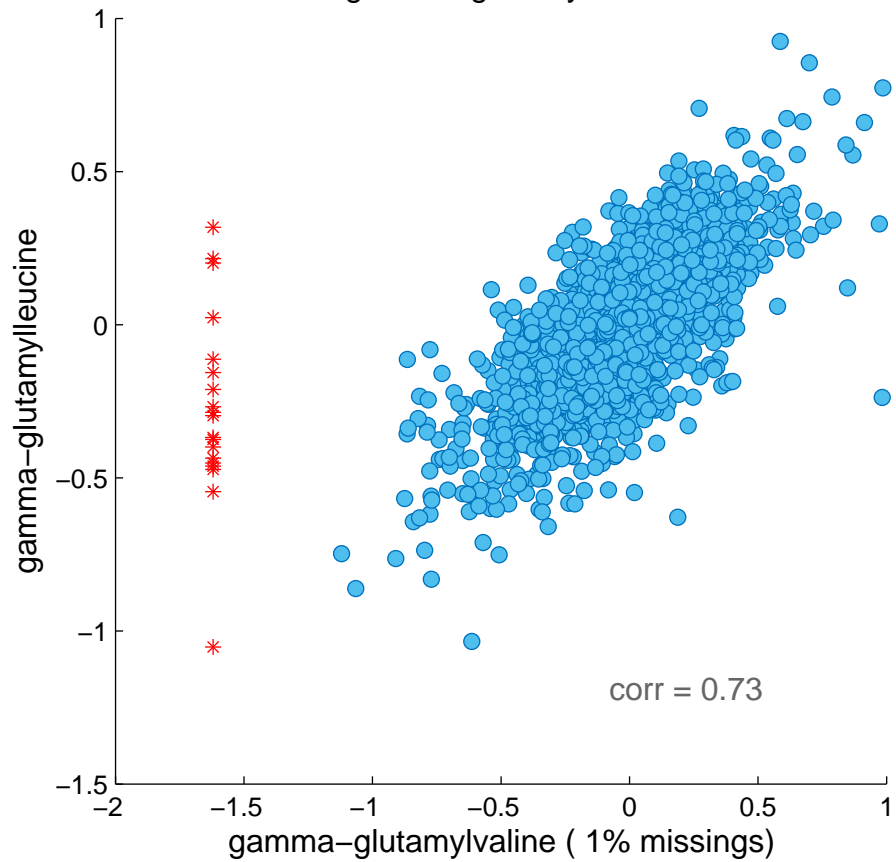
Missing values of gamma-glutamyltyrosine in tyrosine



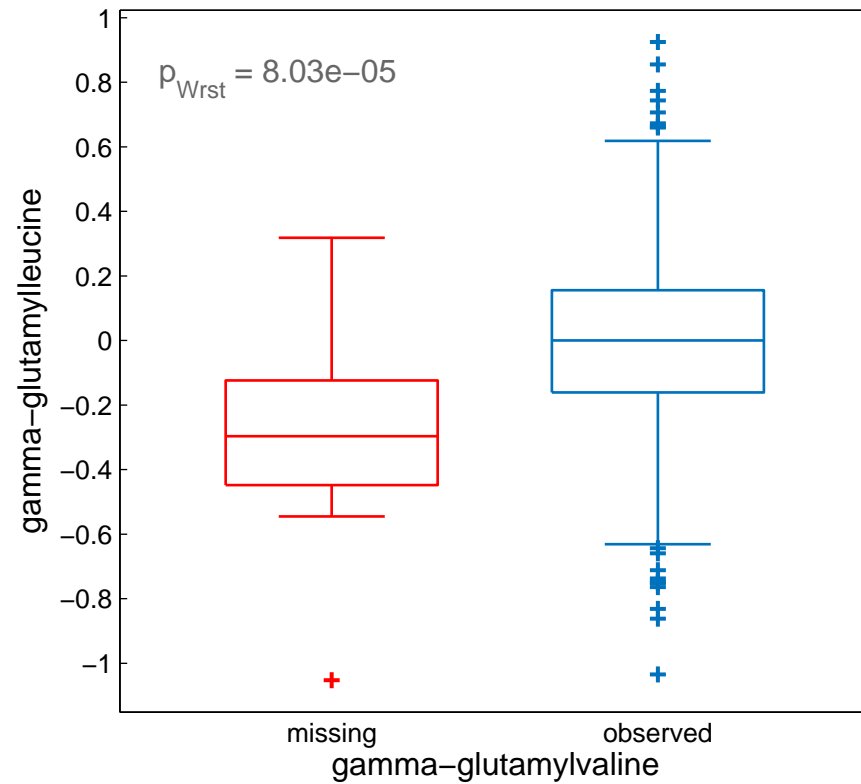
Concentrations of tyrosine in missing and observed gamma-glutamyltyrosine



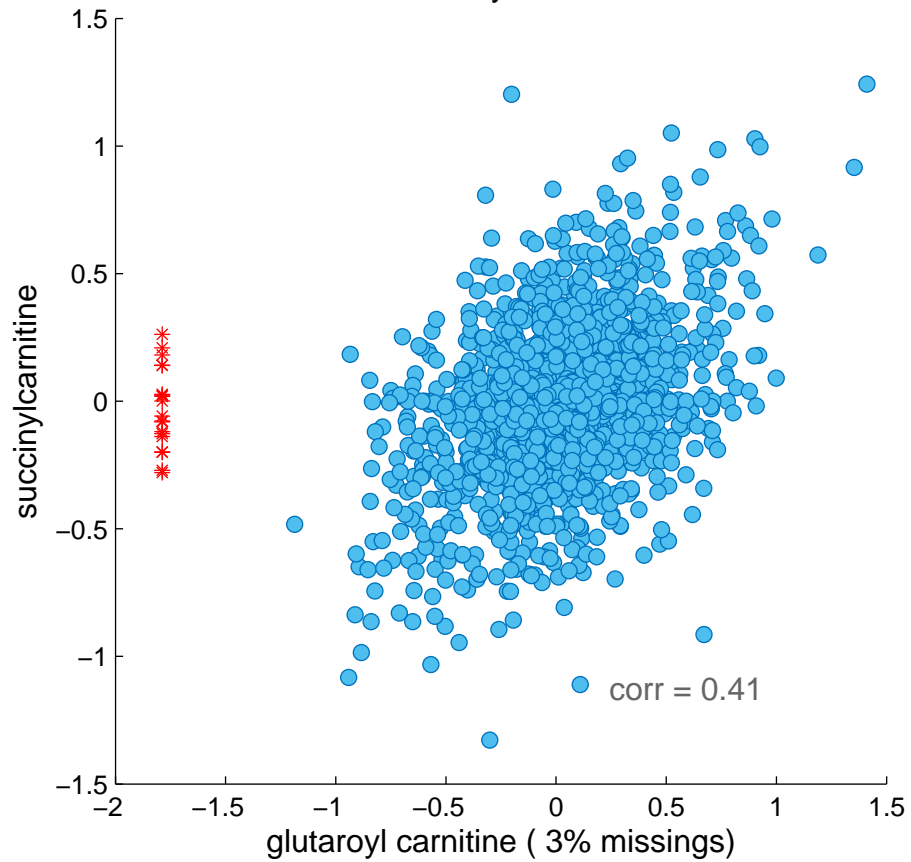
Missing values of gamma-glutamylvaline
in gamma-glutamylleucine



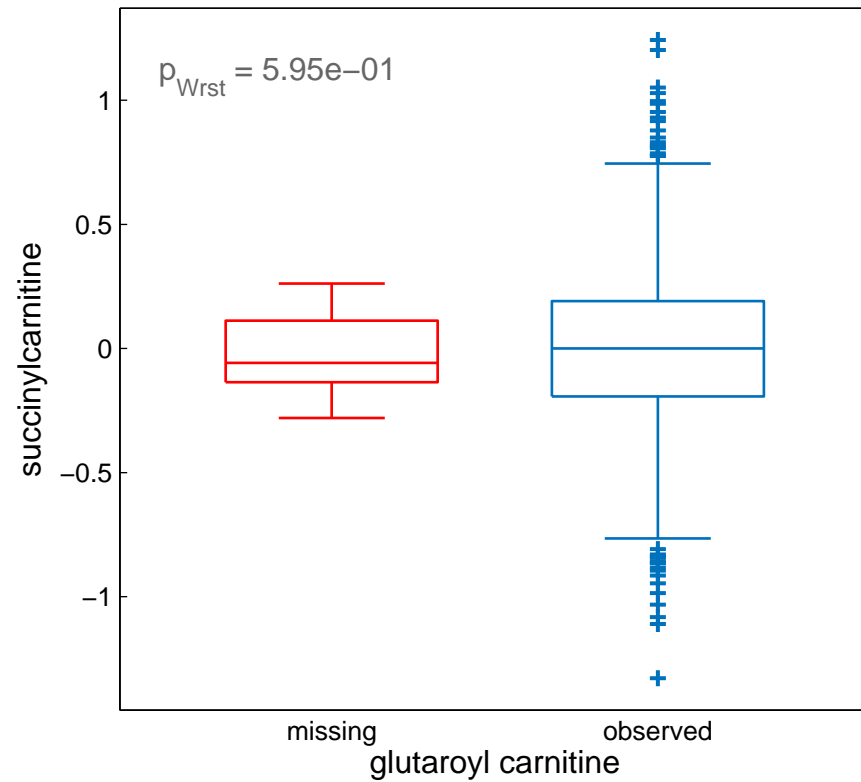
Concentrations of gamma-glutamylleucine in
missing and observed gamma-glutamylvaline



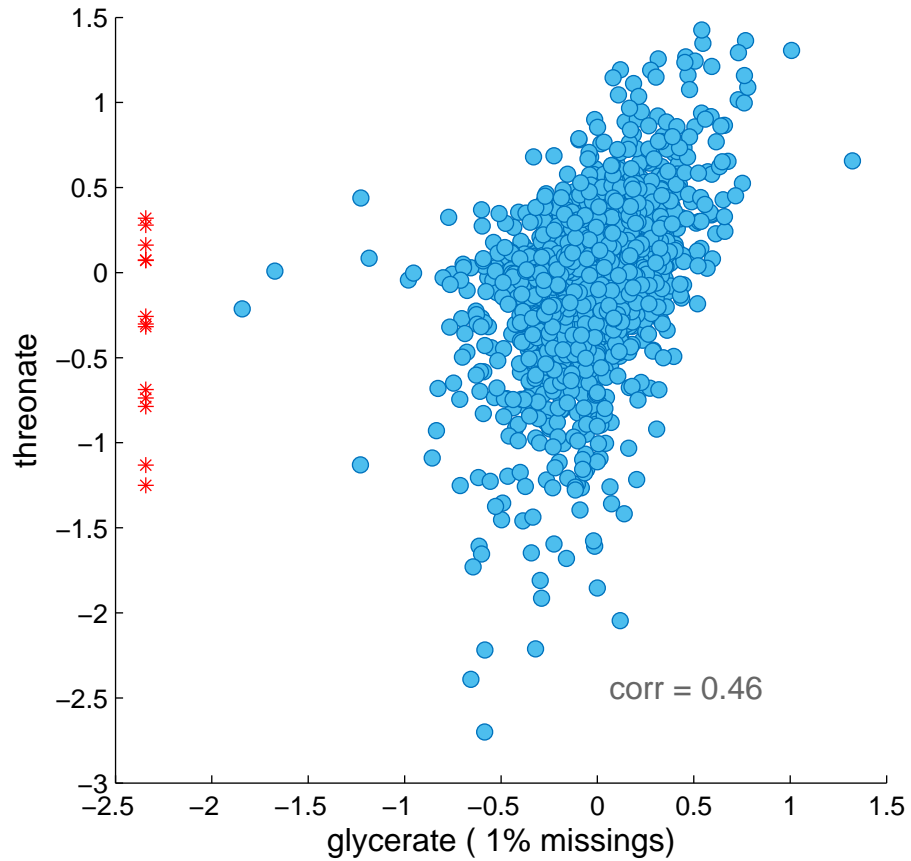
Missing values of glutaroyl carnitine
in succinylcarnitine



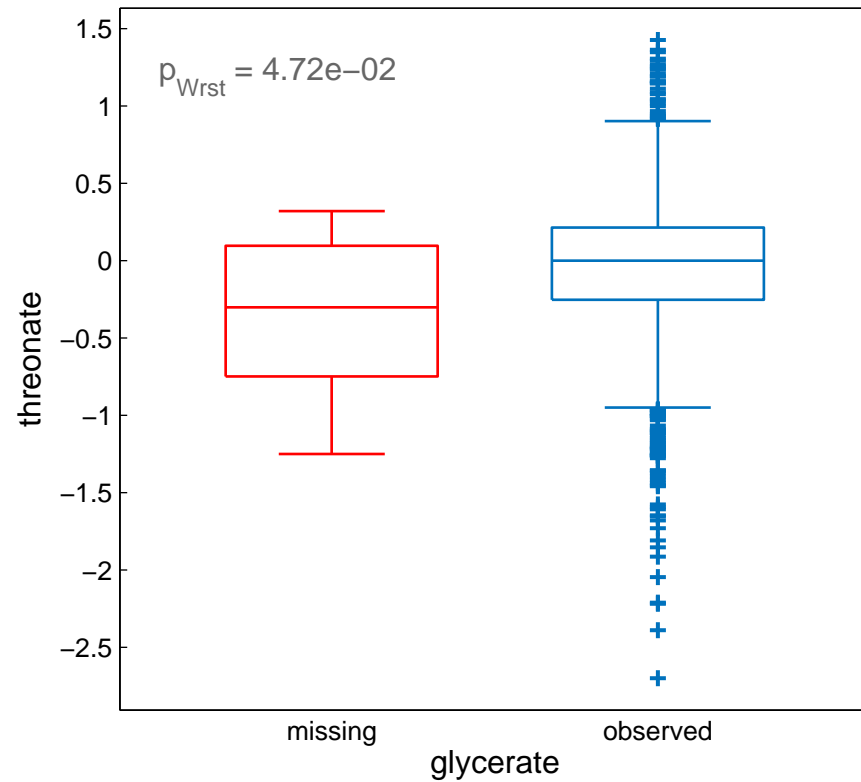
Concentrations of succinylcarnitine in
missing and observed glutaroyl carnitine



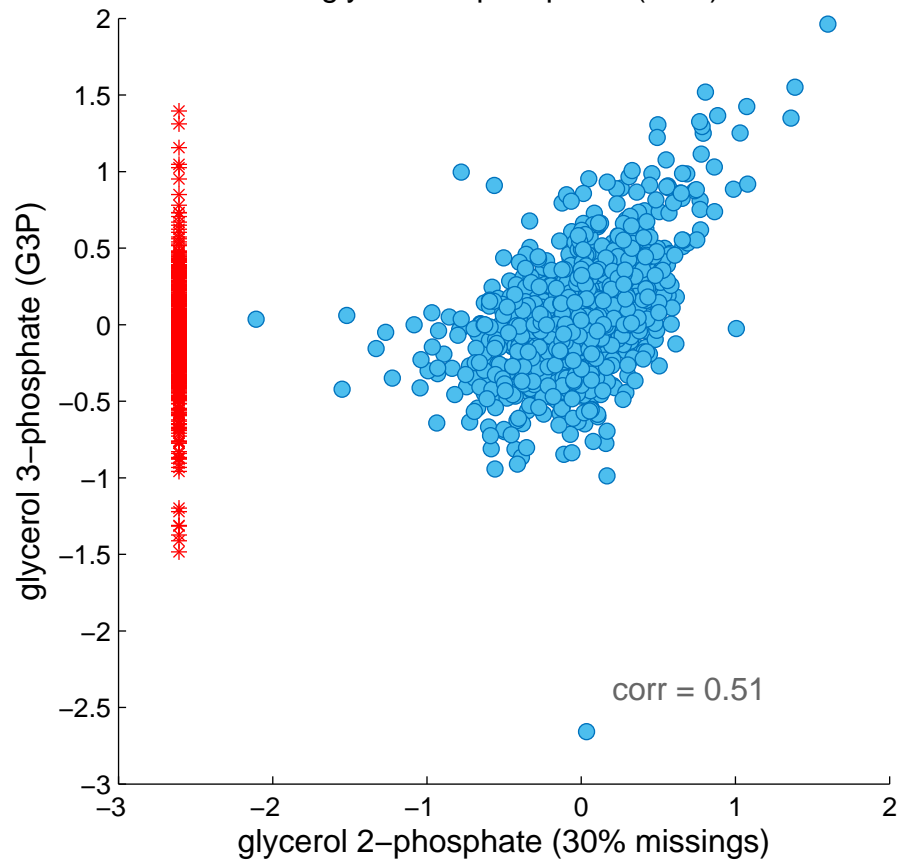
Missing values of glycerate
in threonate



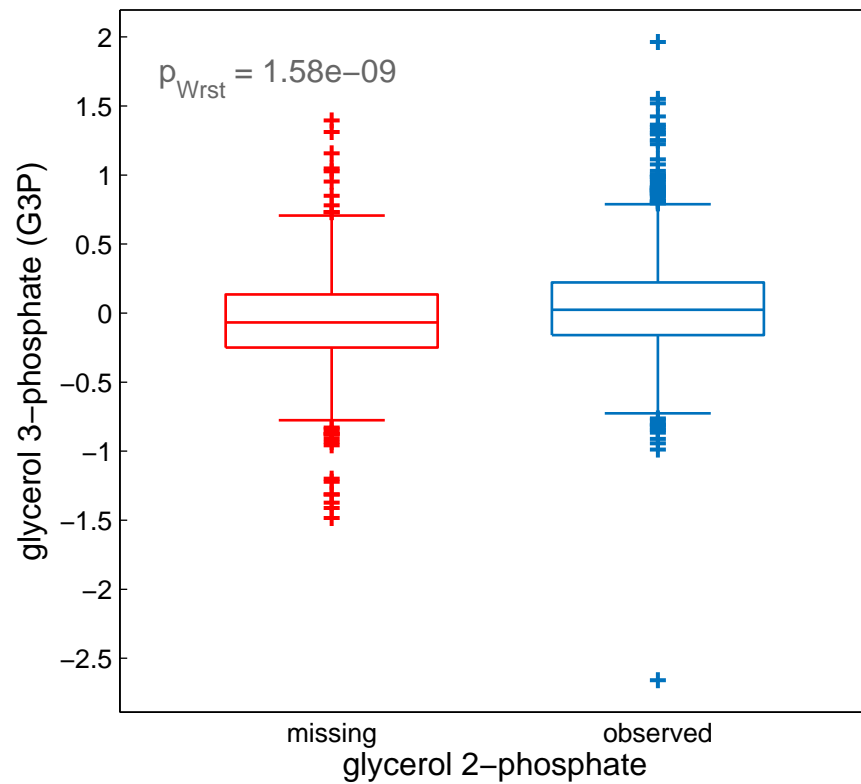
Concentrations of threonate in
missing and observed glycerate



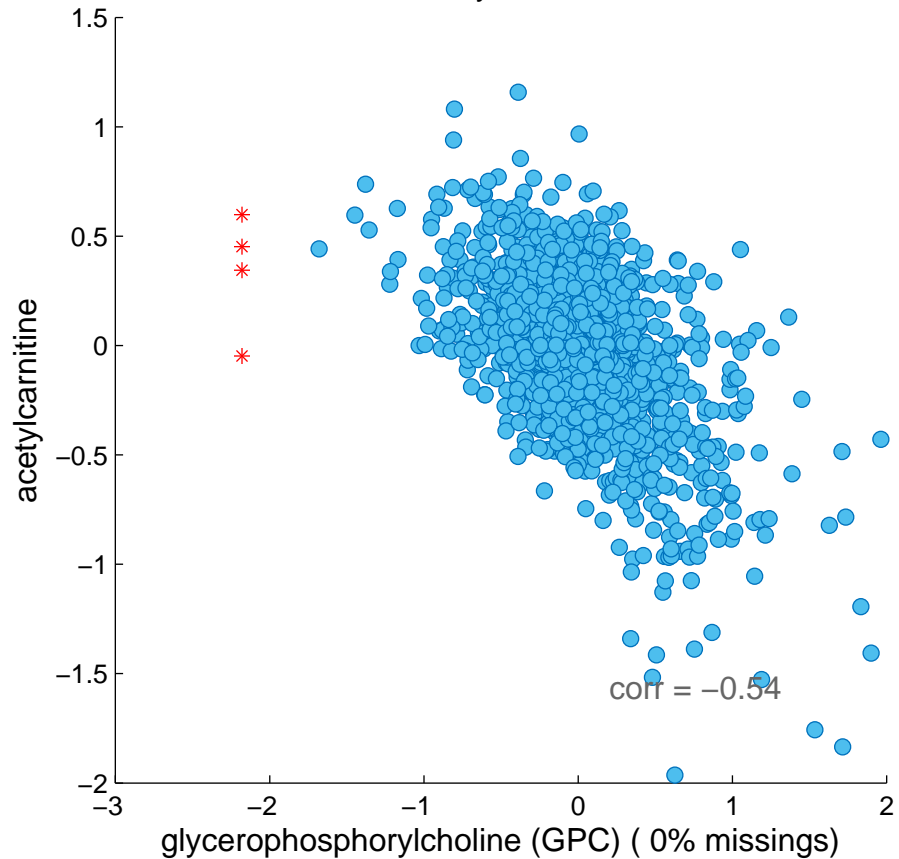
Missing values of glycerol 2-phosphate in glycerol 3-phosphate (G3P)



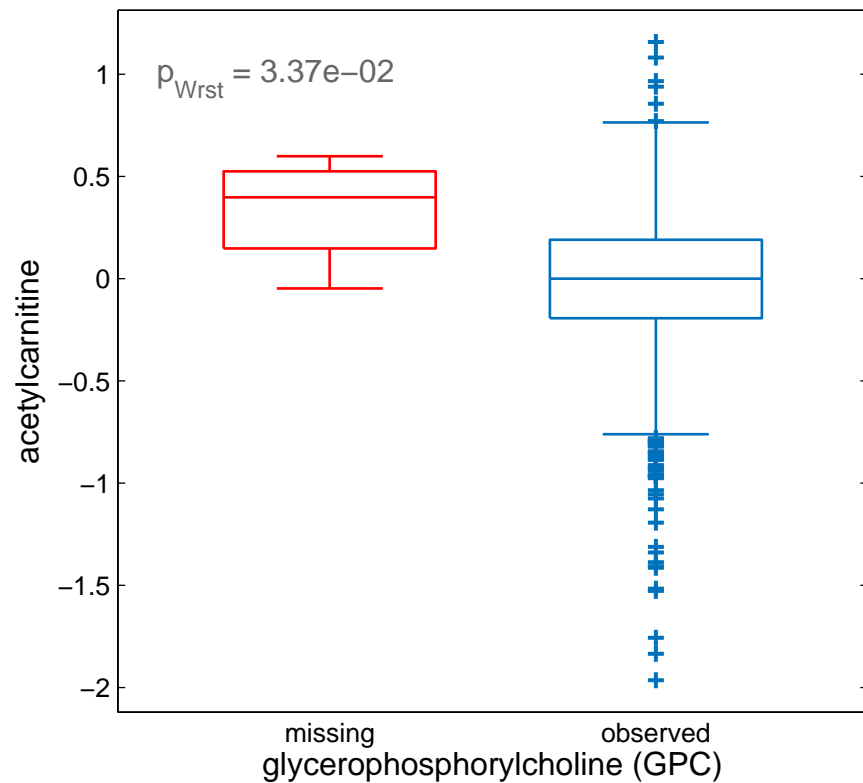
Concentrations of glycerol 3-phosphate (G3P) in missing and observed glycerol 2-phosphate



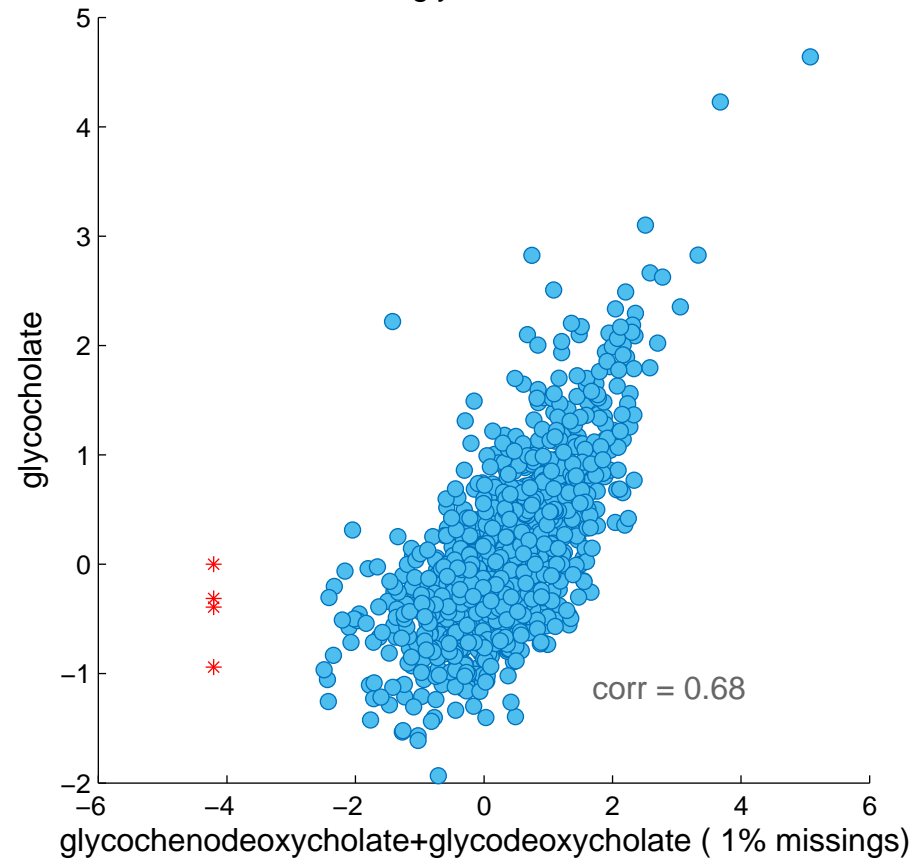
Missing values of glycerophosphorylcholine (GPC) in acetylcarnitine



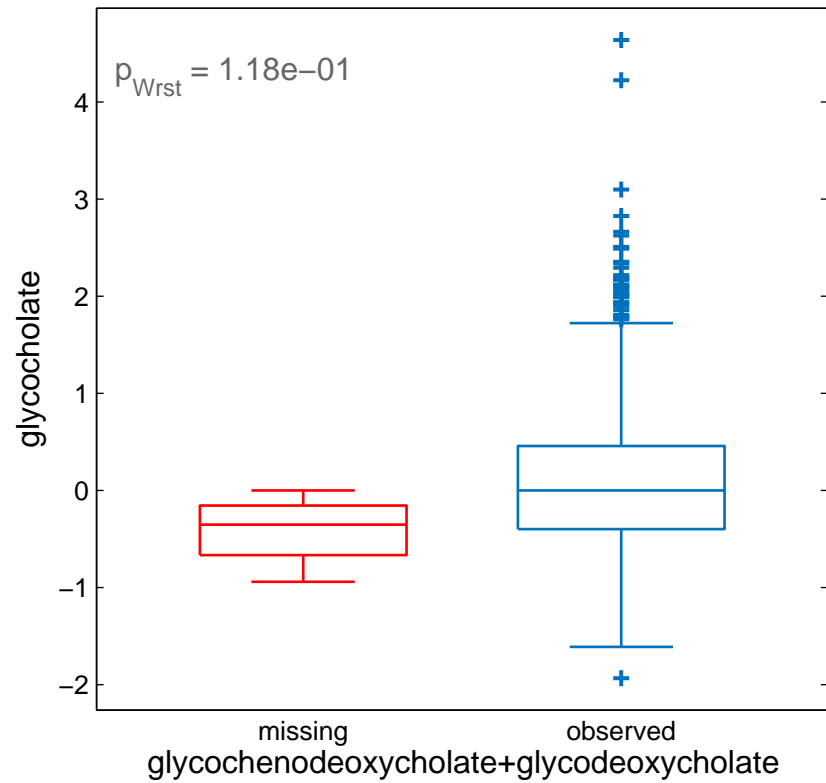
Concentrations of acetylcarnitine in missing and observed glycerophosphorylcholine (GPC)



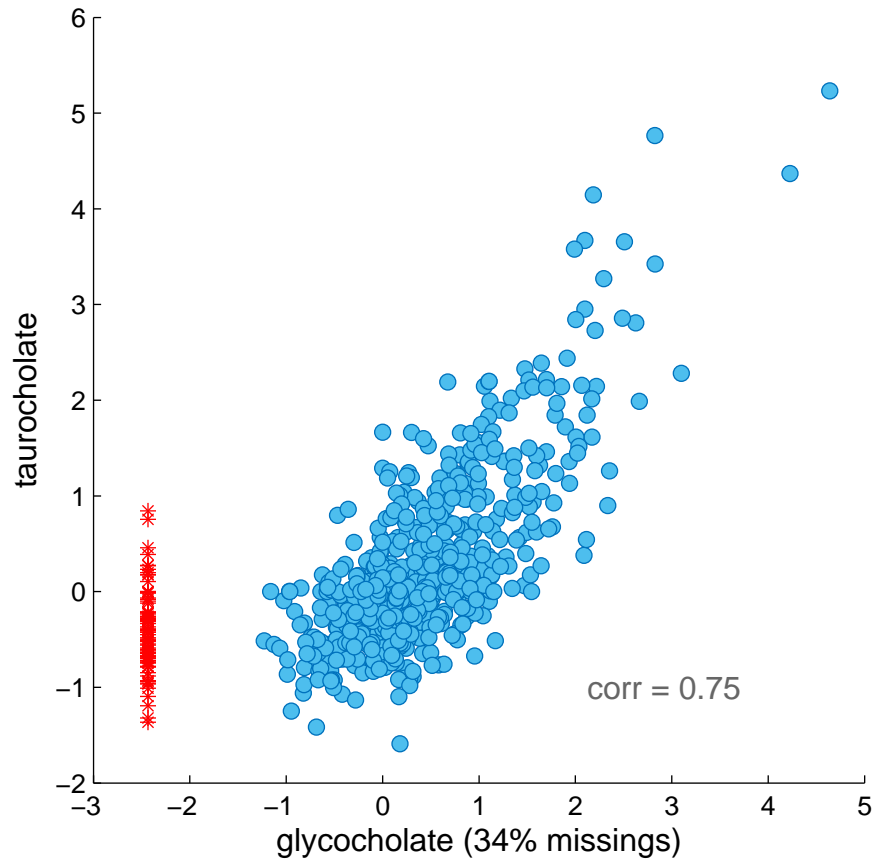
Missing values of glycochenodeoxycholate+glycodeoxycholate in glycocholate



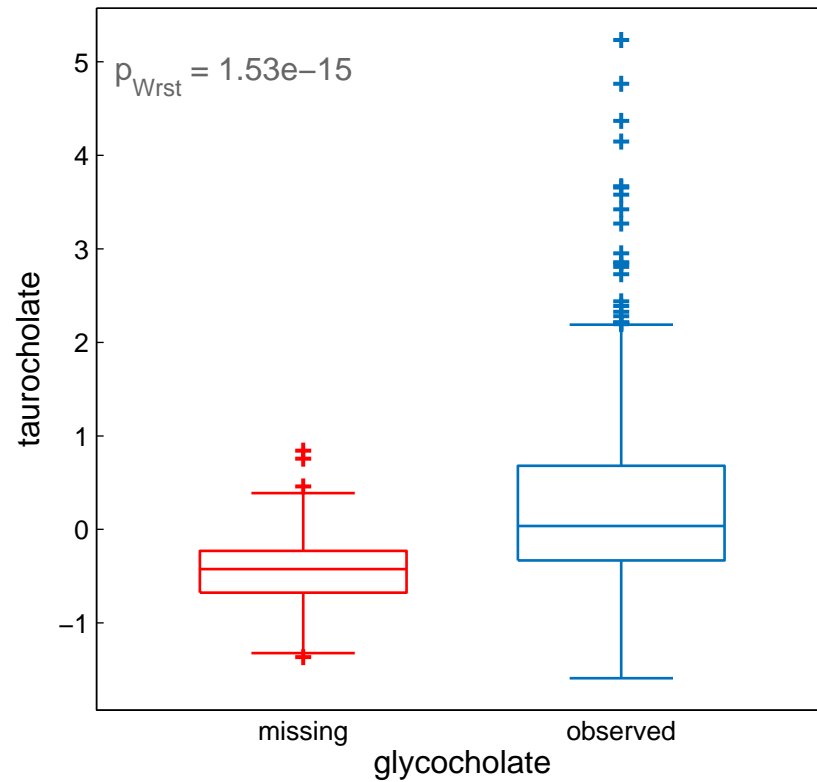
Concentrations of glycocholate in missing and observed glycochenodeoxycholate+glycodeoxycholate



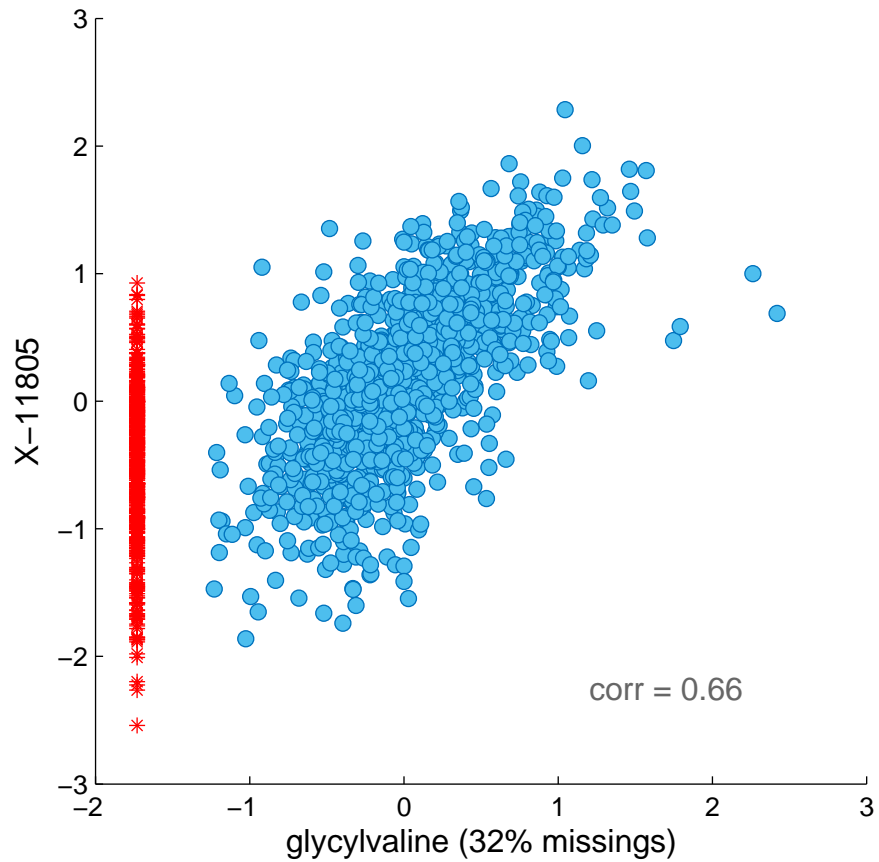
Missing values of glycocholate in taurocholate



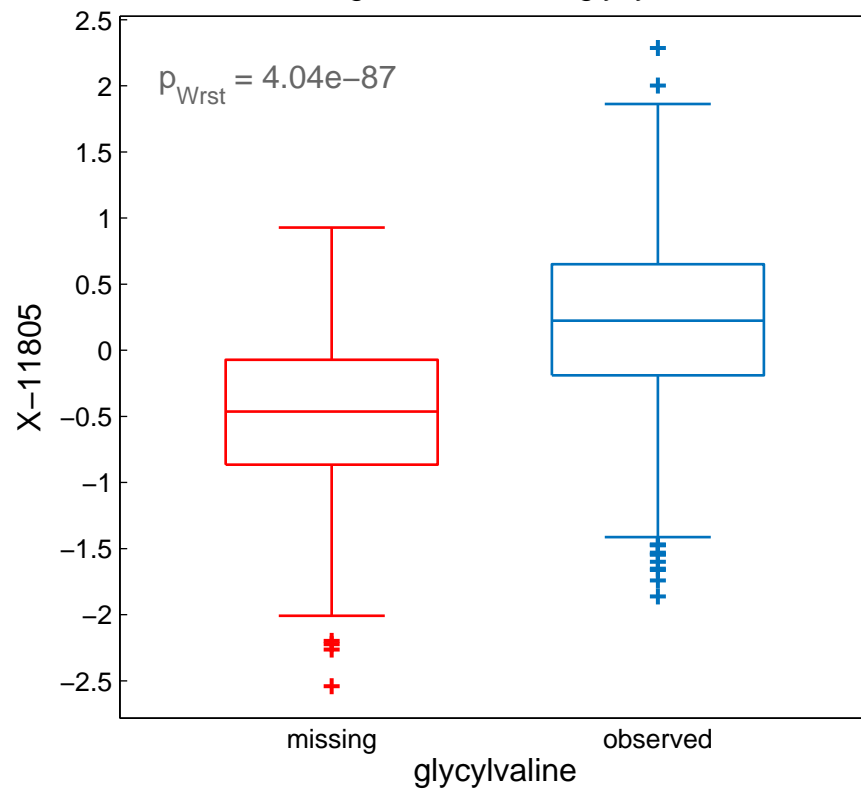
Concentrations of taurocholate in missing and observed glycocholate



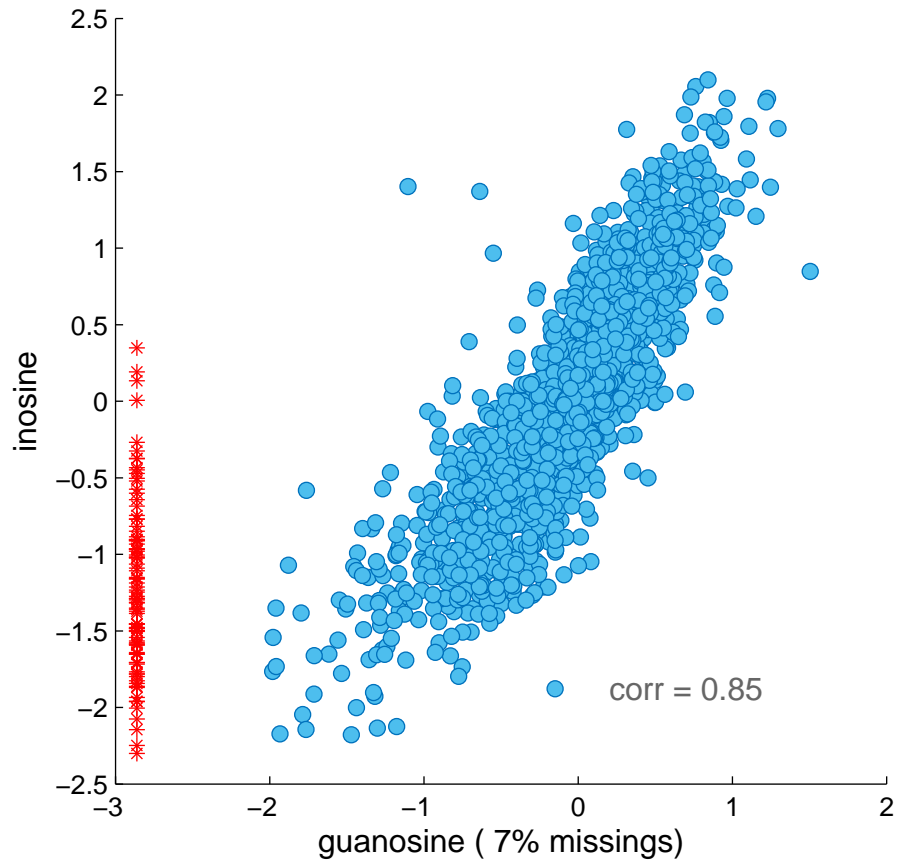
Missing values of glycylvaline
in X-11805



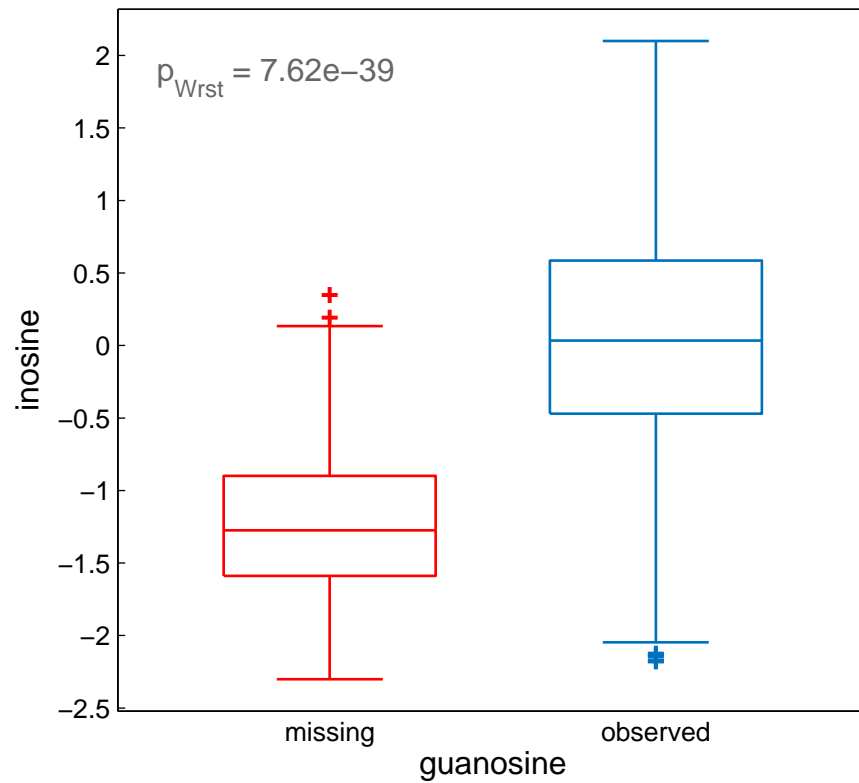
Concentrations of X-11805 in
missing and observed glycylvaline



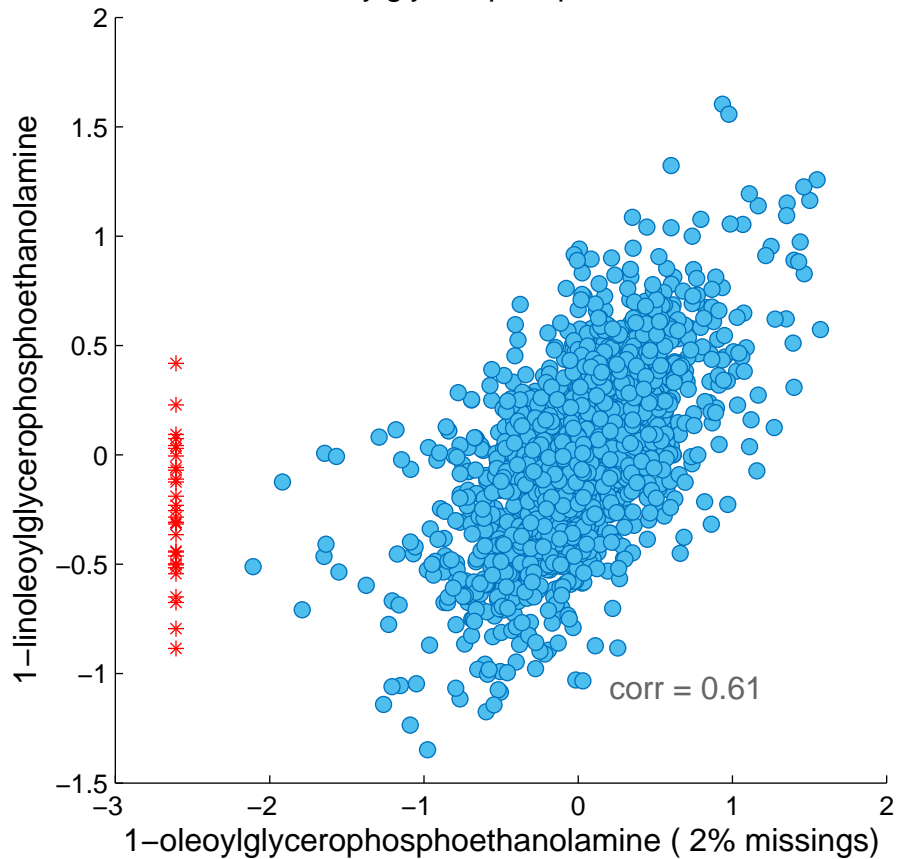
Missing values of guanosine
in inosine



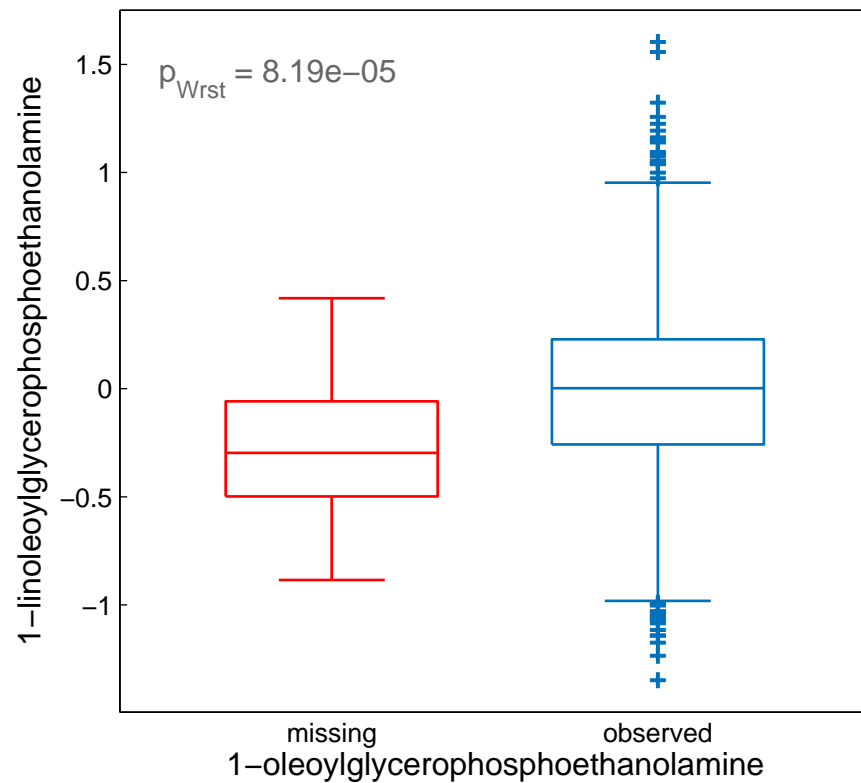
Concentrations of inosine in
missing and observed guanosine



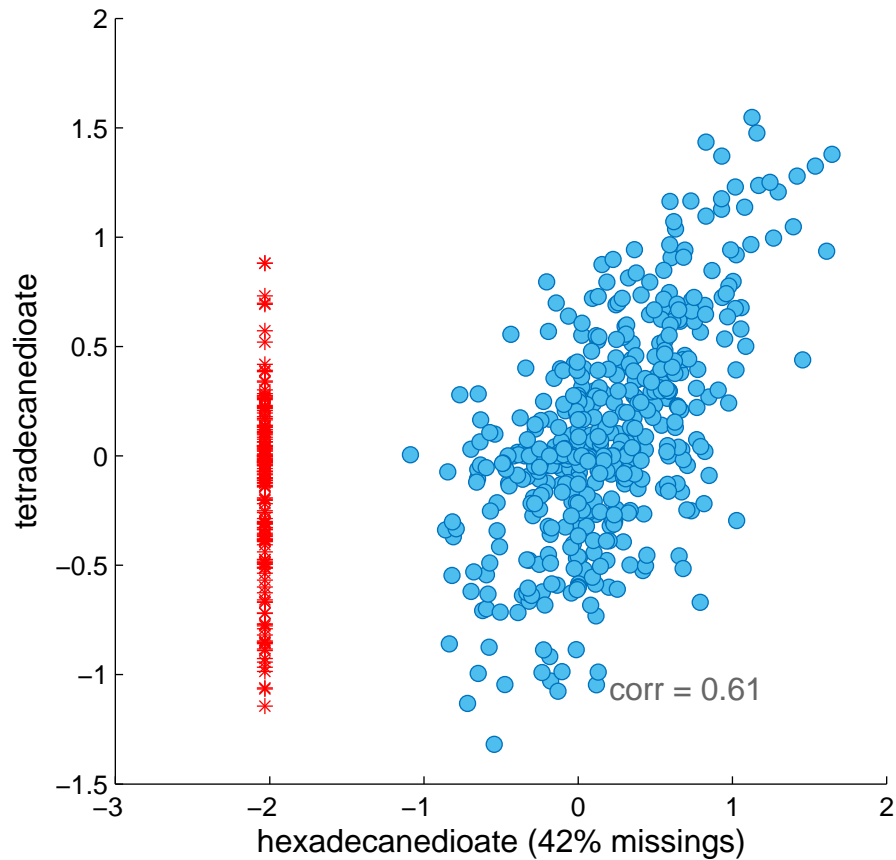
Missing values of 1-oleoylglycerophosphoethanolamine in 1-linoleoylglycerophosphoethanolamine



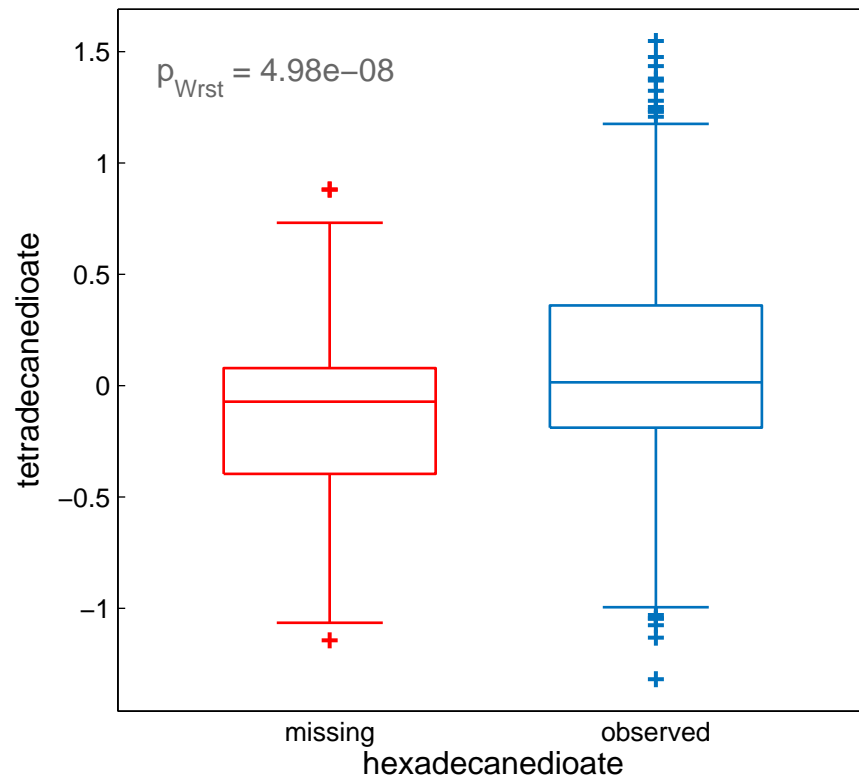
Concentrations of 1-linoleoylglycerophosphoethanolamine in missing and observed 1-oleoylglycerophosphoethanolamine



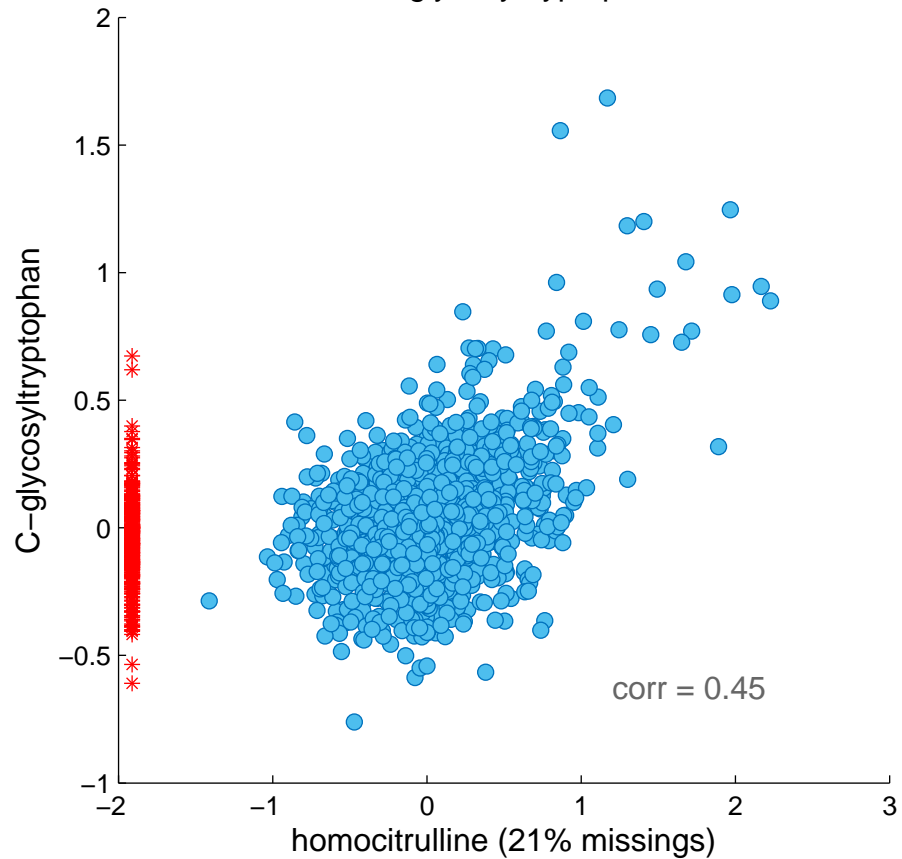
Missing values of hexadecanedioate
in tetradecanedioate



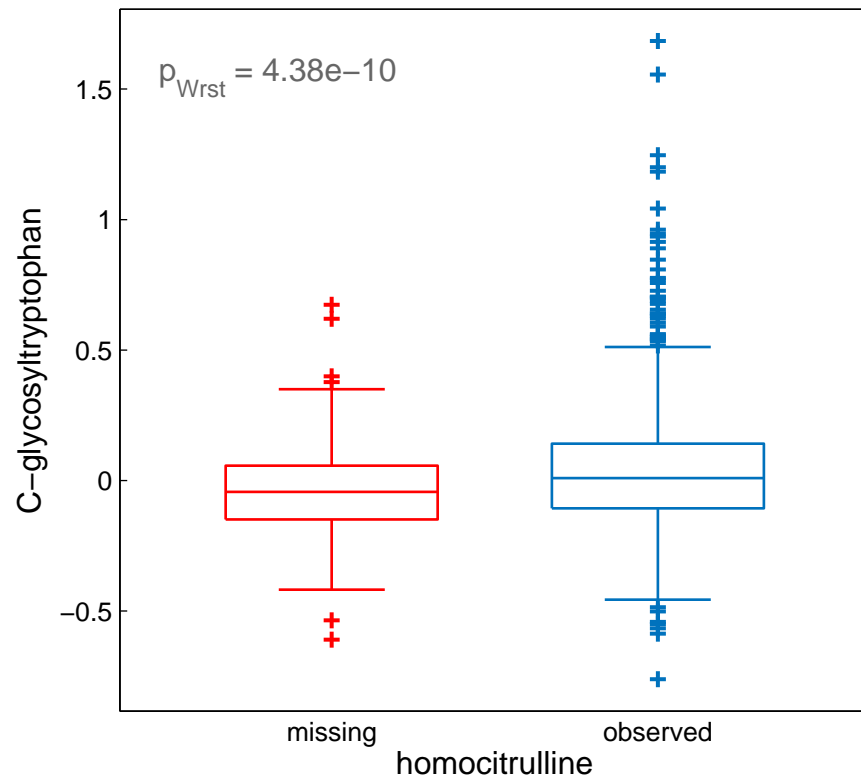
Concentrations of tetradecanedioate in
missing and observed hexadecanedioate



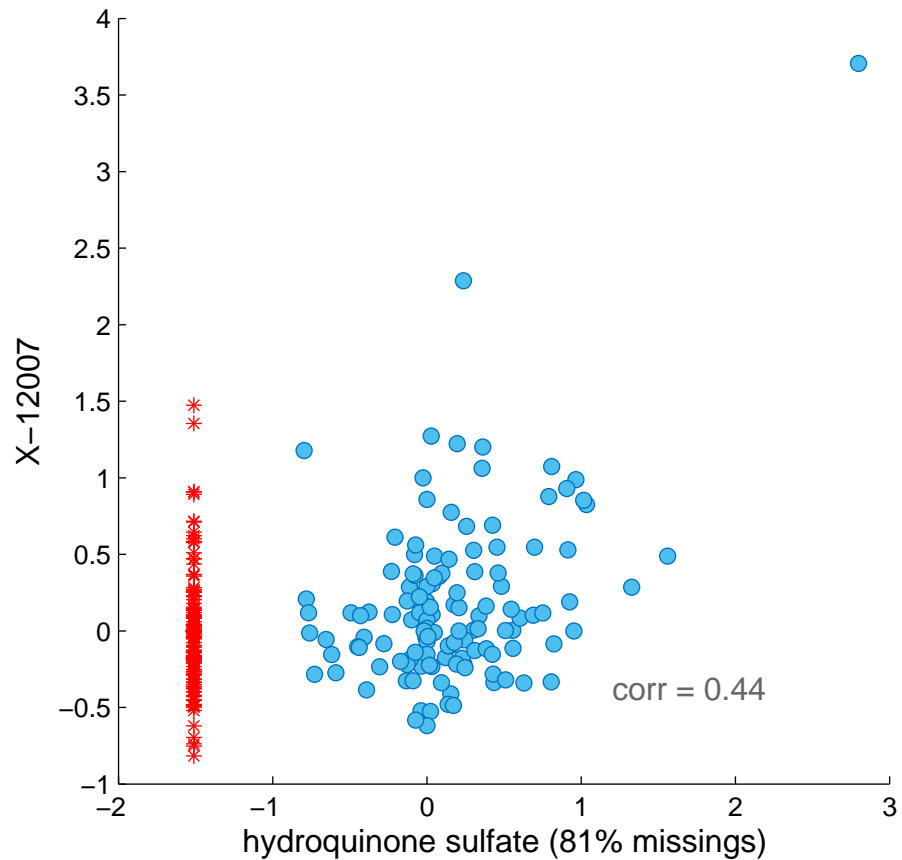
Missing values of homocitrulline
in C-glycosyltryptophan



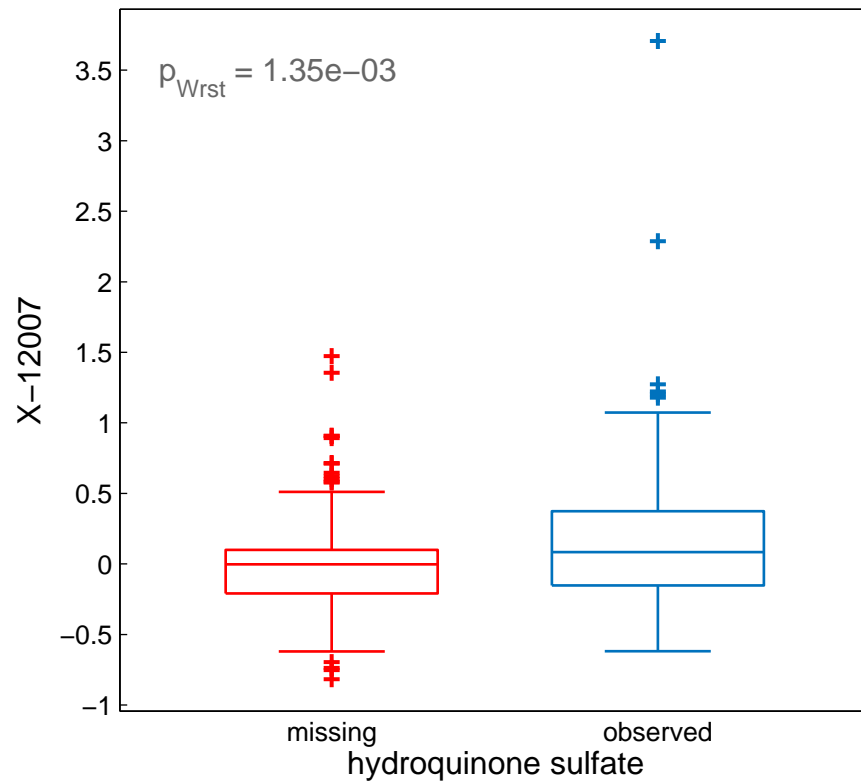
Concentrations of C-glycosyltryptophan in
missing and observed homocitrulline



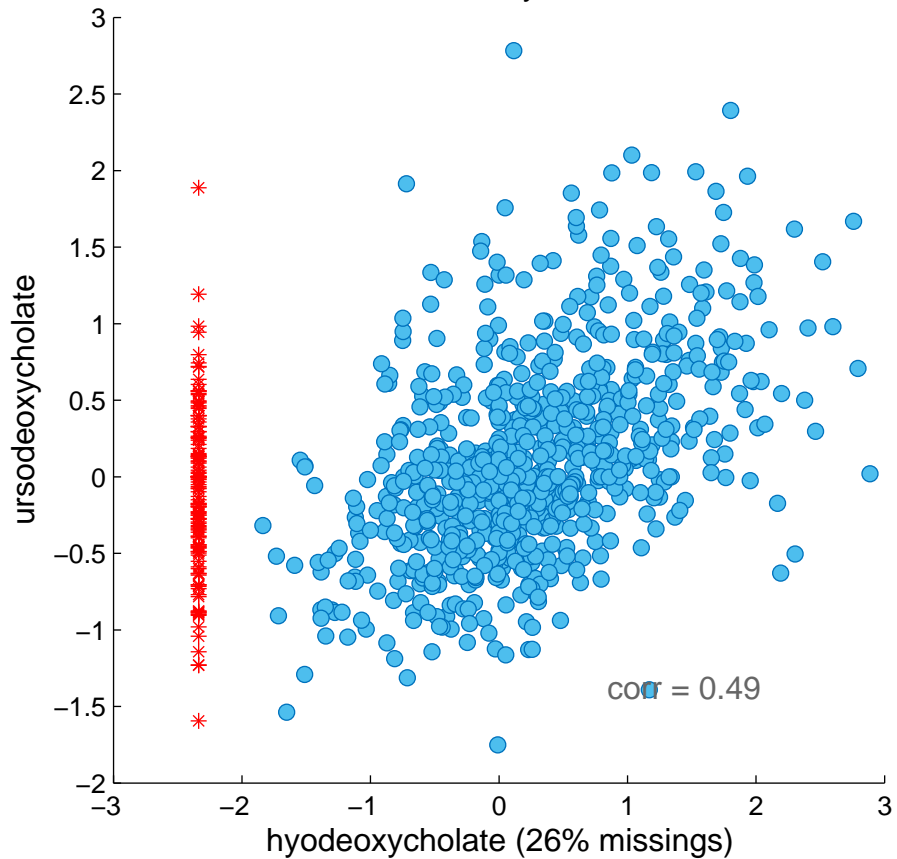
Missing values of hydroquinone sulfate
in X-12007



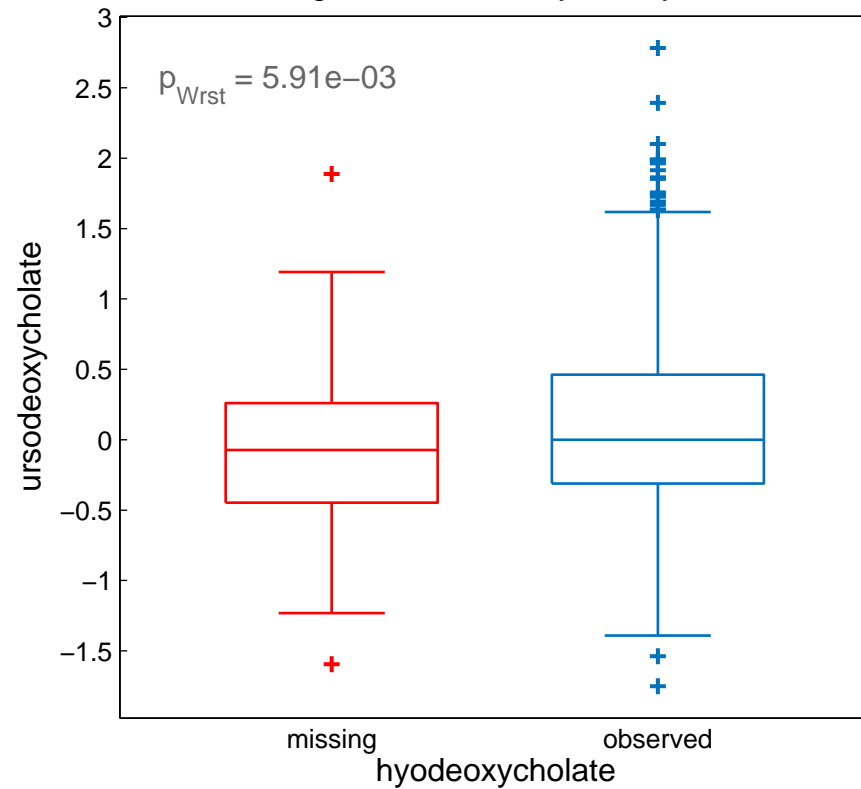
Concentrations of X-12007 in
missing and observed hydroquinone sulfate



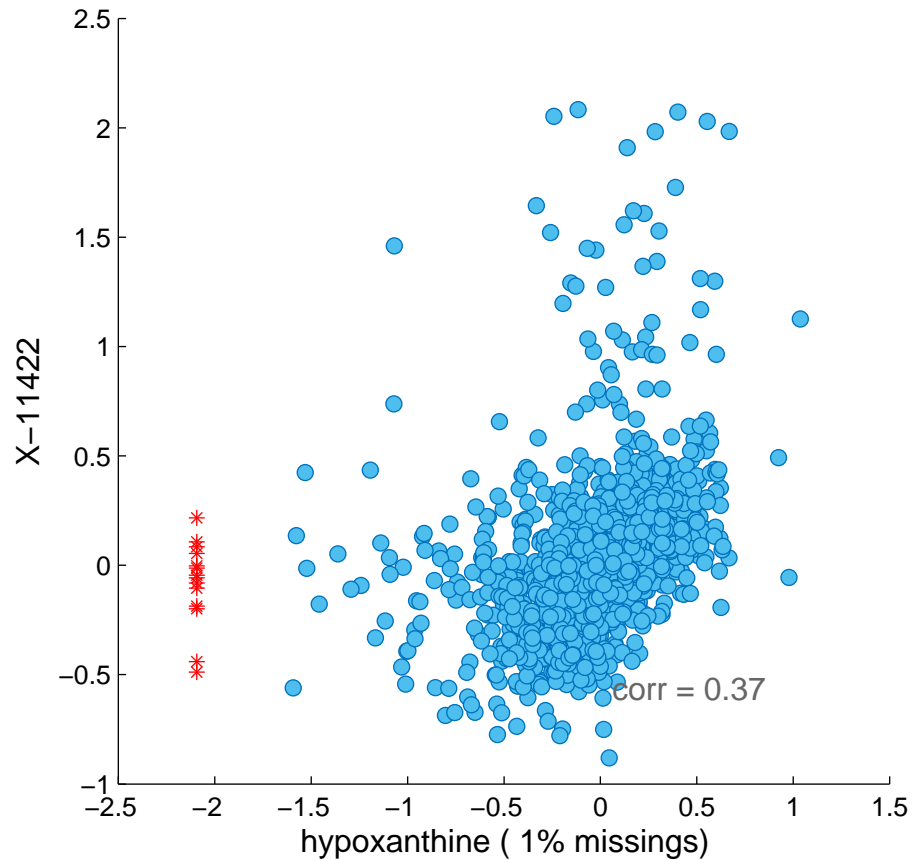
Missing values of hyodeoxycholate
in ursodeoxycholate



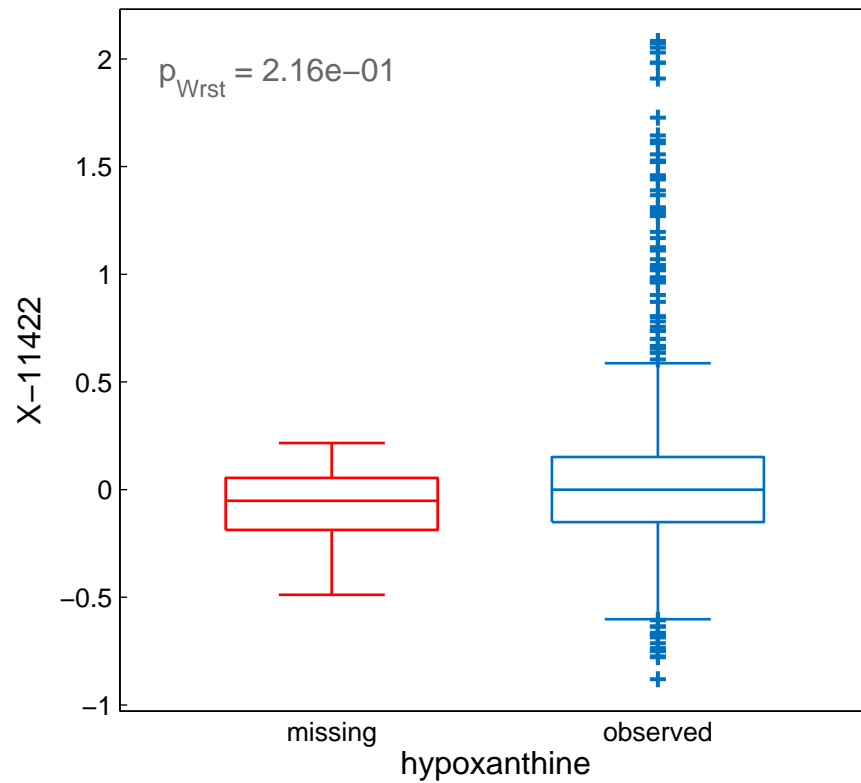
Concentrations of ursodeoxycholate in
missing and observed hyodeoxycholate



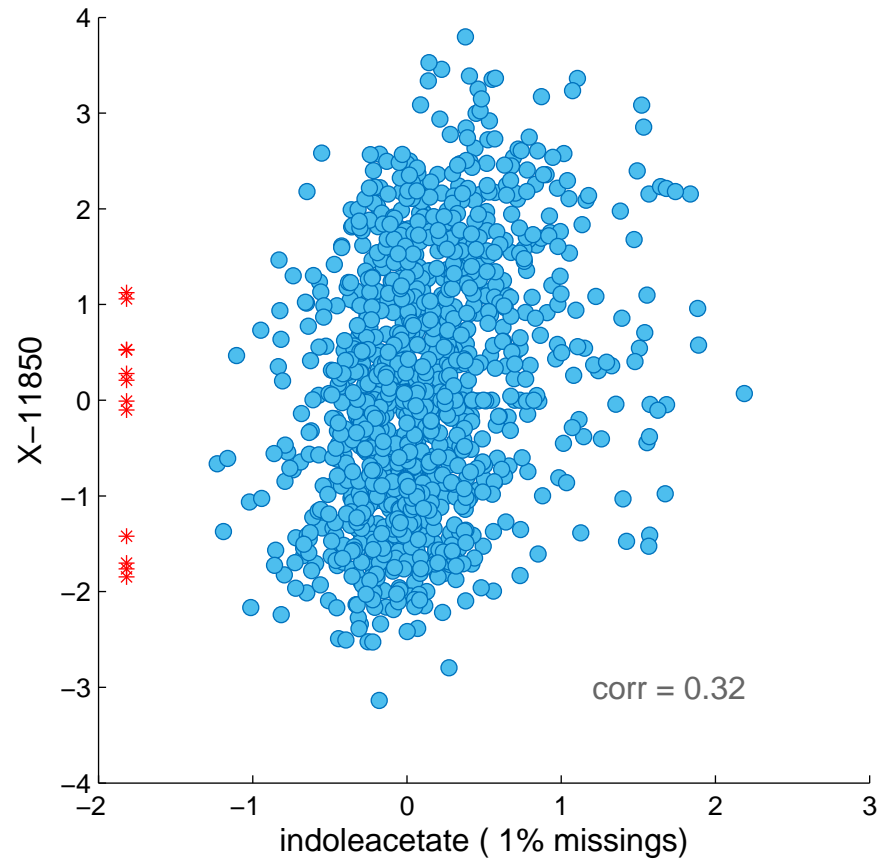
Missing values of hypoxanthine
in X-11422



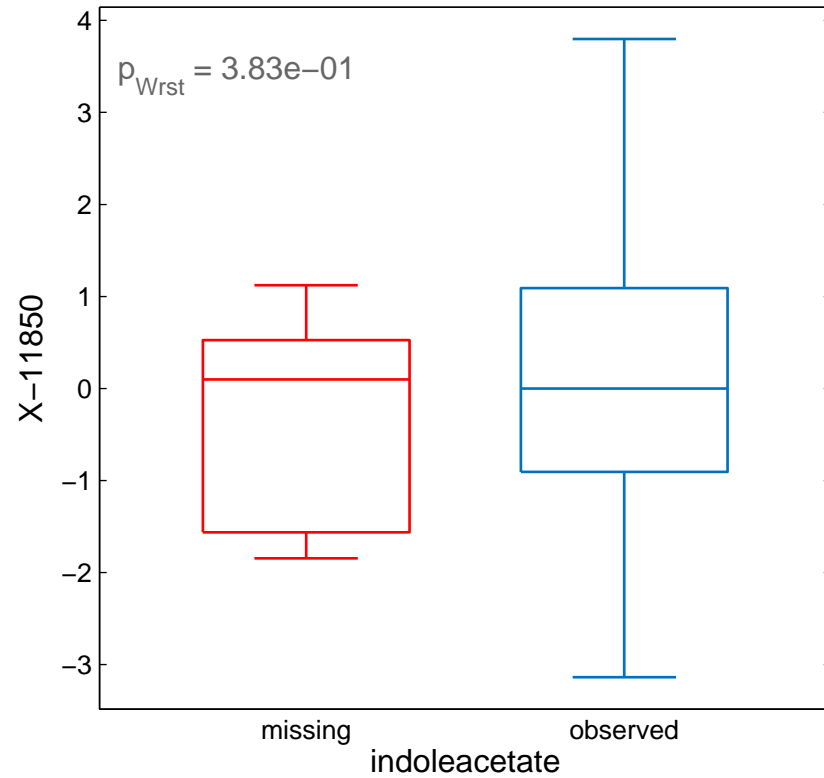
Concentrations of X-11422 in
missing and observed hypoxanthine



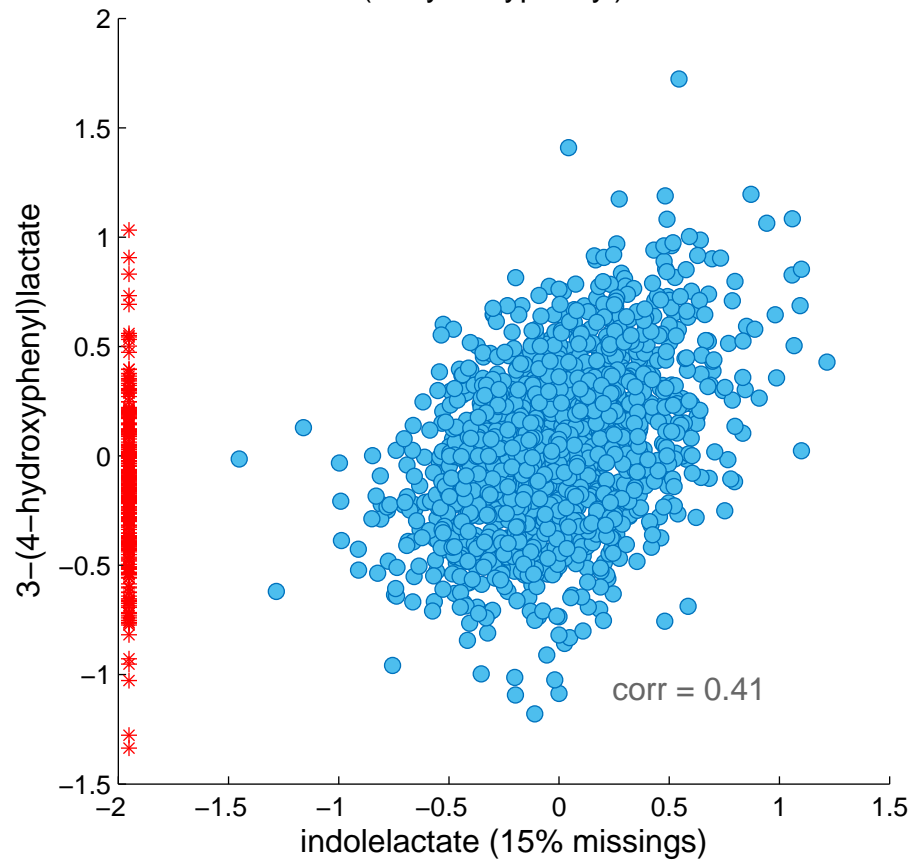
Missing values of indoleacetate
in X-11850



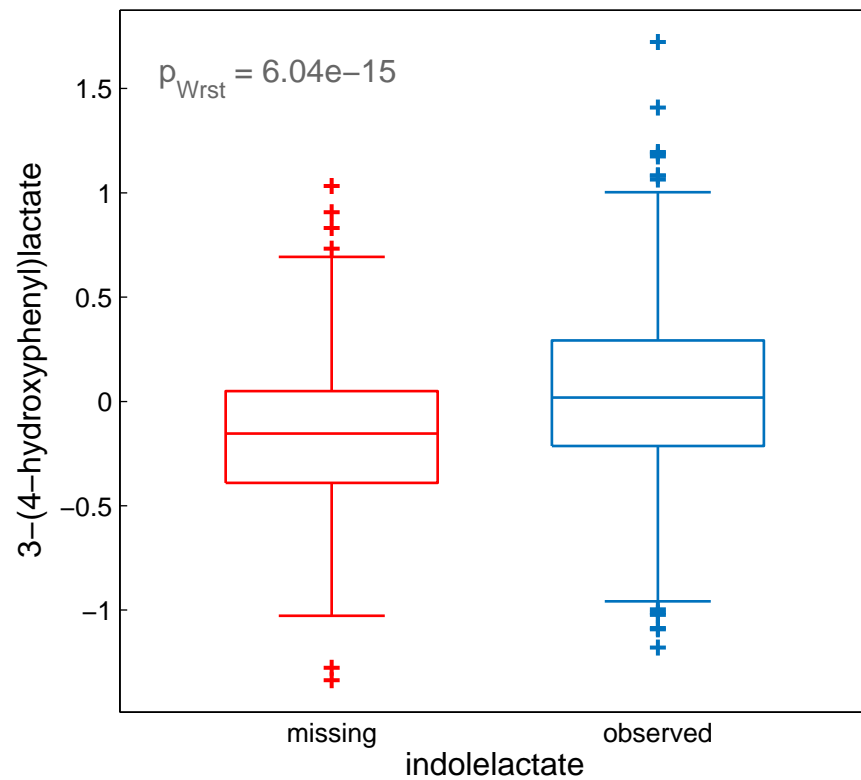
Concentrations of X-11850 in
missing and observed indoleacetate



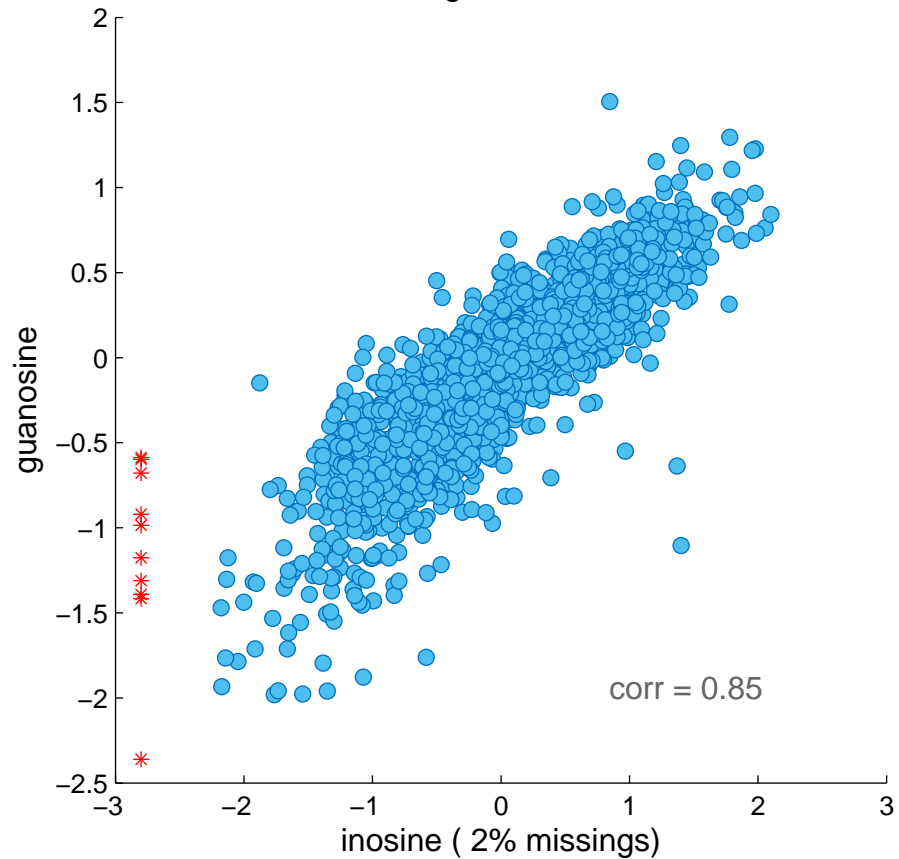
Missing values of indolelactate
in 3-(4-hydroxyphenyl)lactate



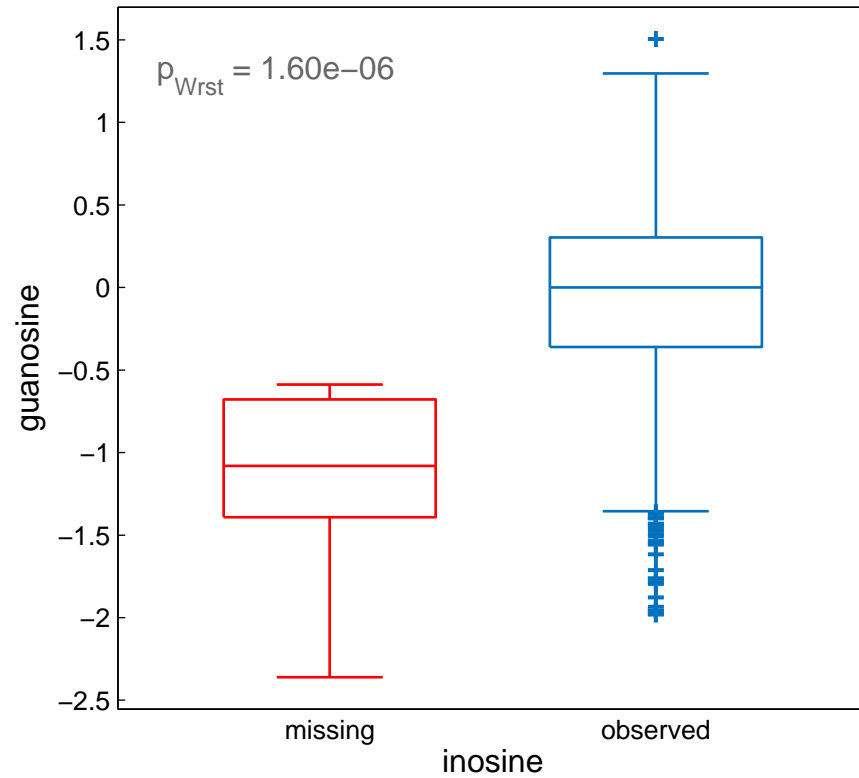
Concentrations of 3-(4-hydroxyphenyl)lactate in
missing and observed indolelactate



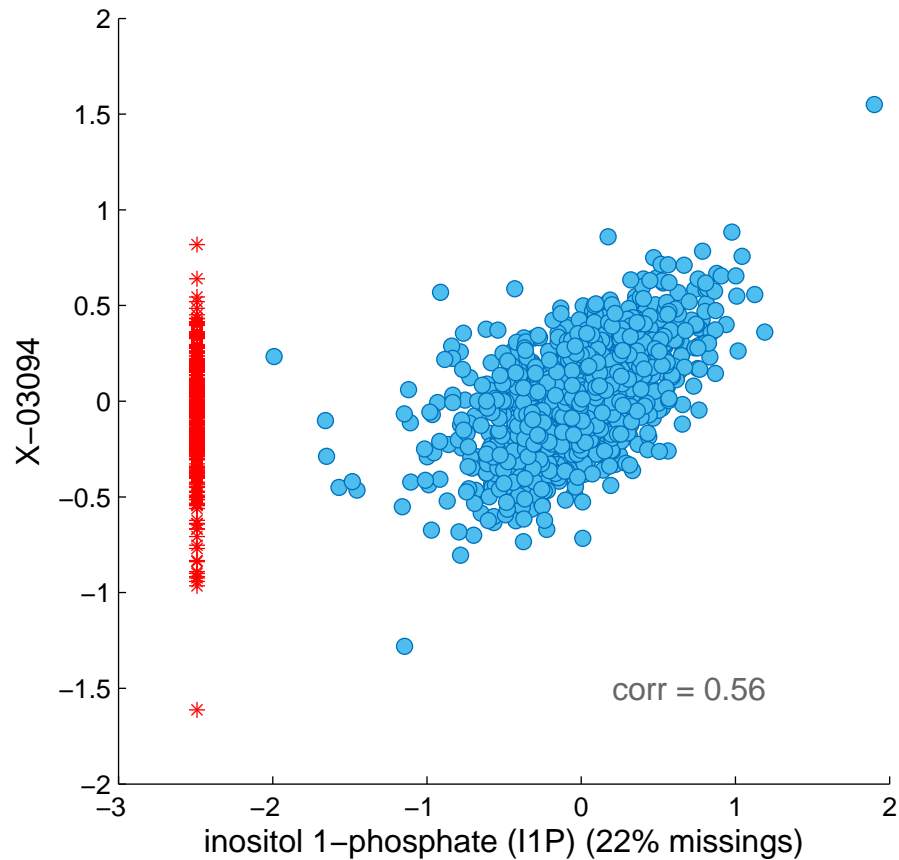
Missing values of inosine
in guanosine



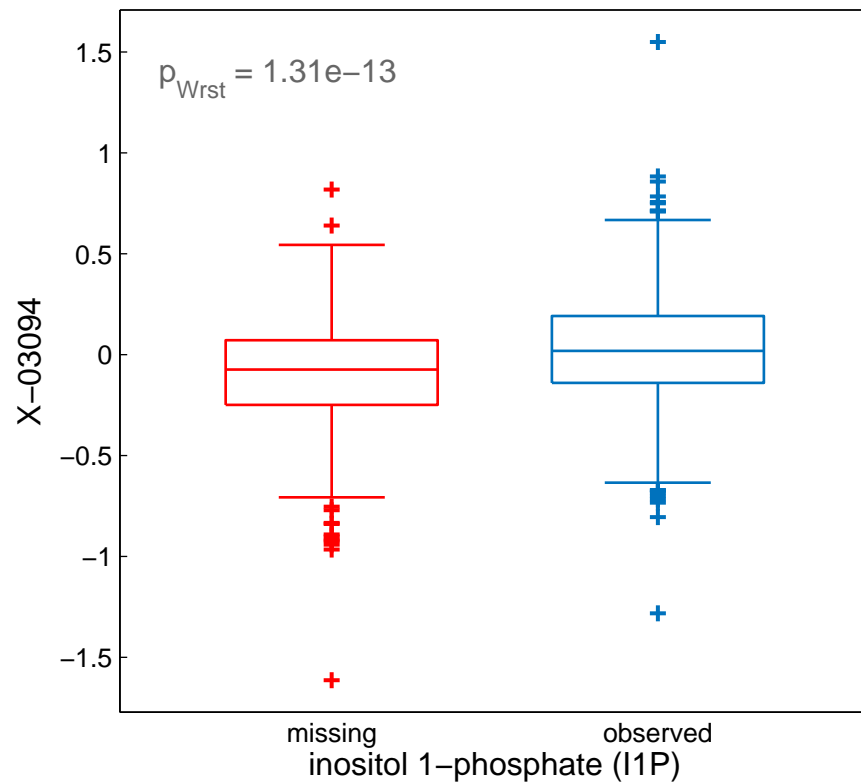
Concentrations of guanosine in
missing and observed inosine



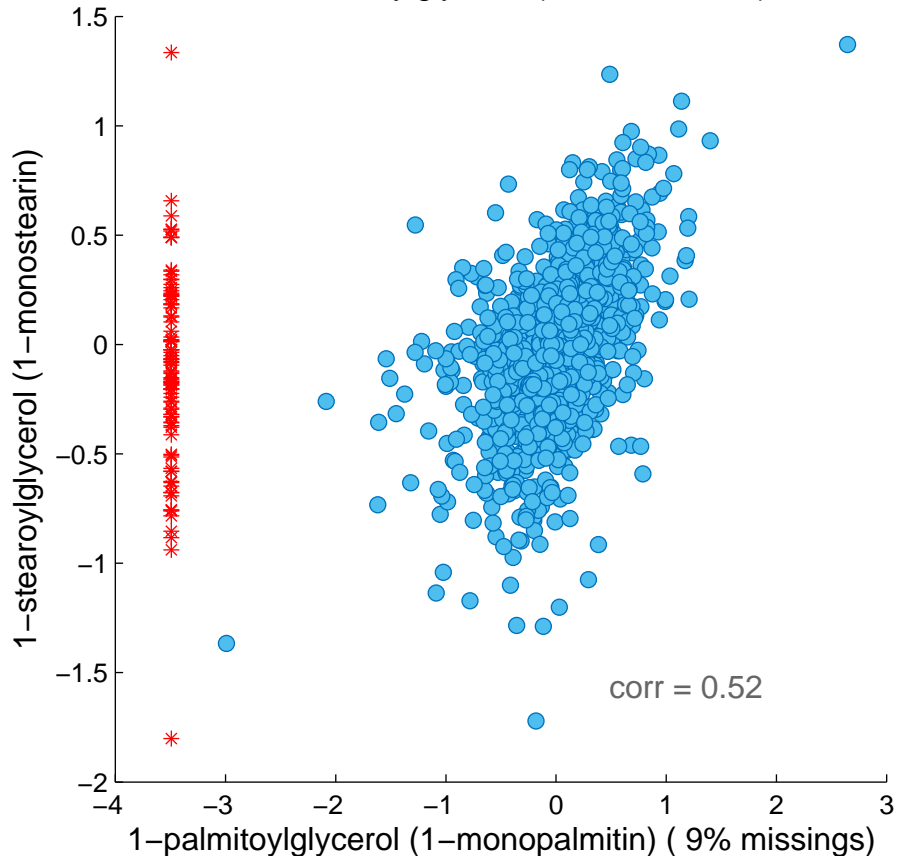
Missing values of inositol 1-phosphate (I1P)
in X-03094



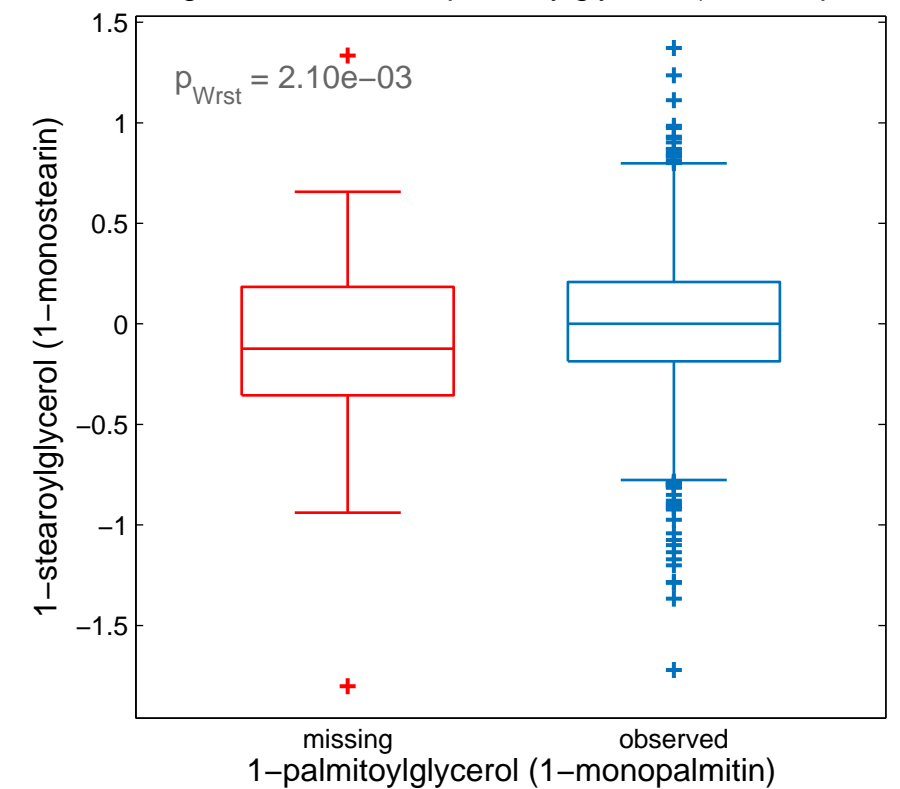
Concentrations of X-03094 in
missing and observed inositol 1-phosphate (I1P)



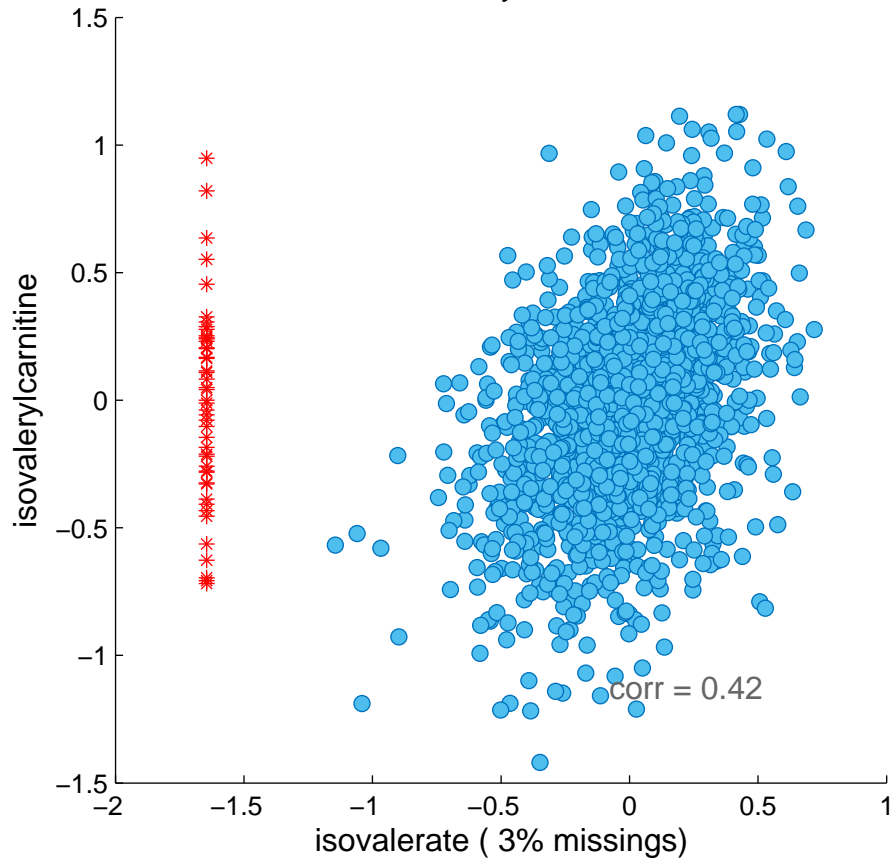
Missing values of 1-palmitoylglycerol (1-monopalmitin) in 1-stearoylglycerol (1-monostearin)



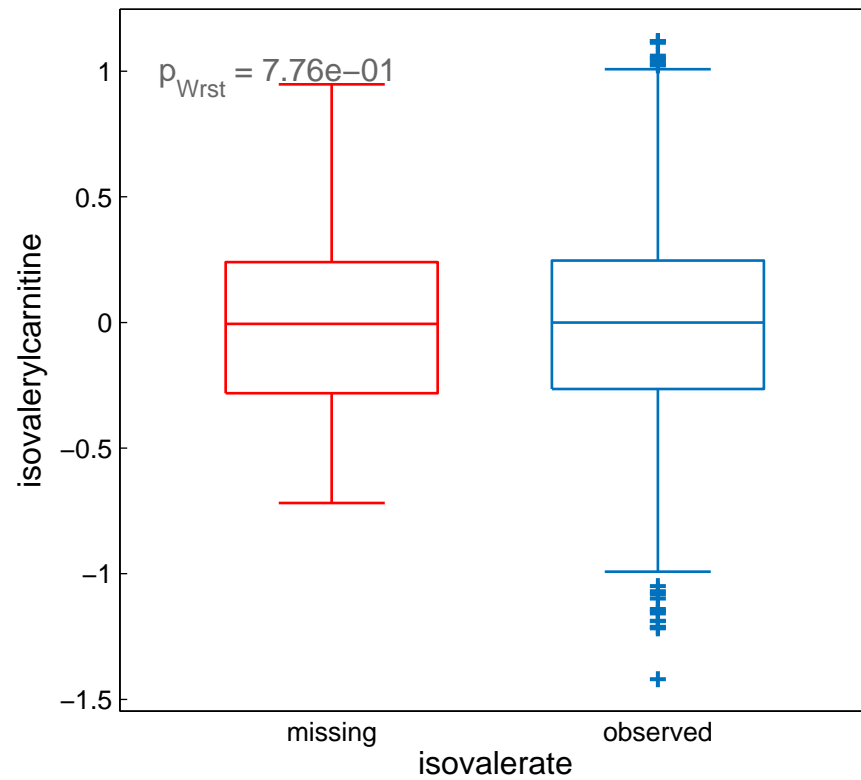
Concentrations of 1-stearoylglycerol (1-monostearin) in missing and observed 1-palmitoylglycerol (1-monopalmitin)



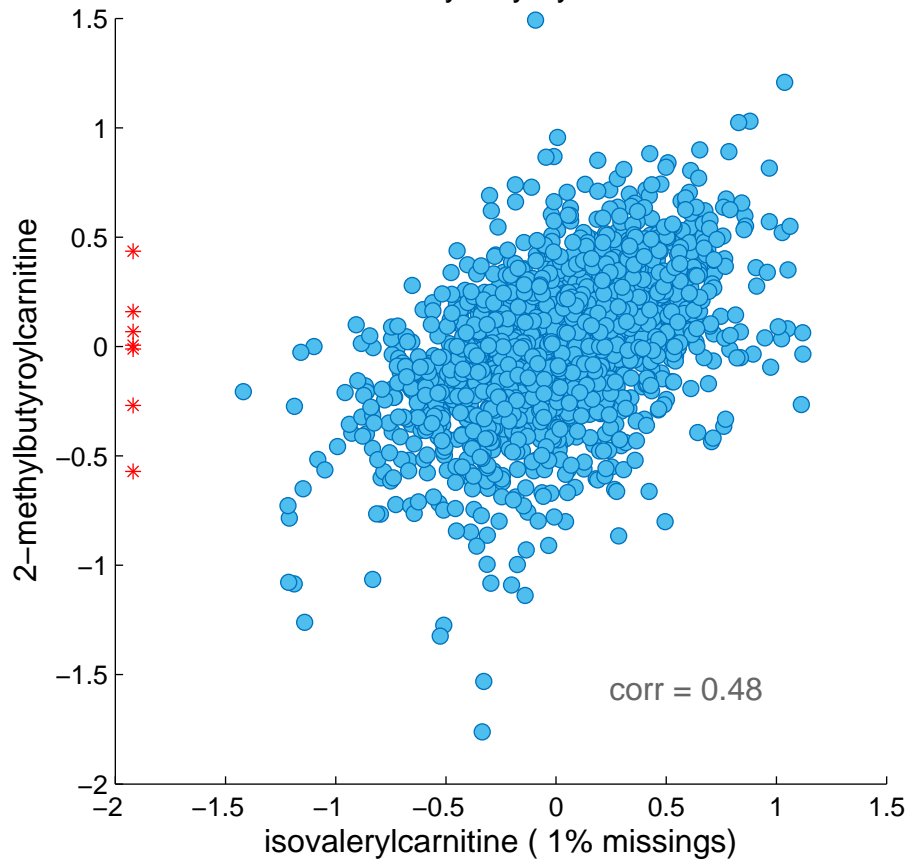
Missing values of isovalerate
in isovalerylcarnitine



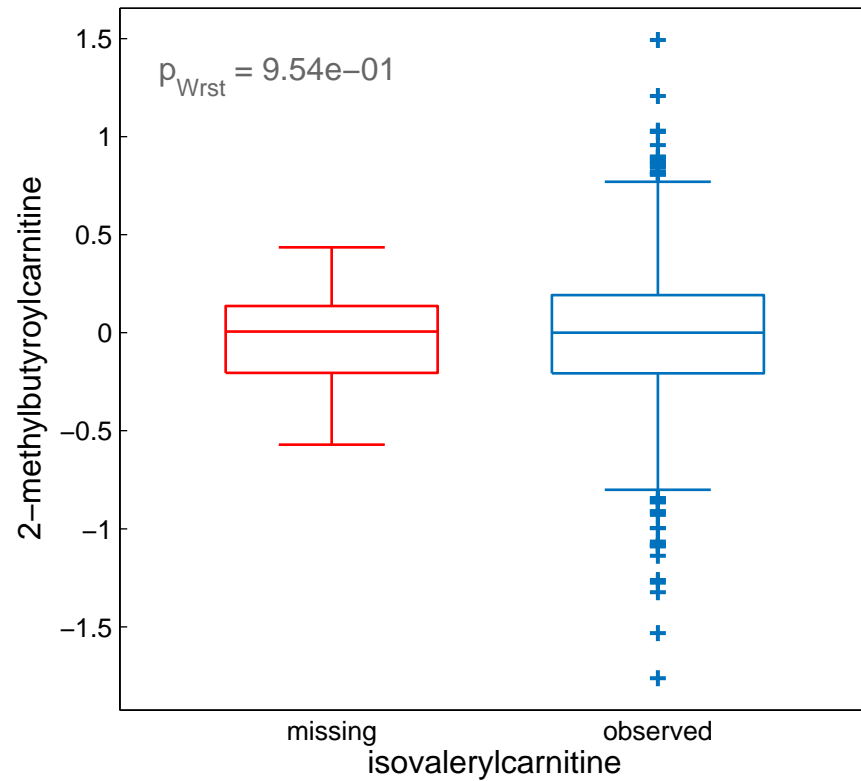
Concentrations of isovalerylcarnitine in
missing and observed isovalerate



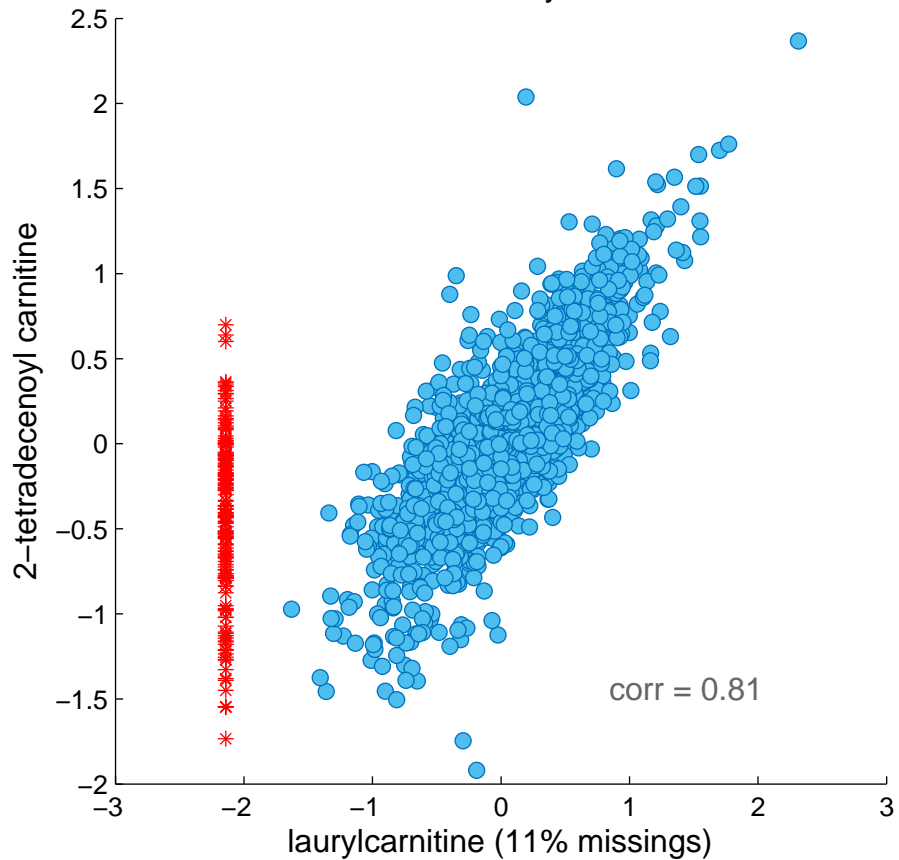
Missing values of isovaleryl carnitine
in 2-methylbutyrylcarnitine



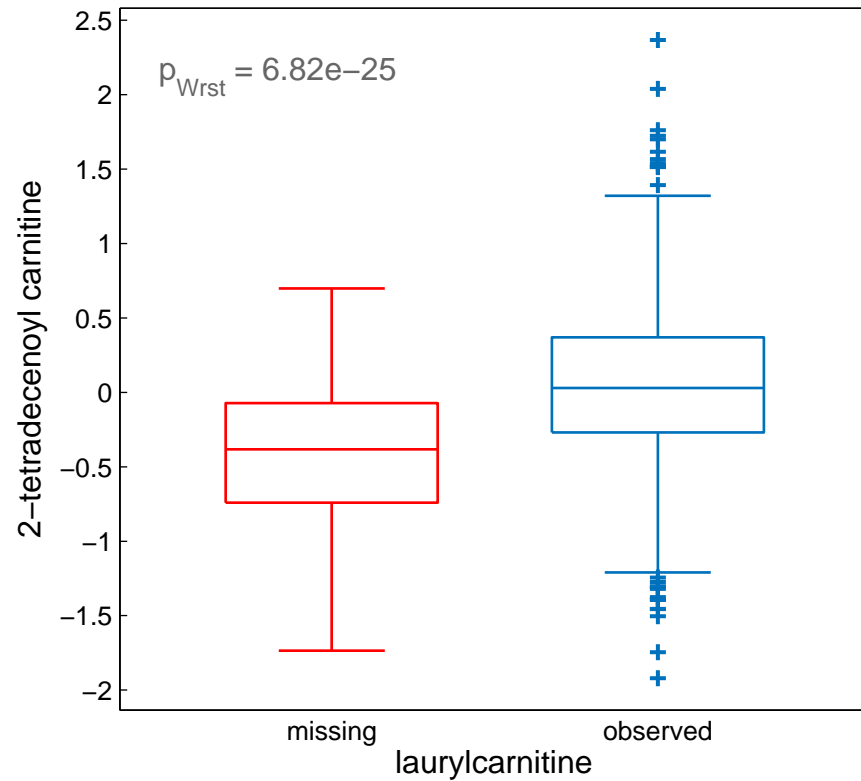
Concentrations of 2-methylbutyrylcarnitine in
missing and observed isovaleryl carnitine



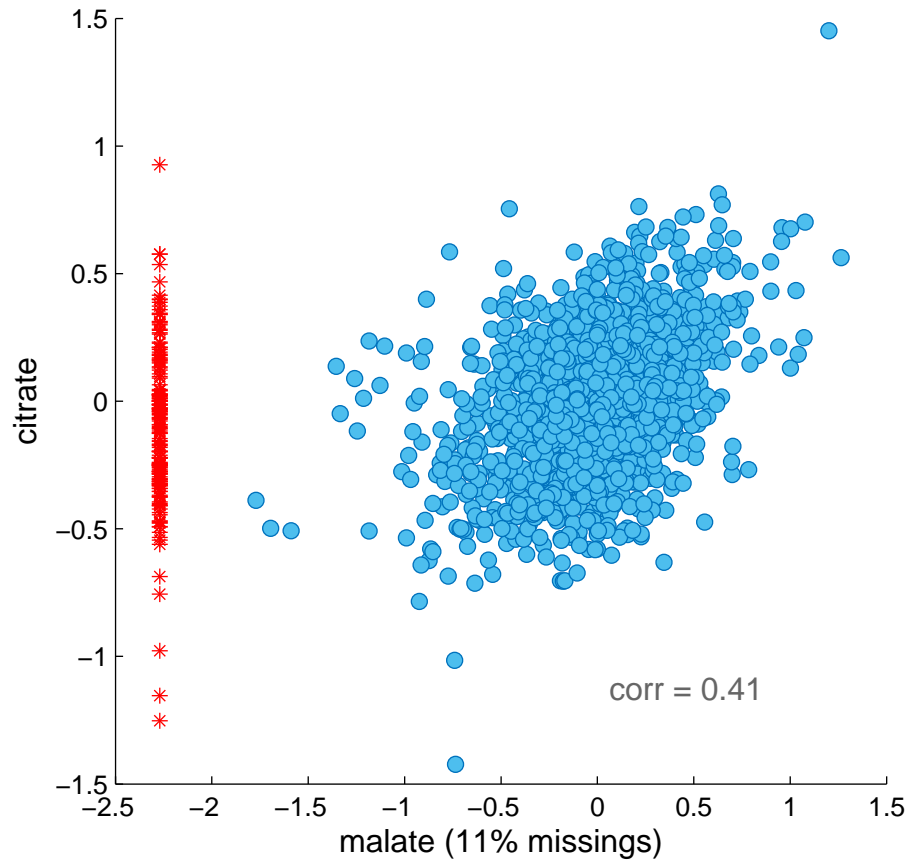
Missing values of laurylcarnitine
in 2-tetradecenoyl carnitine



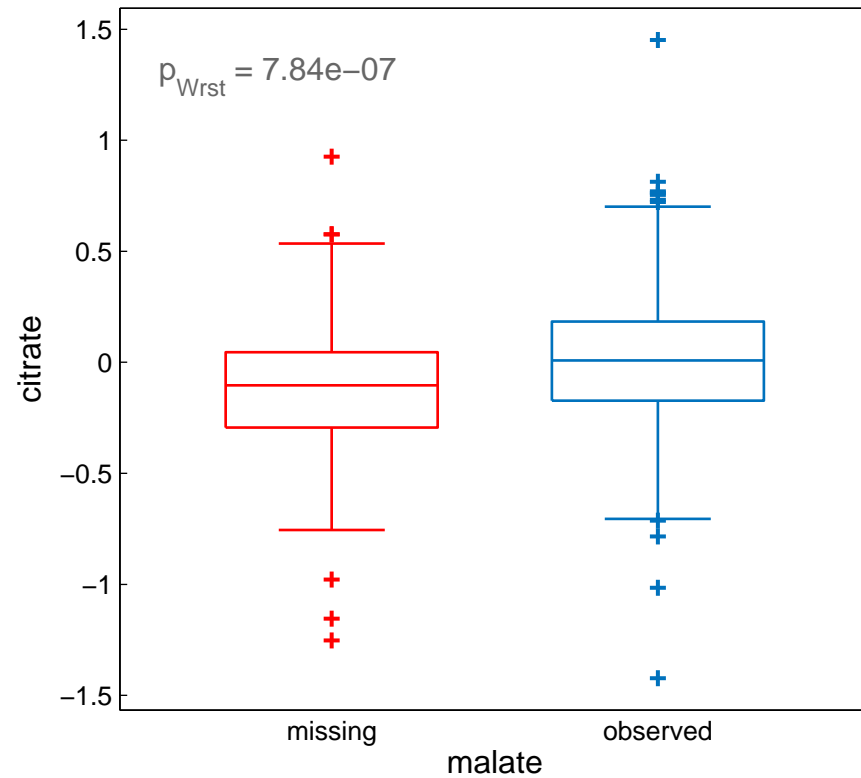
Concentrations of 2-tetradecenoyl carnitine in
missing and observed laurylcarnitine



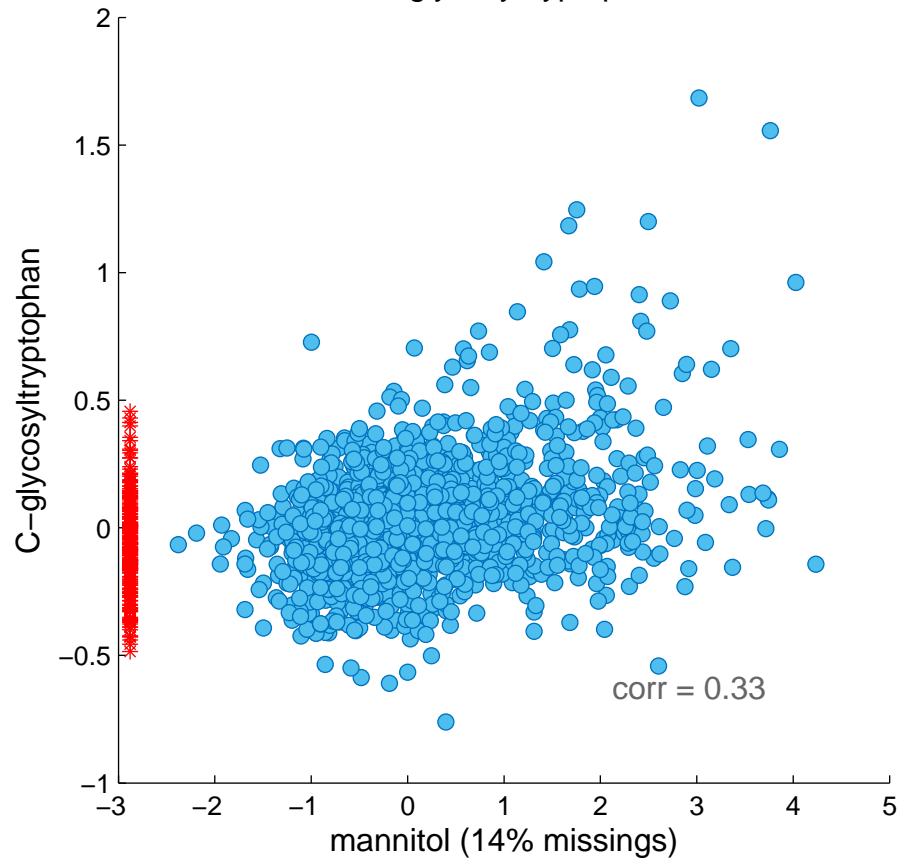
Missing values of malate
in citrate



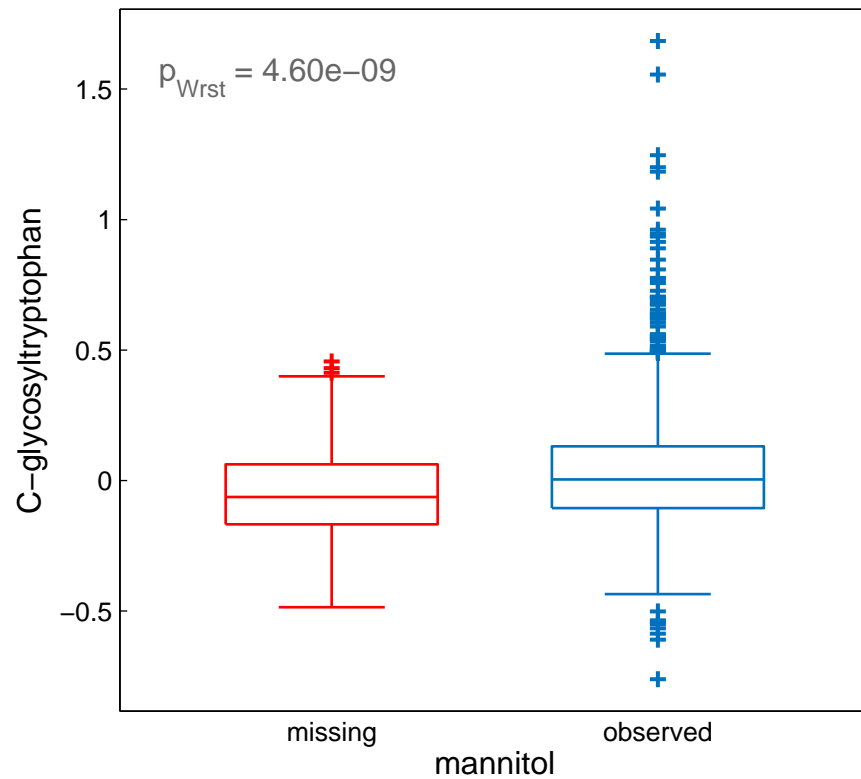
Concentrations of citrate in
missing and observed malate



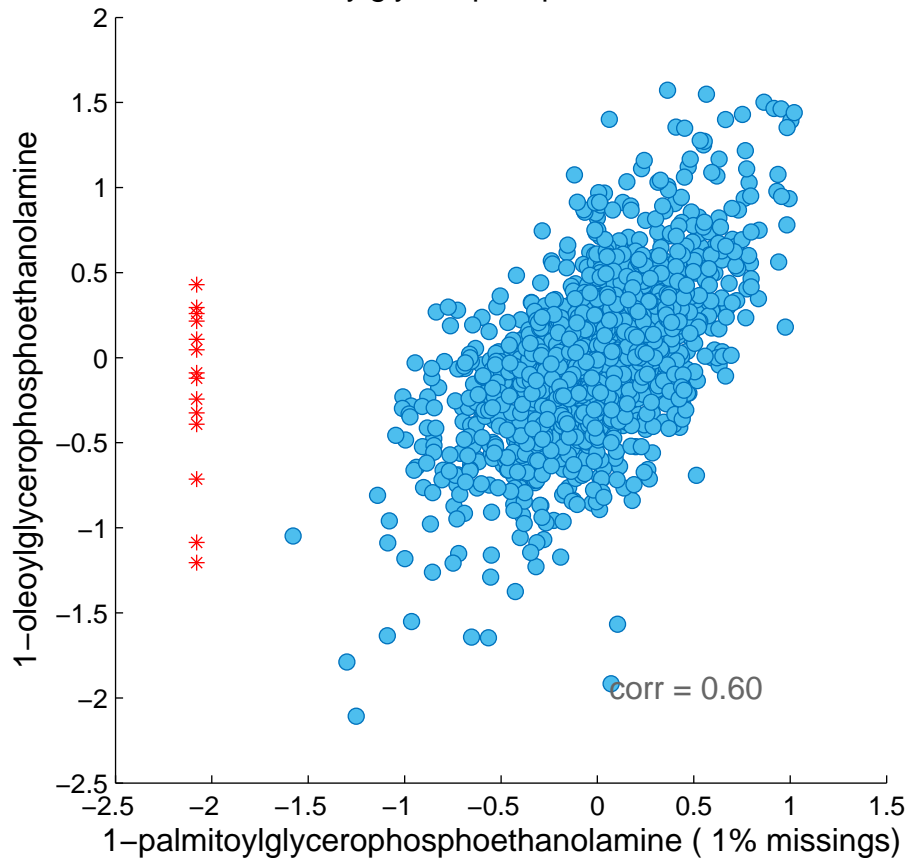
Missing values of mannitol
in C-glycosyltryptophan



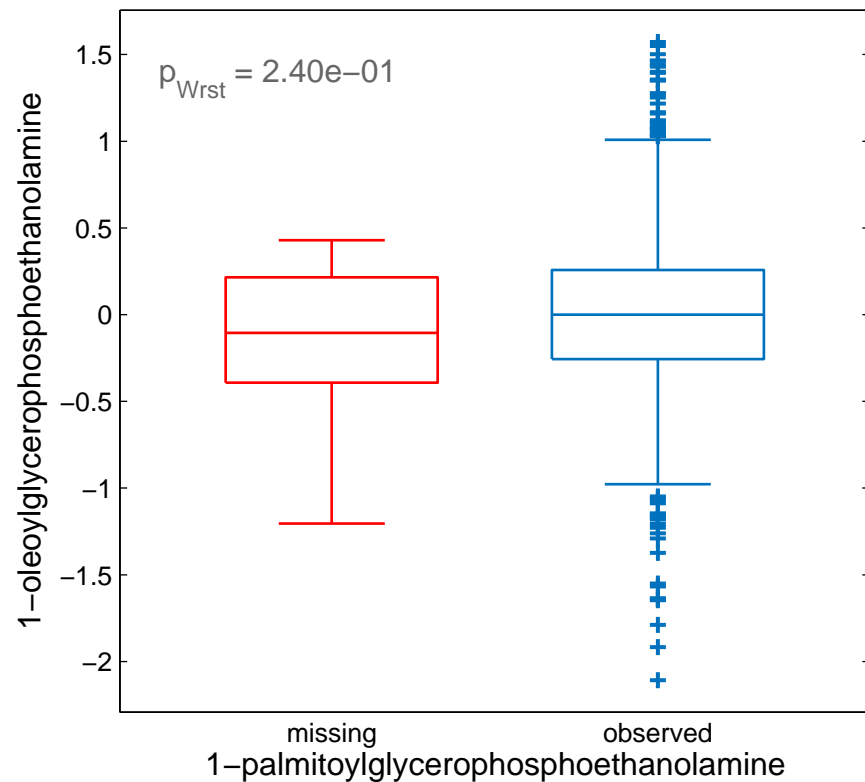
Concentrations of C-glycosyltryptophan in
missing and observed mannitol



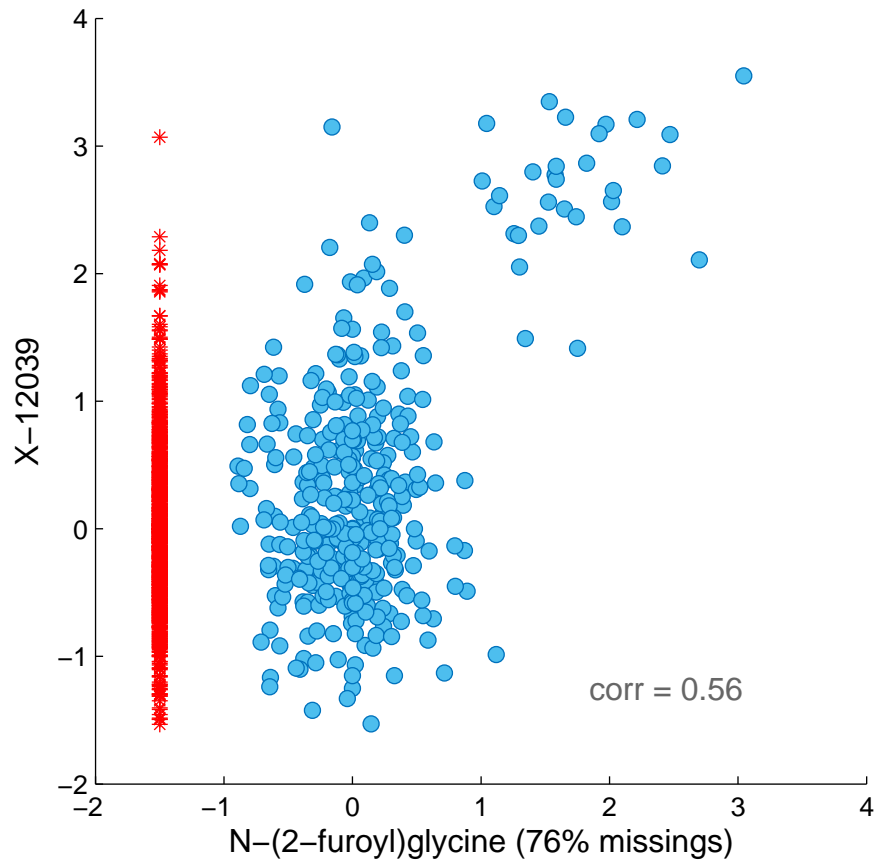
Missing values of 1-palmitoylglycerophosphoethanolamine in 1-oleoylglycerophosphoethanolamine



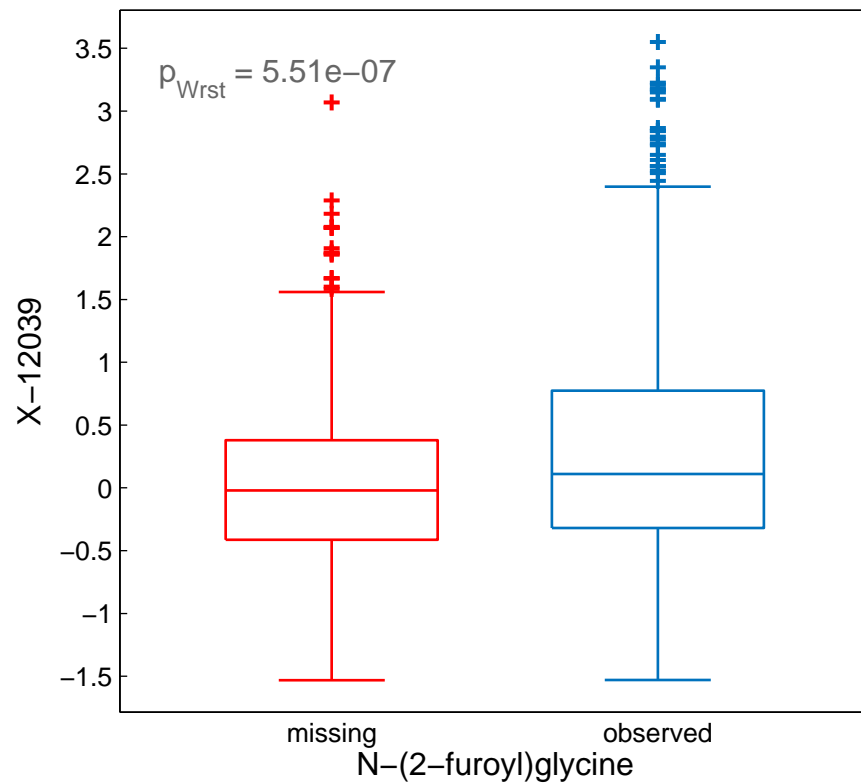
Concentrations of 1-oleoylglycerophosphoethanolamine in missing and observed 1-palmitoylglycerophosphoethanolamine



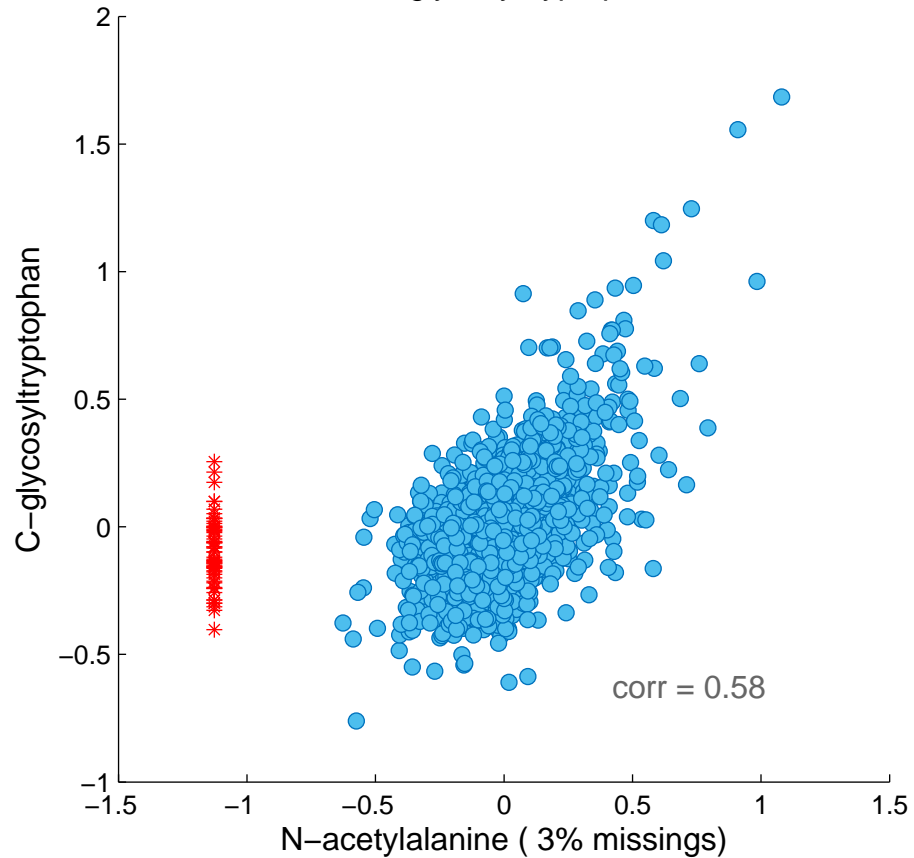
Missing values of N-(2-furoyl)glycine
in X-12039



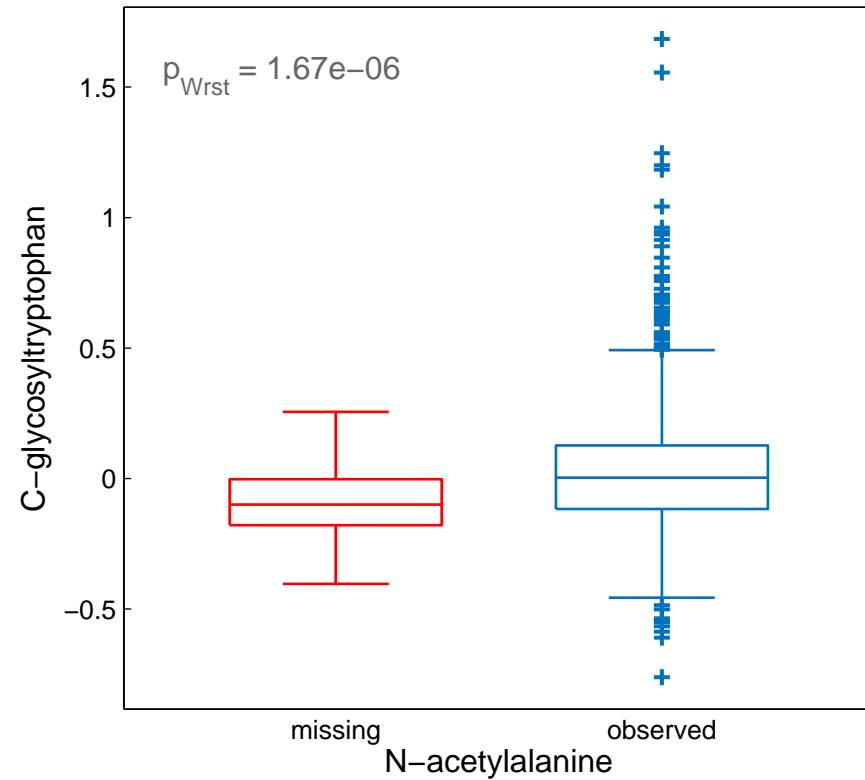
Concentrations of X-12039 in
missing and observed N-(2-furoyl)glycine



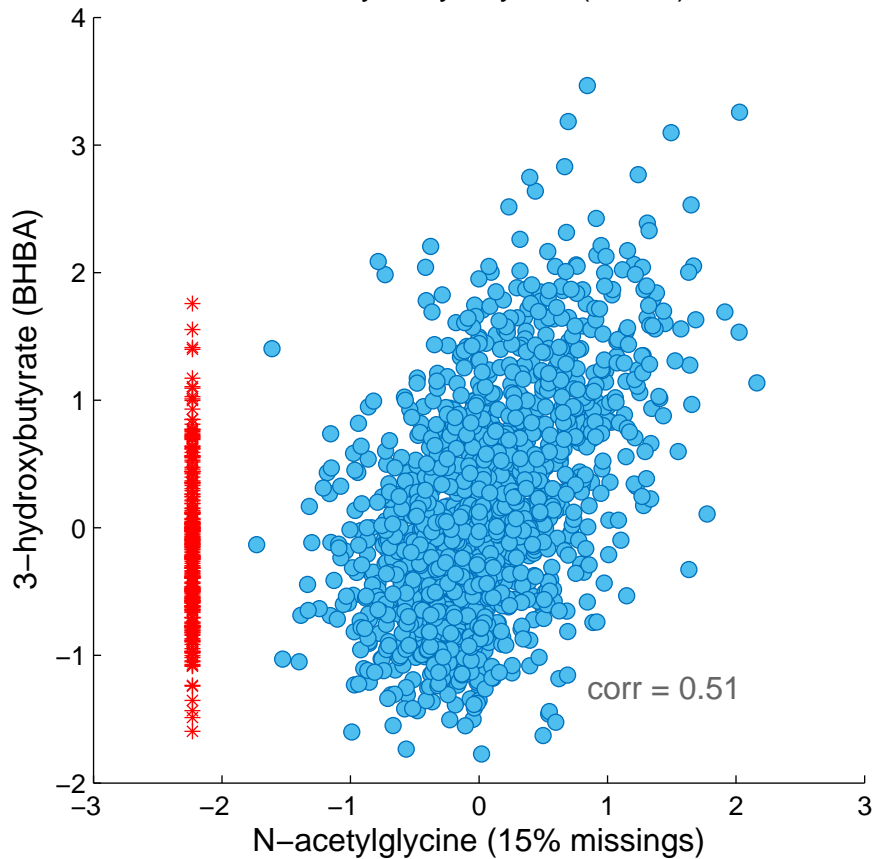
Missing values of N-acetylalanine
in C-glycosyltryptophan



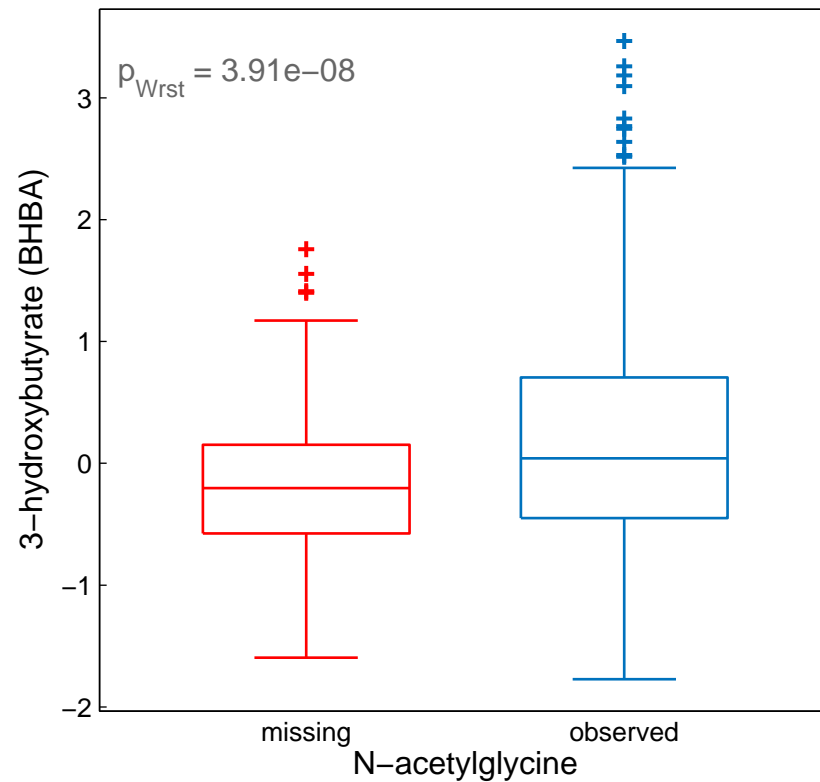
Concentrations of C-glycosyltryptophan in
missing and observed N-acetylalanine



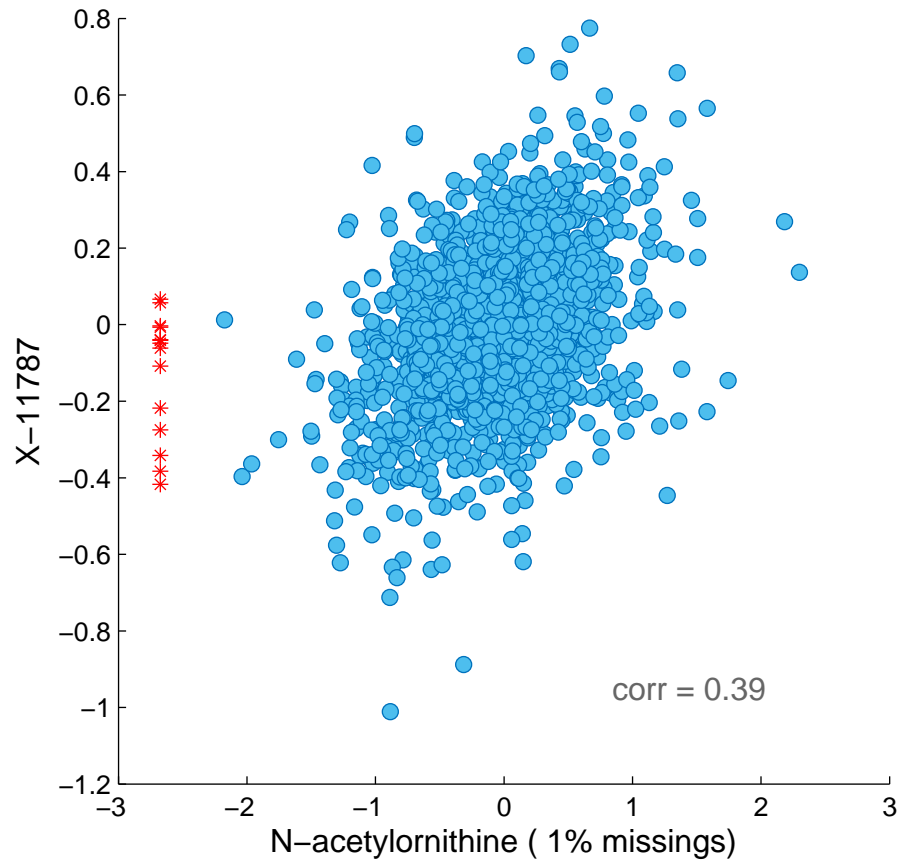
Missing values of N-acetylglycine
in 3-hydroxybutyrate (BHBA)



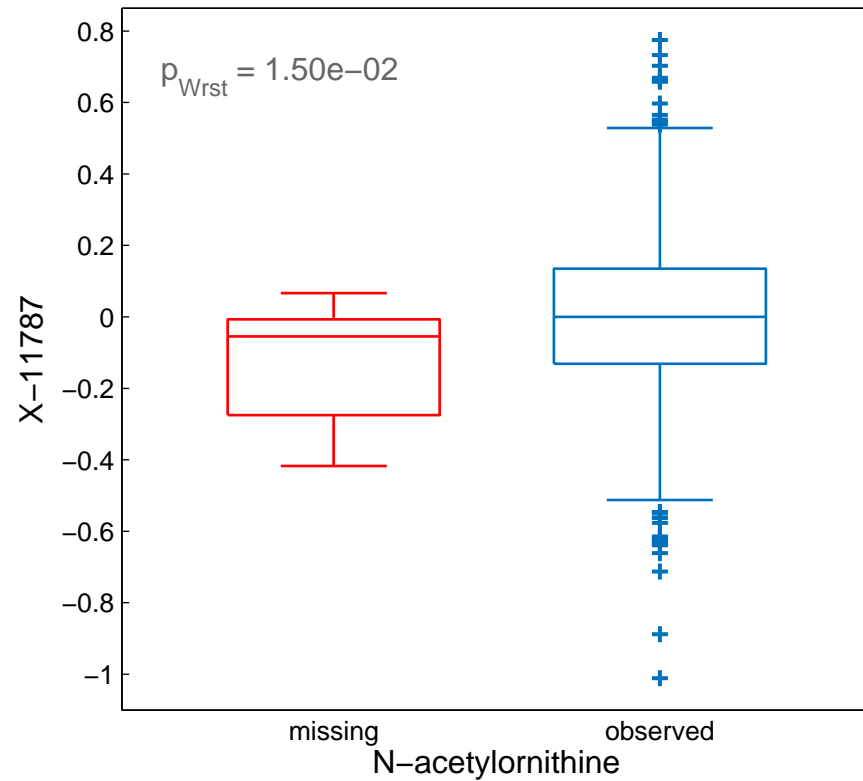
Concentrations of 3-hydroxybutyrate (BHBA) in
missing and observed N-acetylglycine



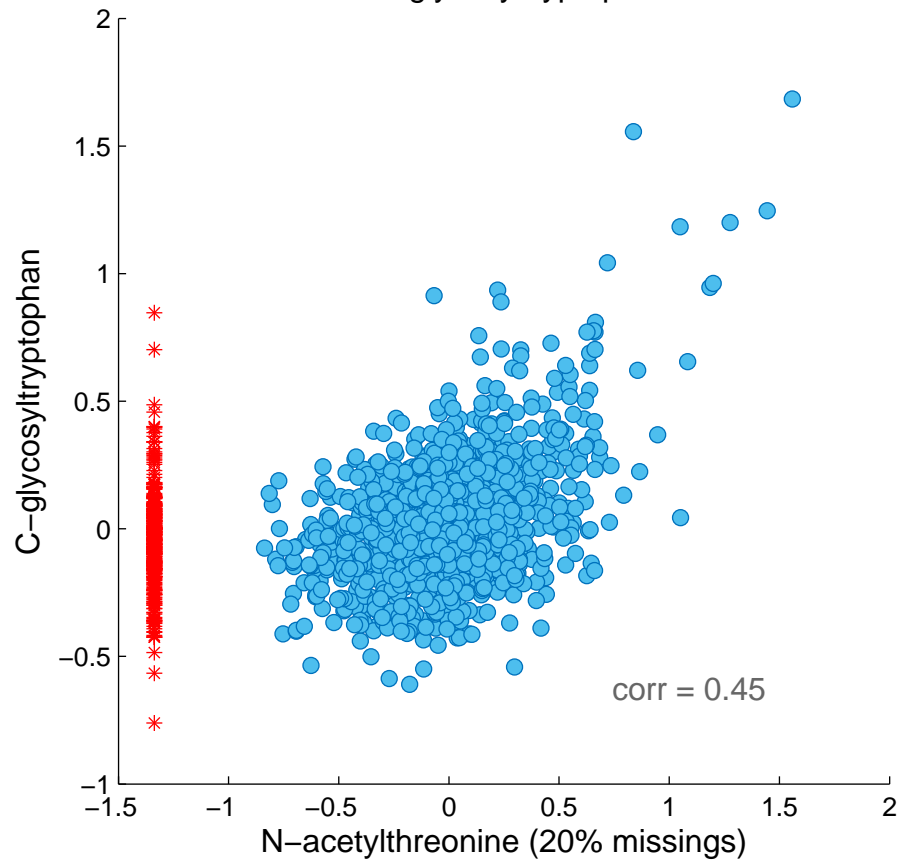
Missing values of N-acetylnithine
in X-11787



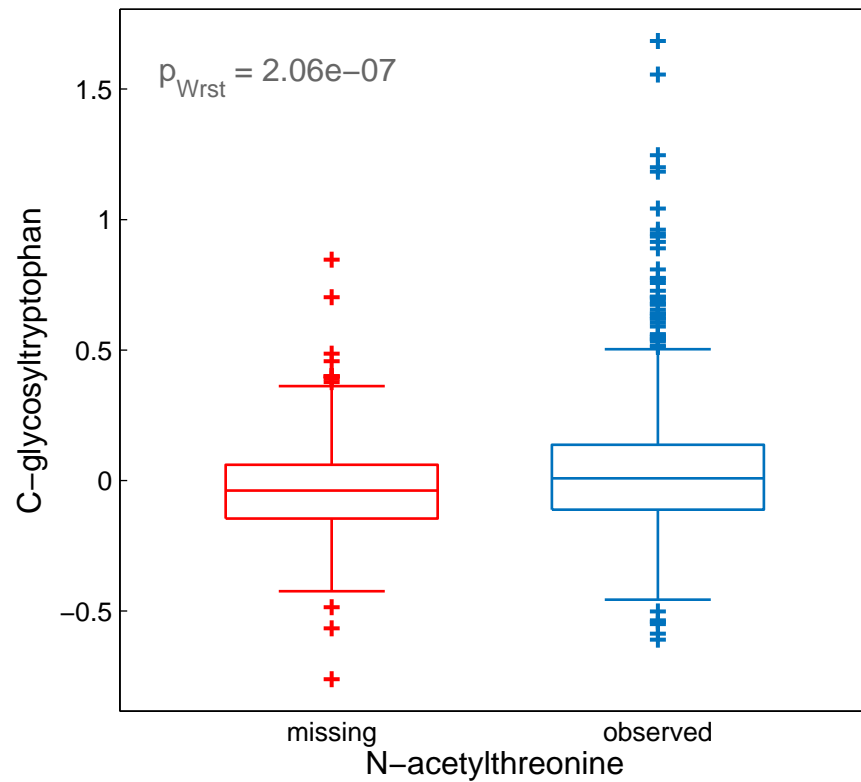
Concentrations of X-11787 in
missing and observed N-acetylnithine



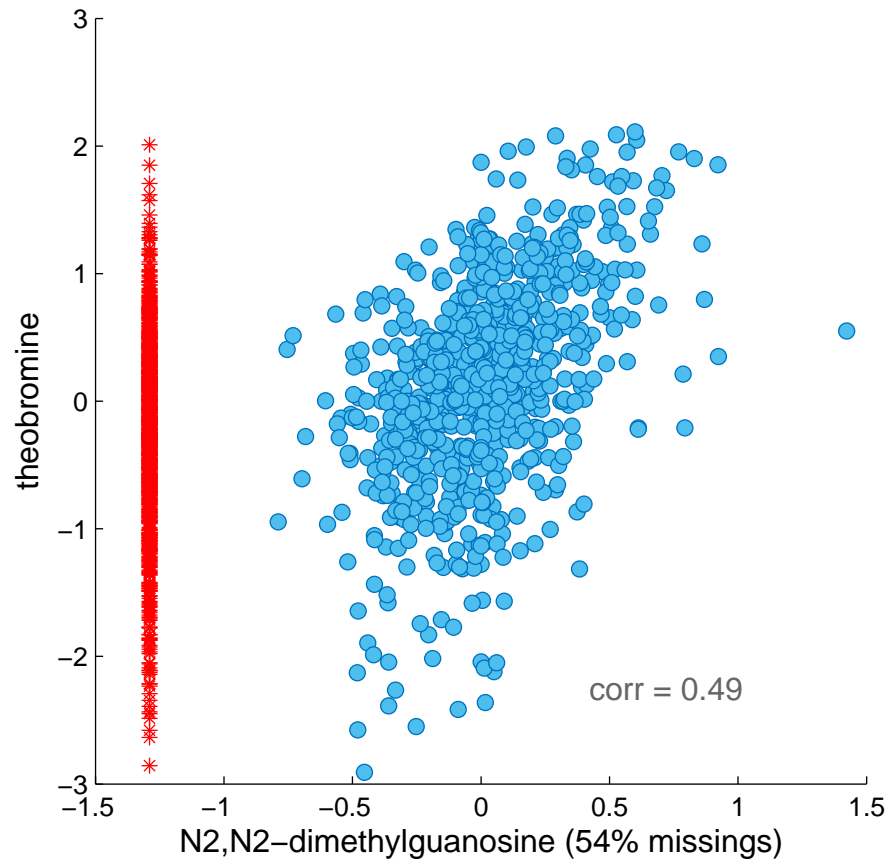
Missing values of N-acetylthreonine
in C-glycosyltryptophan



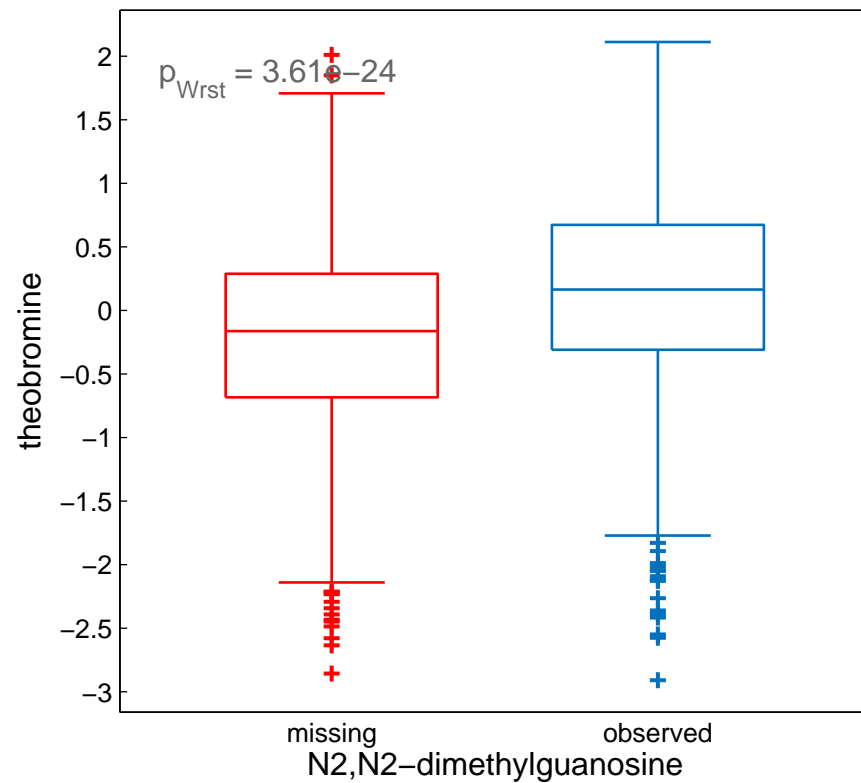
Concentrations of C-glycosyltryptophan in
missing and observed N-acetylthreonine



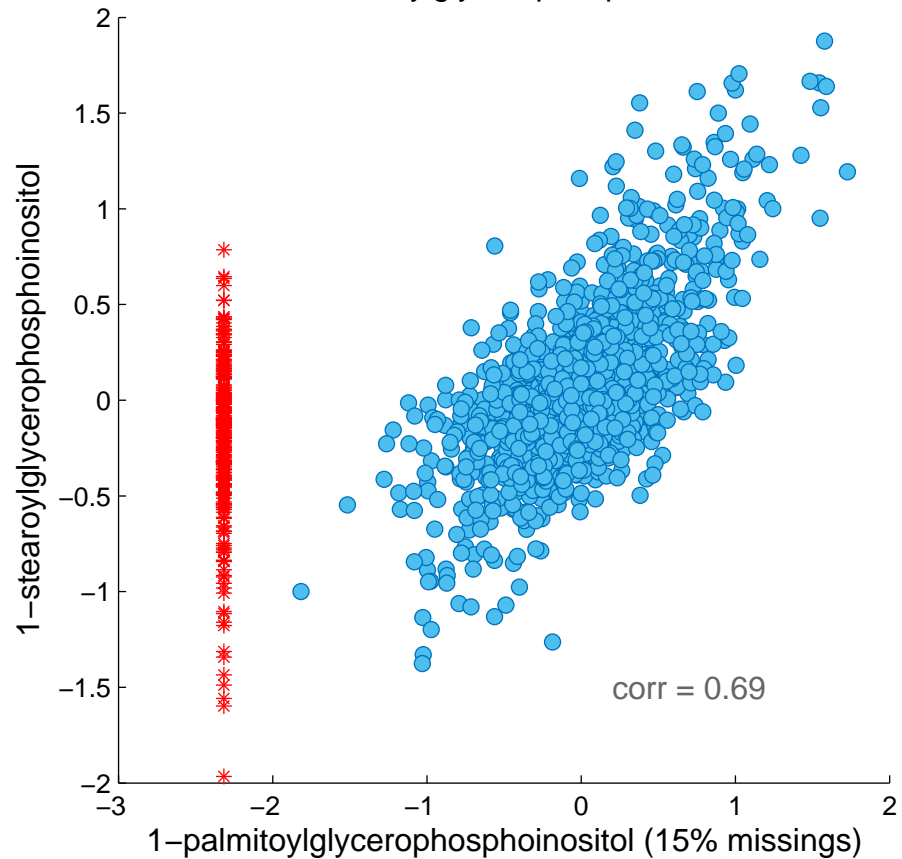
Missing values of N2,N2-dimethylguanosine
in theobromine



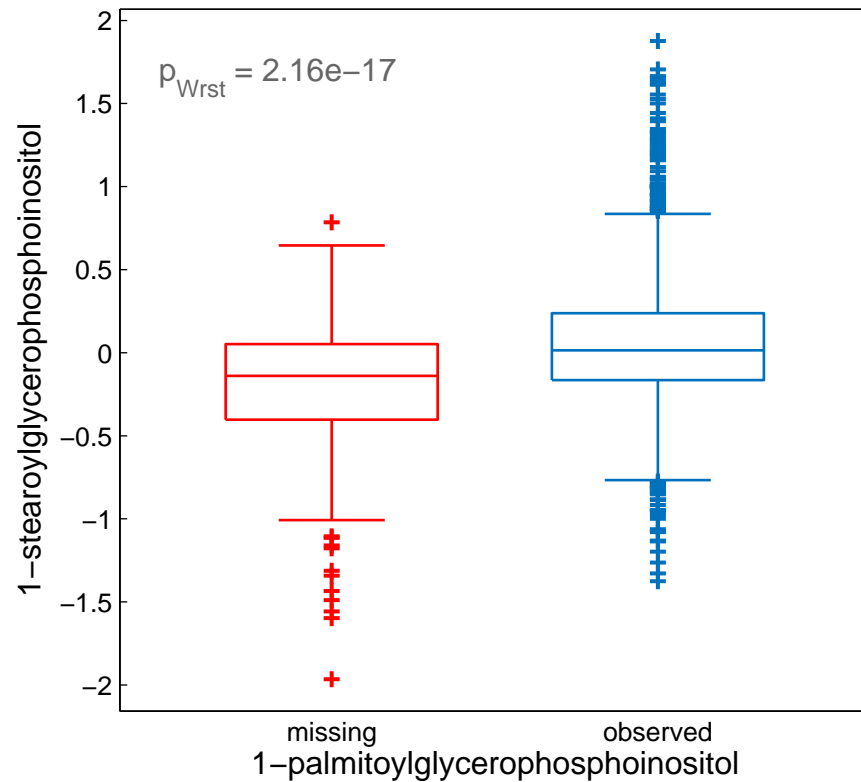
Concentrations of theobromine in
missing and observed N2,N2-dimethylguanosine



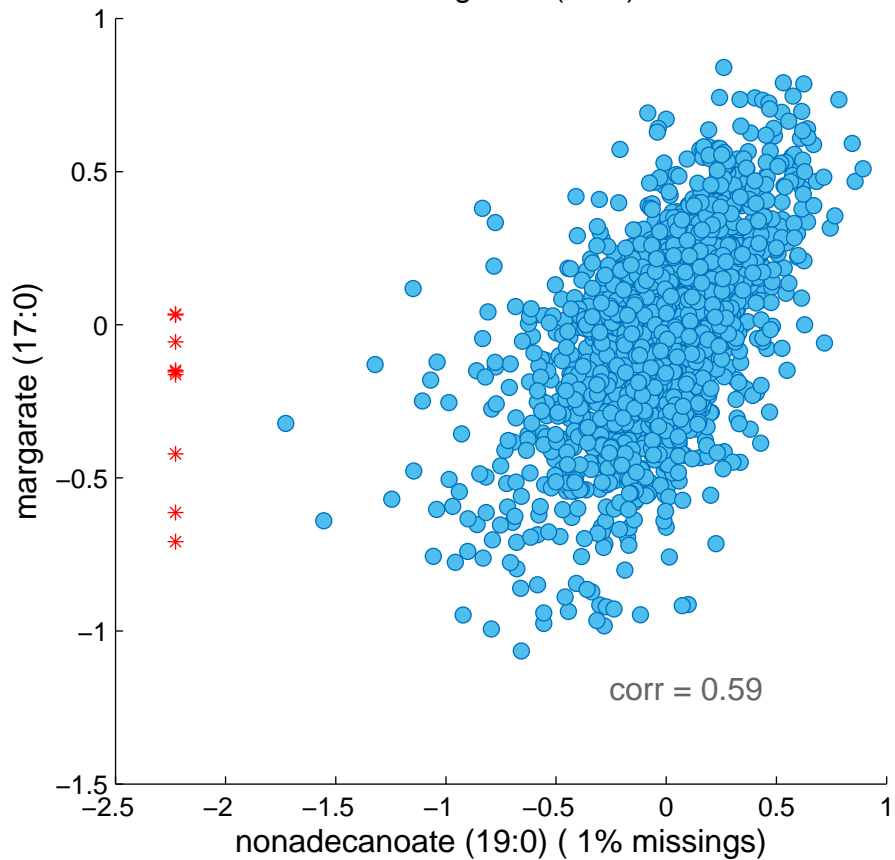
Missing values of 1-palmitoylglycerophosphoinositol
in 1-stearoylglycerophosphoinositol



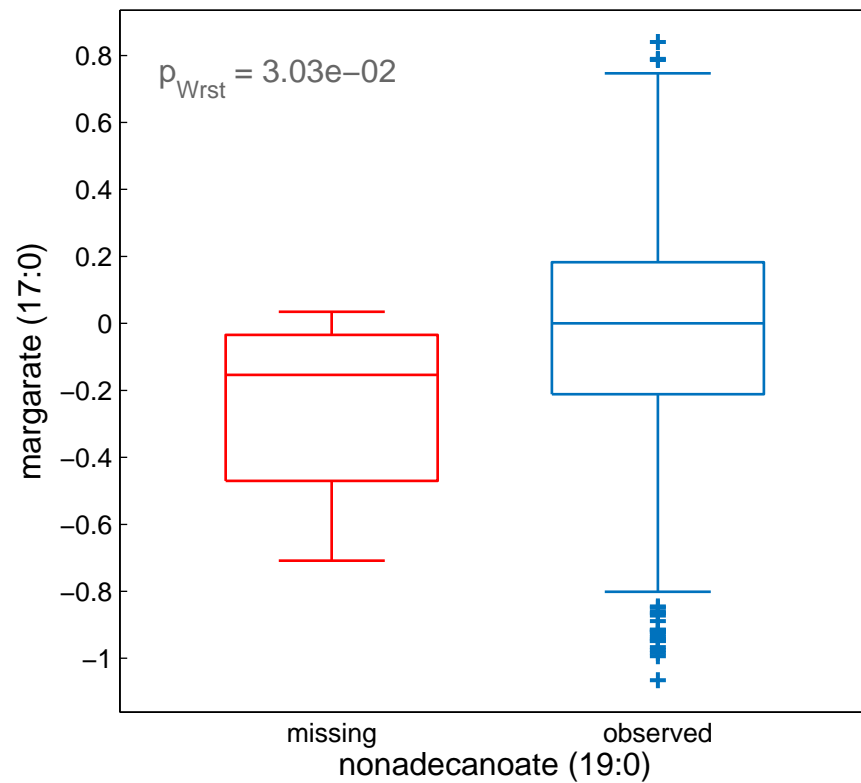
Concentrations of 1-stearoylglycerophosphoinositol in
missing and observed 1-palmitoylglycerophosphoinositol



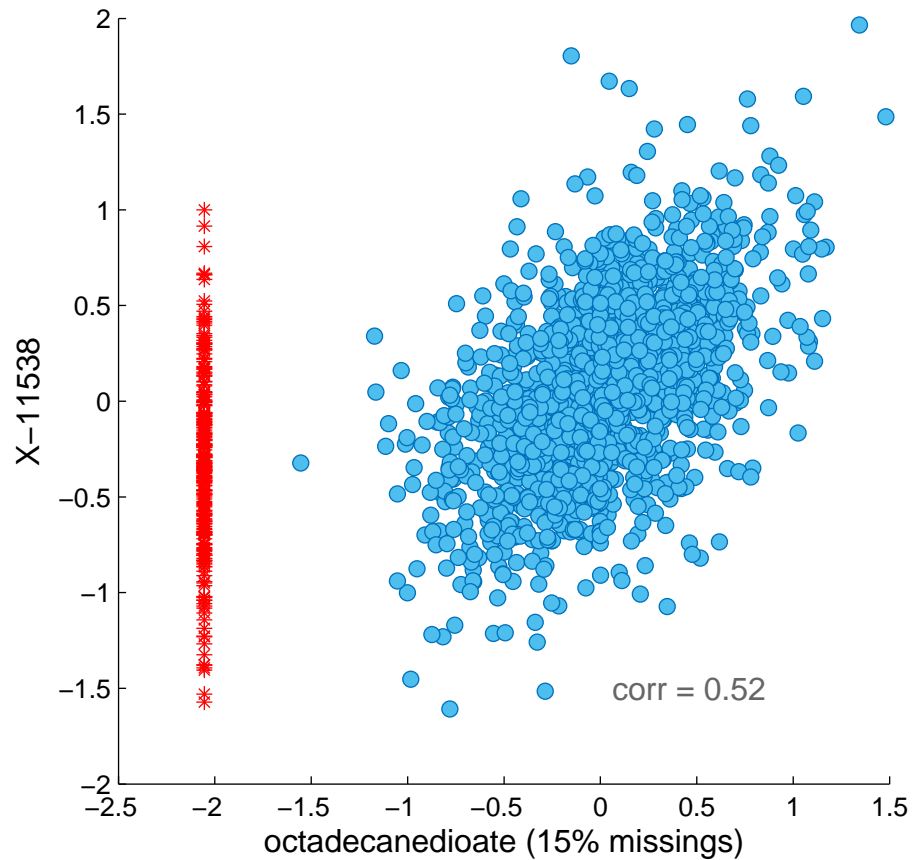
Missing values of nonadecanoate (19:0)
in margarate (17:0)



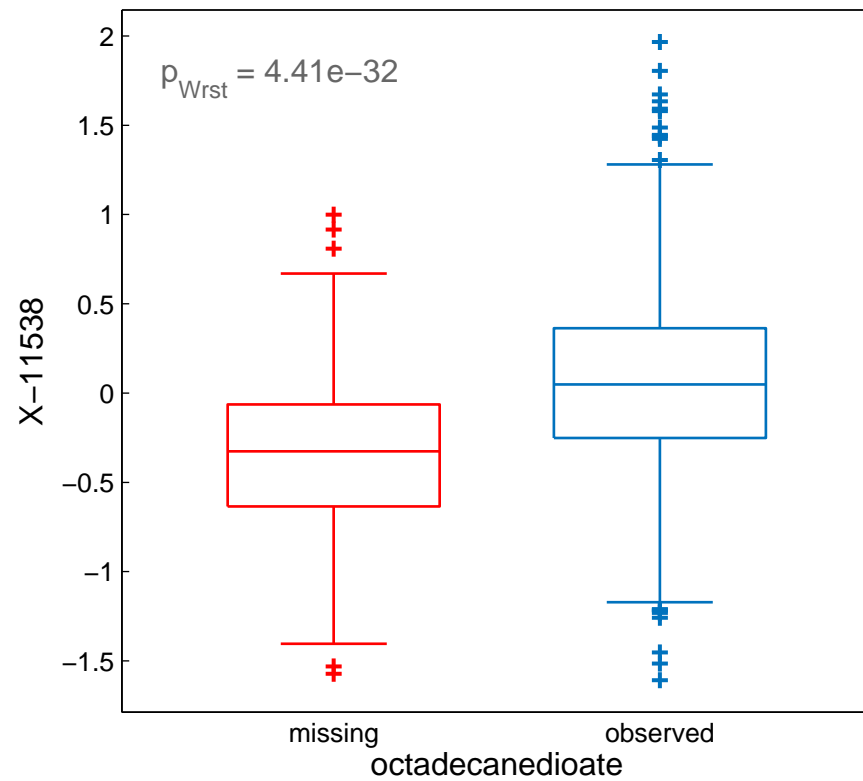
Concentrations of margarate (17:0) in
missing and observed nonadecanoate (19:0)



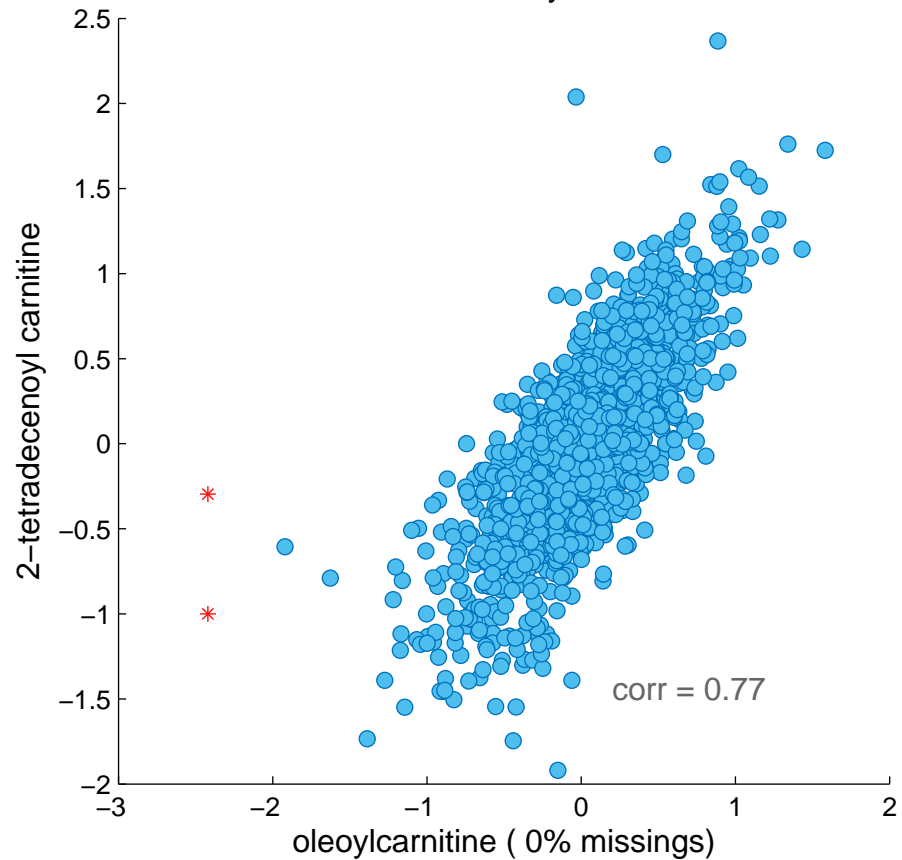
Missing values of octadecanedioate
in X-11538



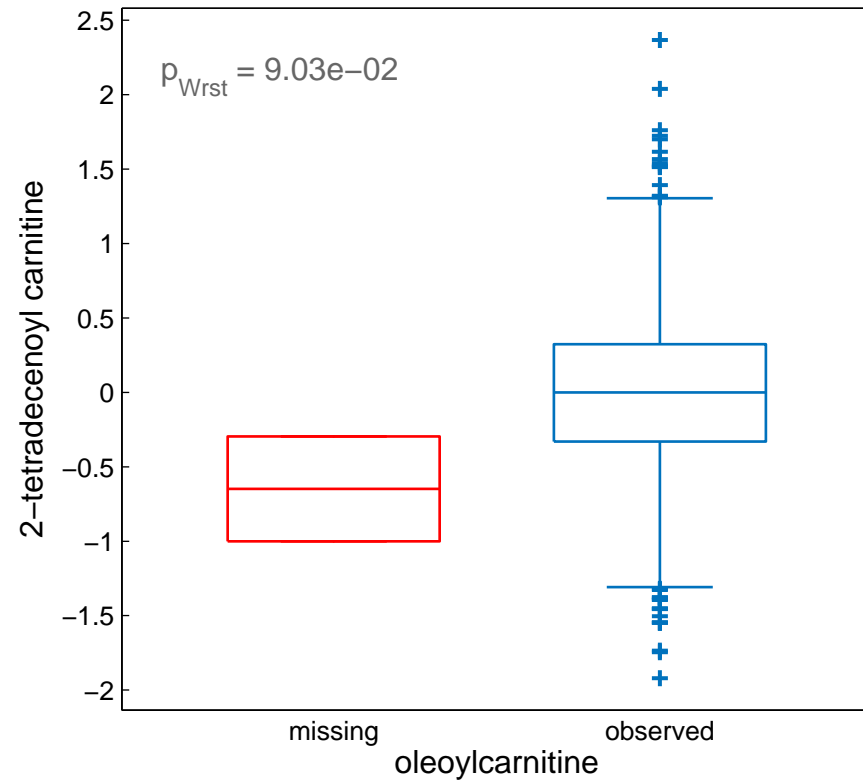
Concentrations of X-11538 in
missing and observed octadecanedioate



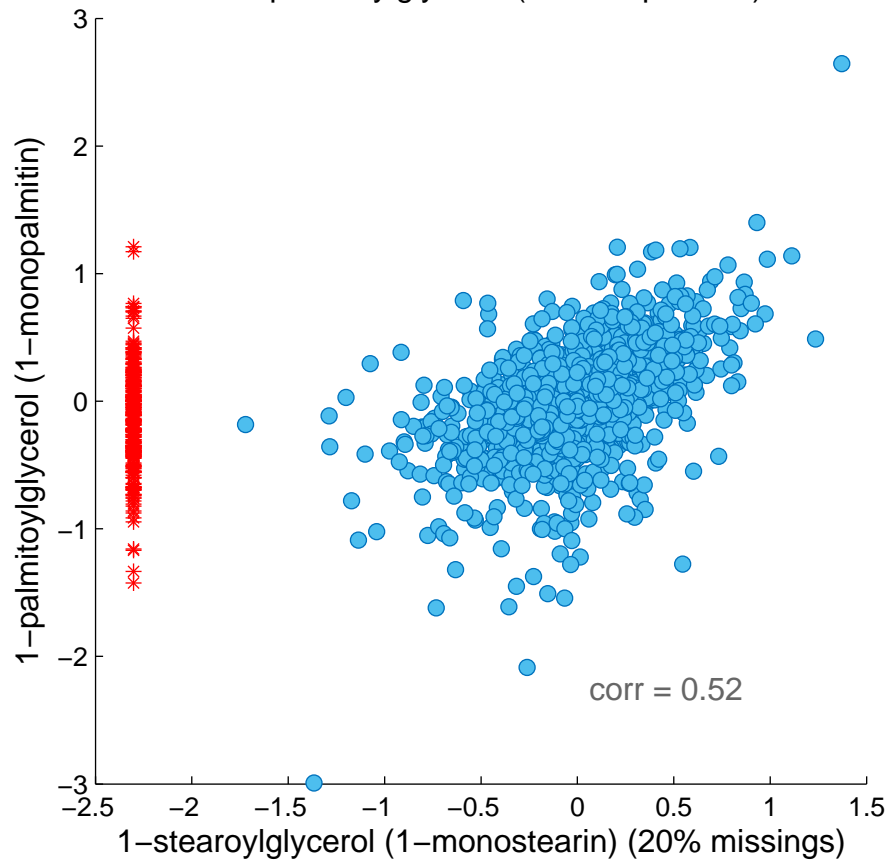
Missing values of oleoylcarnitine
in 2-tetradecenoyl carnitine



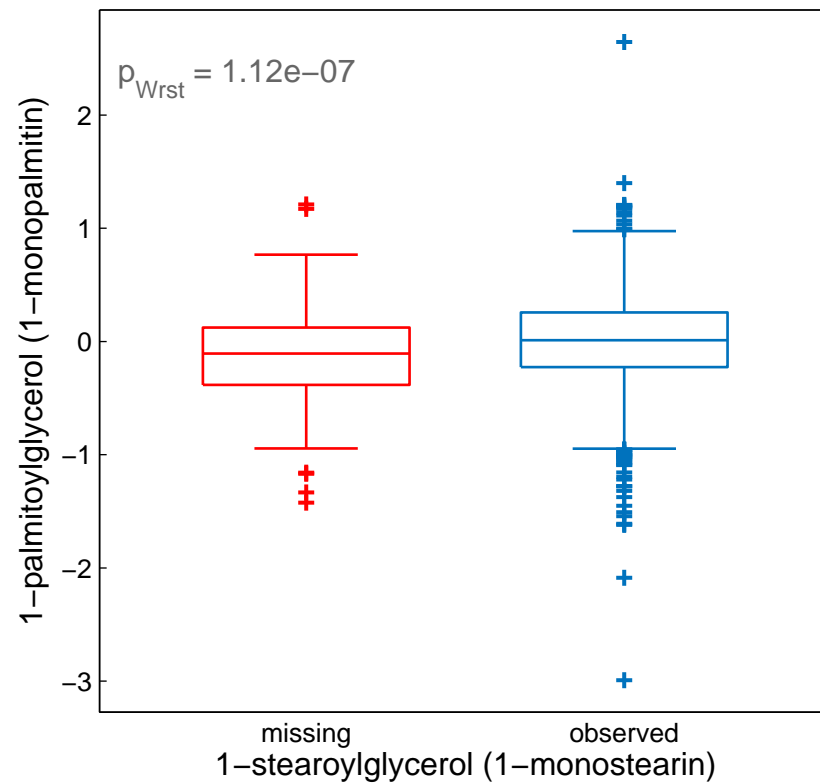
Concentrations of 2-tetradecenoyl carnitine in
missing and observed oleoylcarnitine



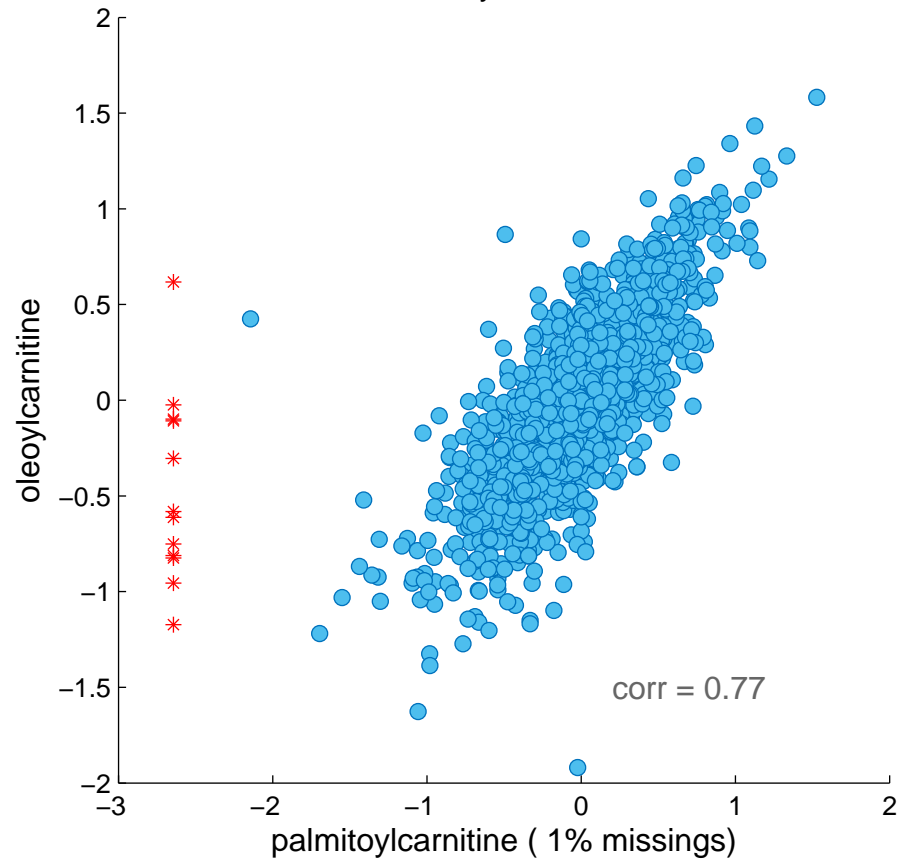
Missing values of 1-stearoylglycerol (1-monostearin)
in 1-palmitoylglycerol (1-monopalmitin)



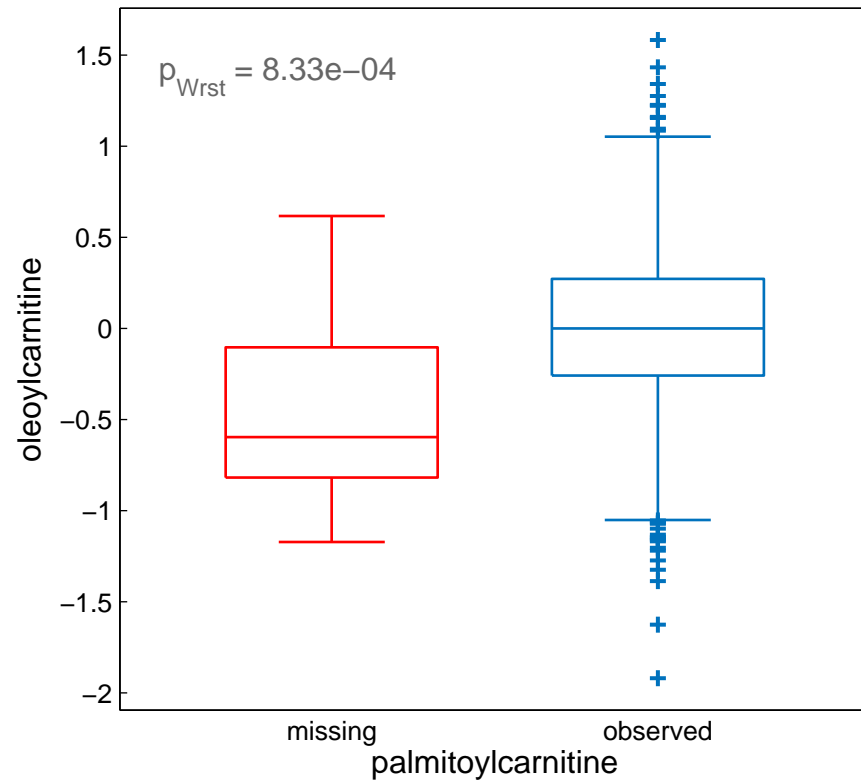
Concentrations of 1-palmitoylglycerol (1-monopalmitin) in
missing and observed 1-stearoylglycerol (1-monostearin)



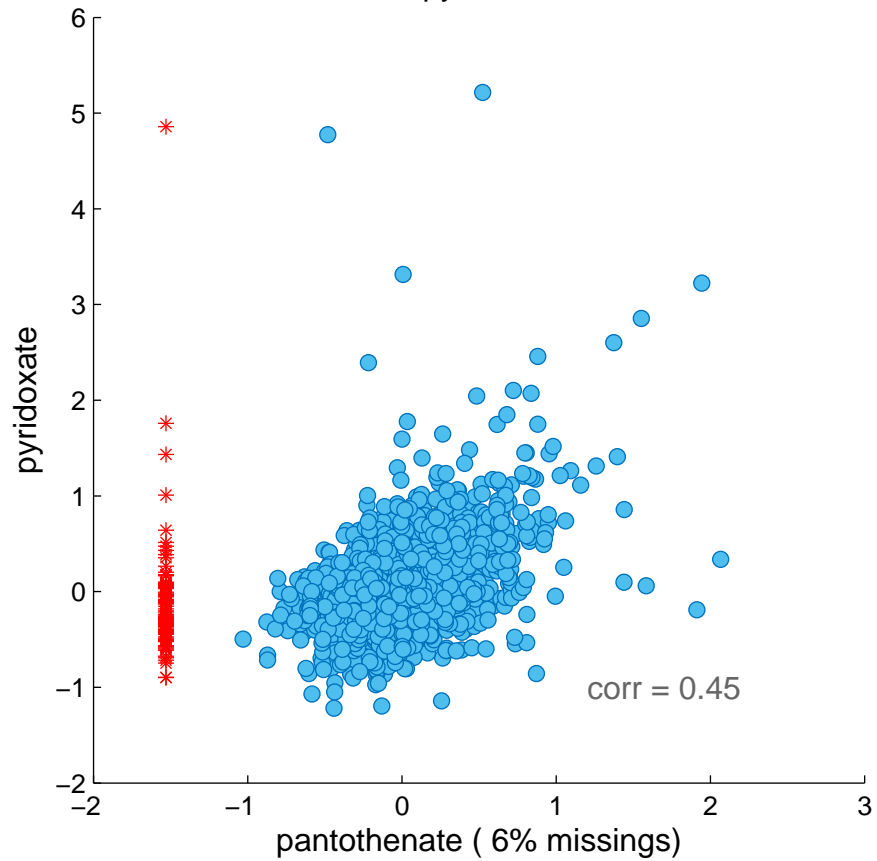
Missing values of palmitoylcarnitine
in oleoylcarnitine



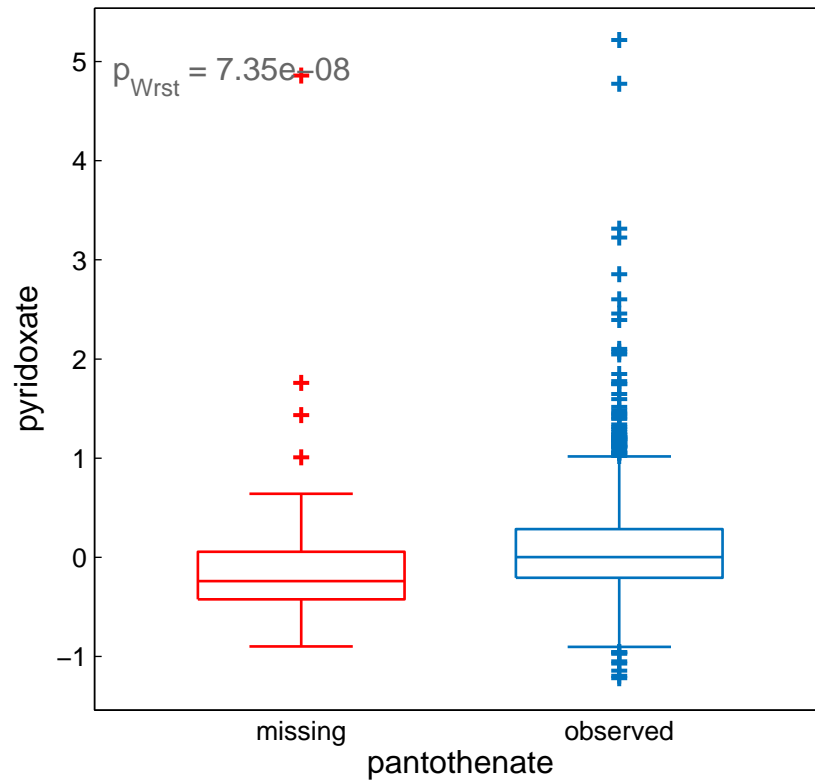
Concentrations of oleoylcarnitine in
missing and observed palmitoylcarnitine



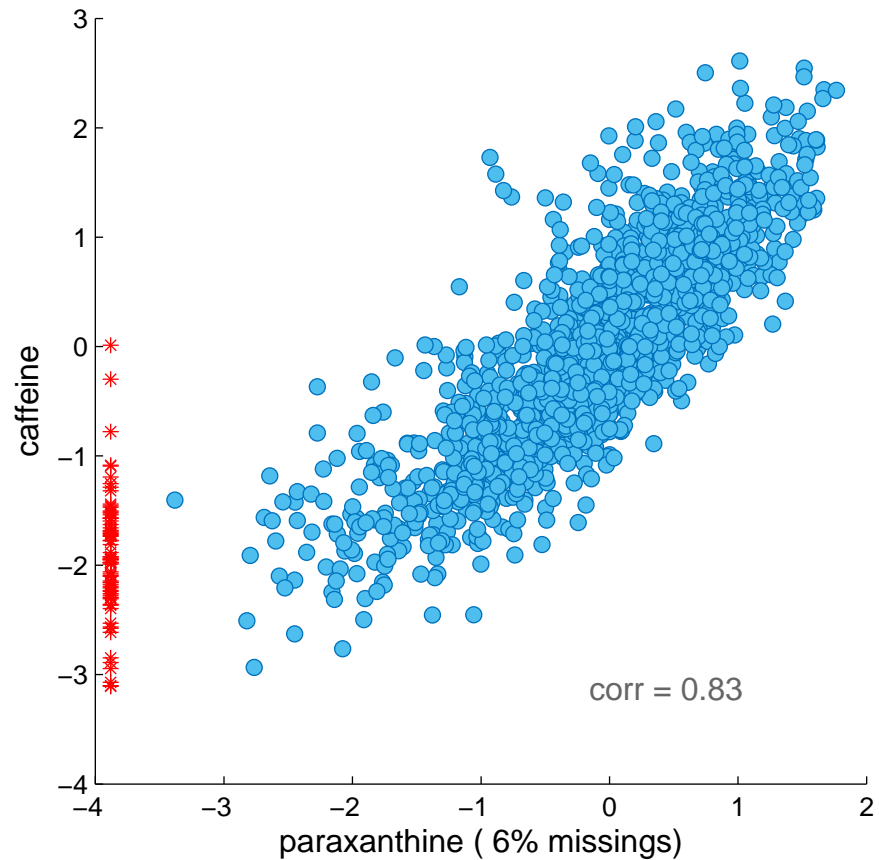
Missing values of pantothenate
in pyridoxate



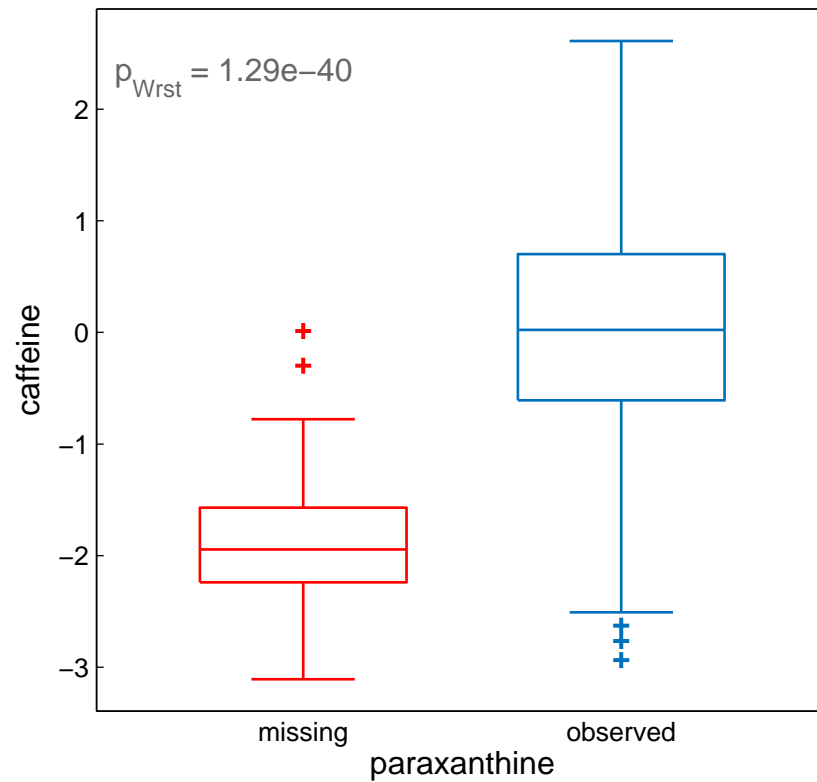
Concentrations of pyridoxate in
missing and observed pantothenate



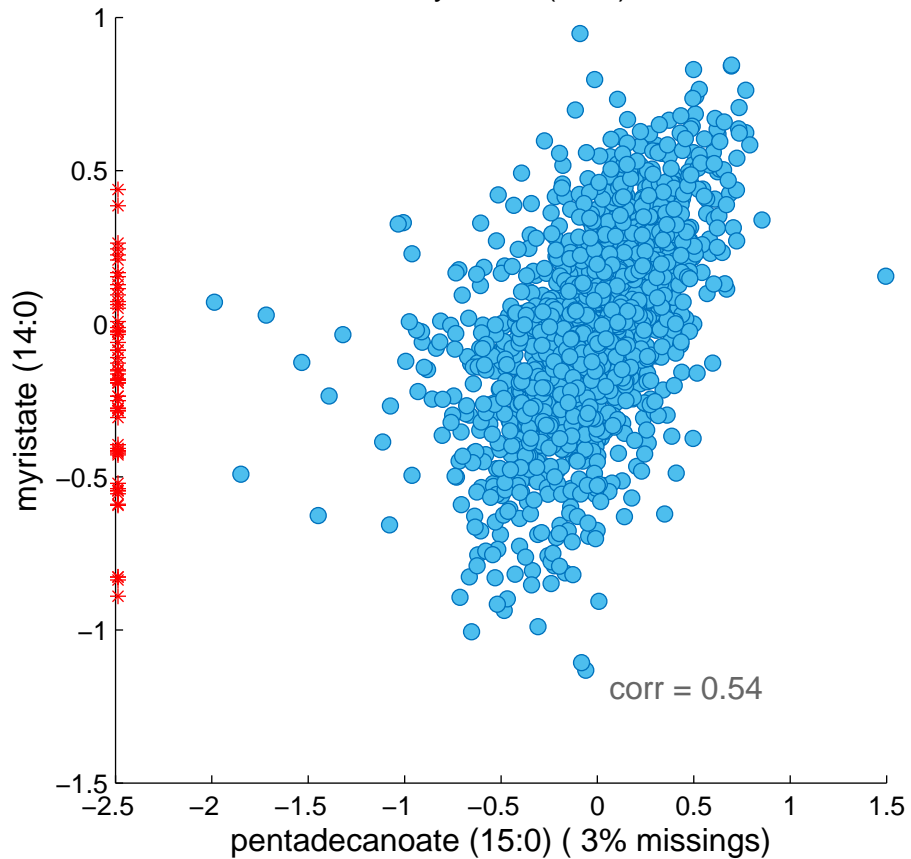
Missing values of paraxanthine
in caffeine



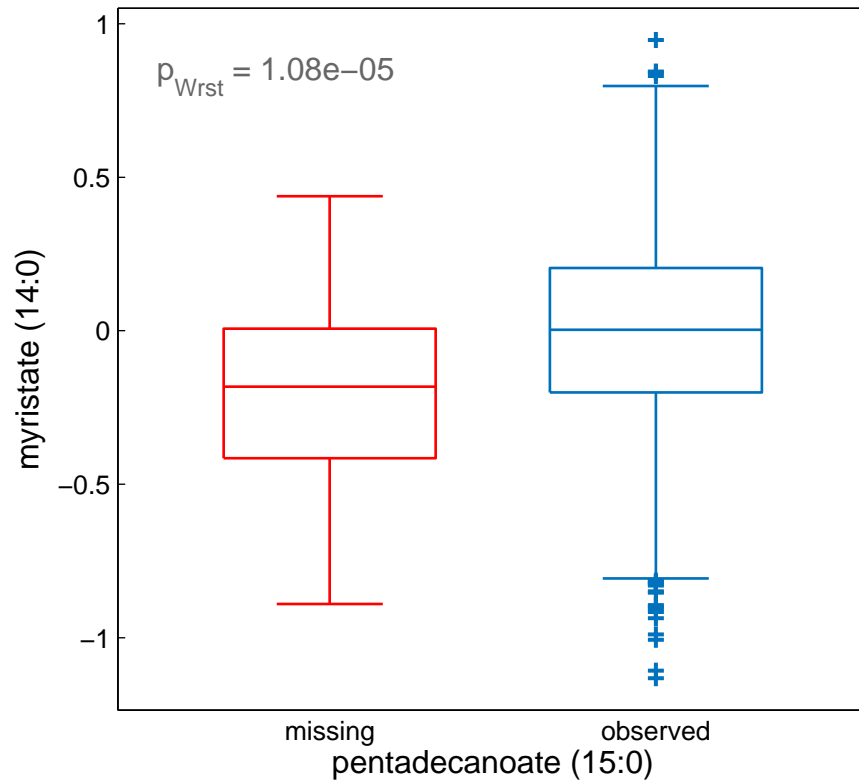
Concentrations of caffeine in
missing and observed paraxanthine



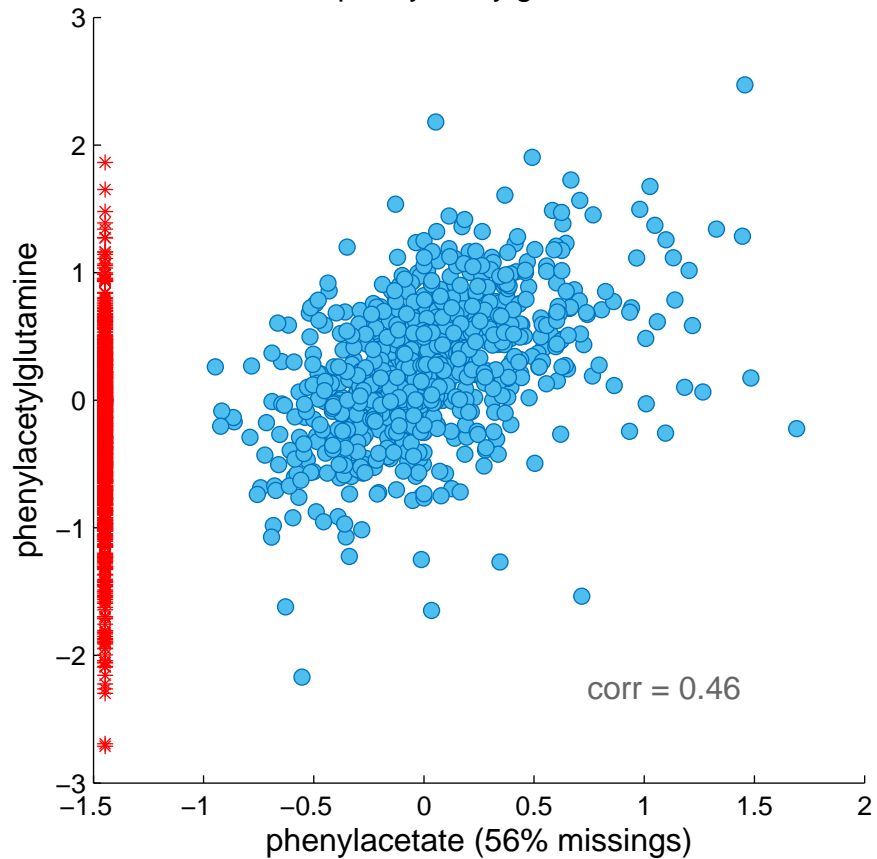
Missing values of pentadecanoate (15:0)
in myristate (14:0)



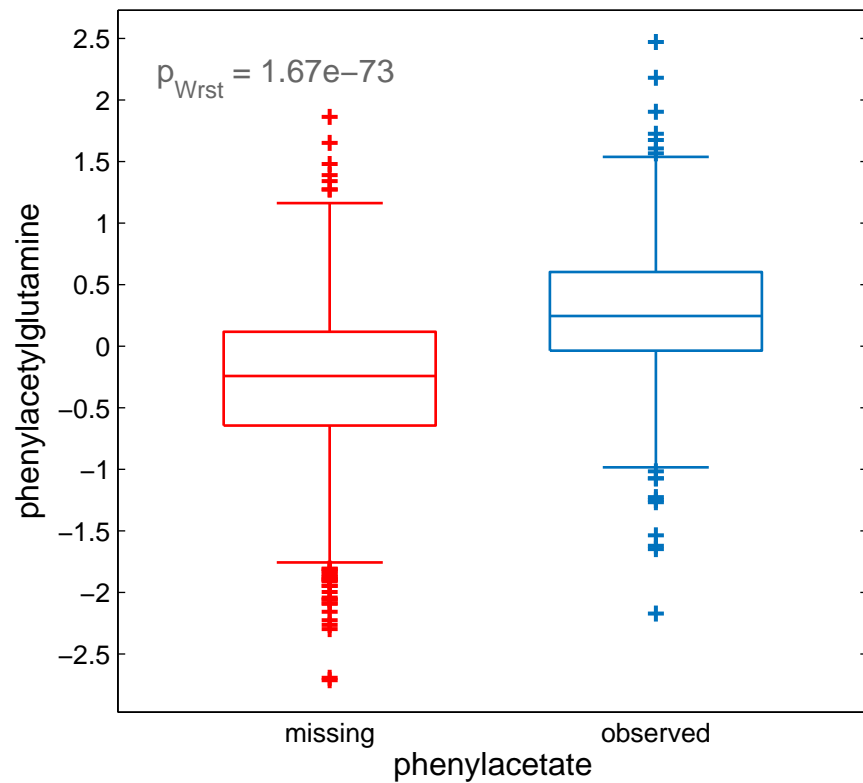
Concentrations of myristate (14:0) in
missing and observed pentadecanoate (15:0)



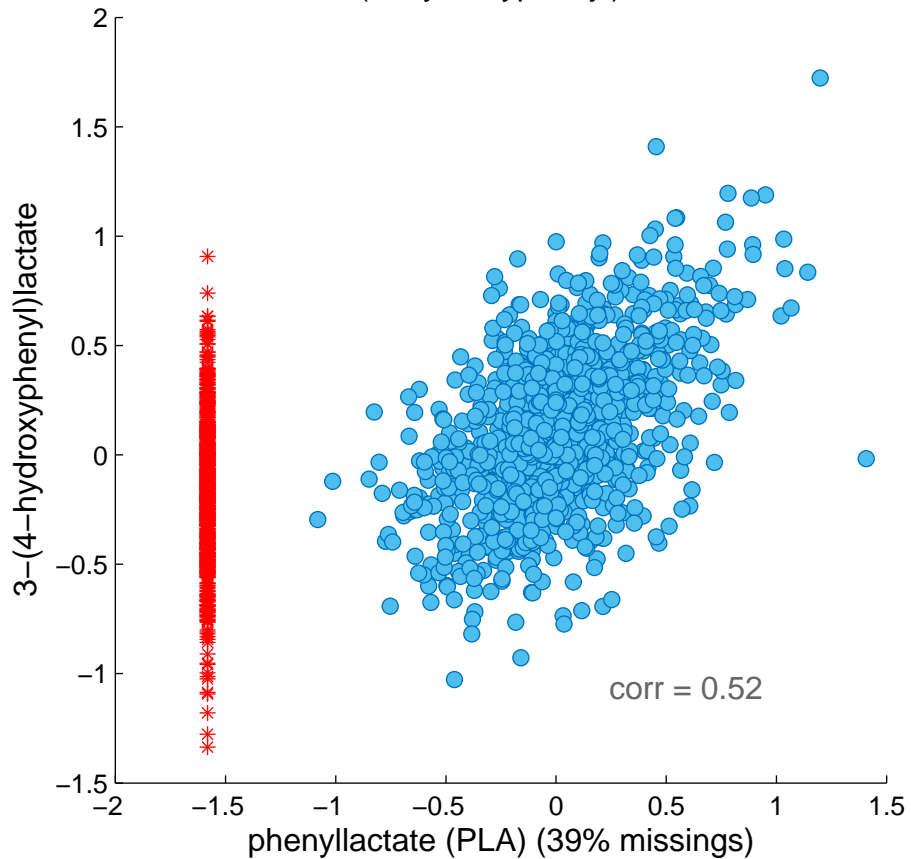
Missing values of phenylacetate in phenylacetylglutamine



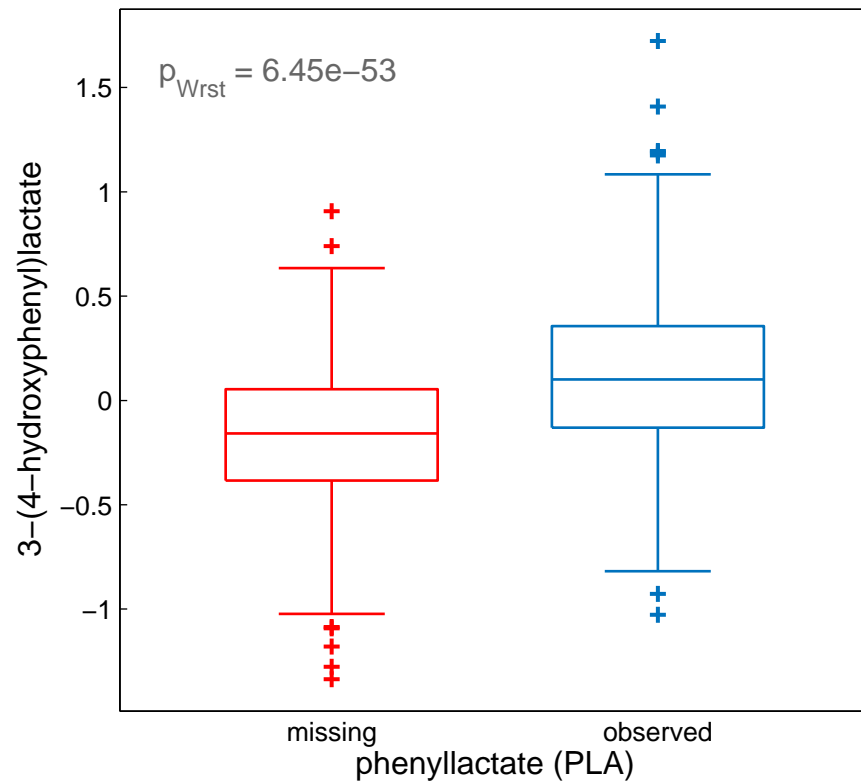
Concentrations of phenylacetylglutamine in missing and observed phenylacetate



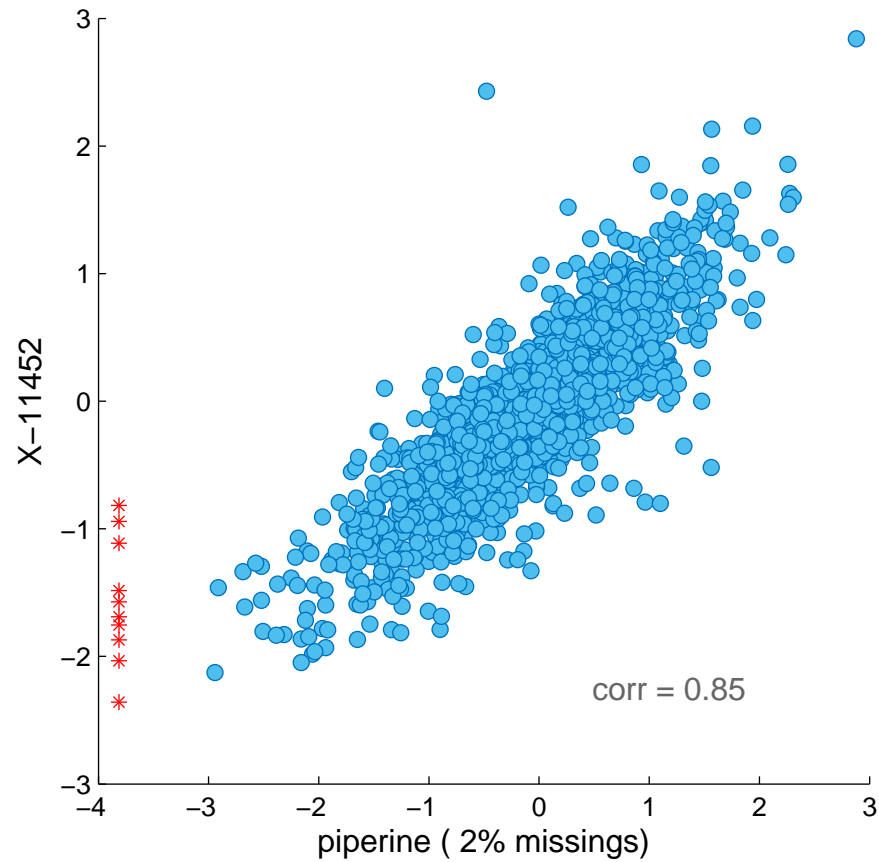
Missing values of phenyllactate (PLA)
in 3-(4-hydroxyphenyl)lactate



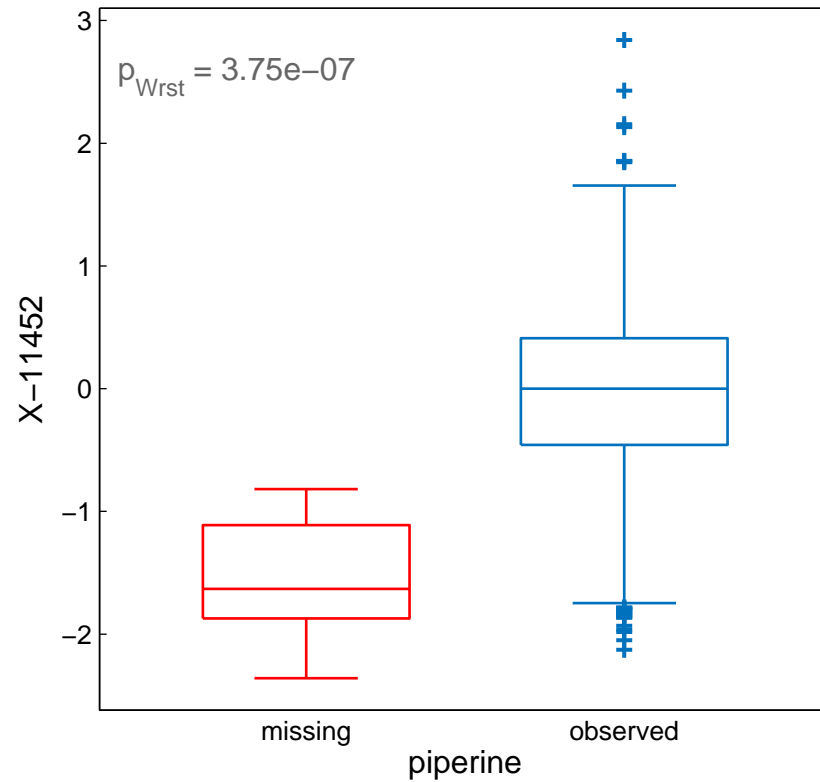
Concentrations of 3-(4-hydroxyphenyl)lactate in
missing and observed phenyllactate (PLA)



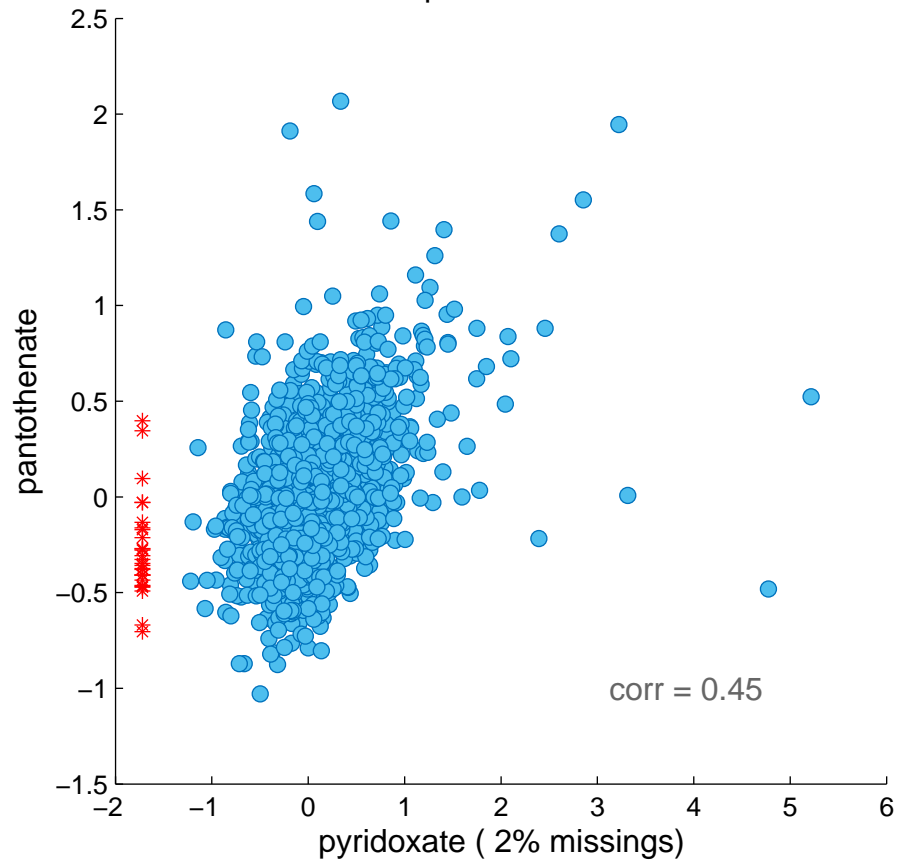
Missing values of piperine
in X-11452



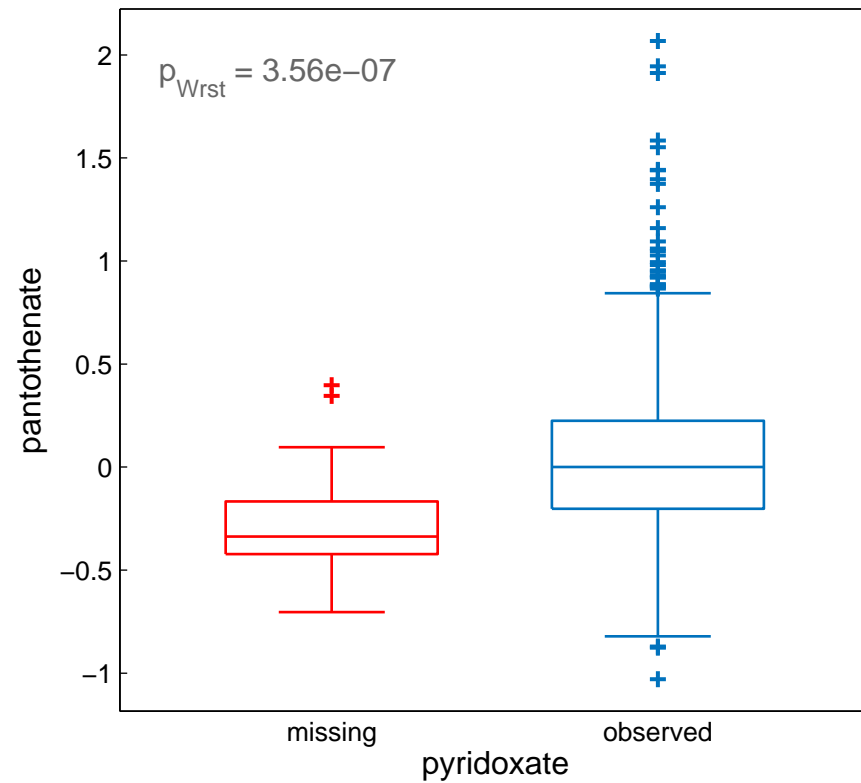
Concentrations of X-11452 in
missing and observed piperine



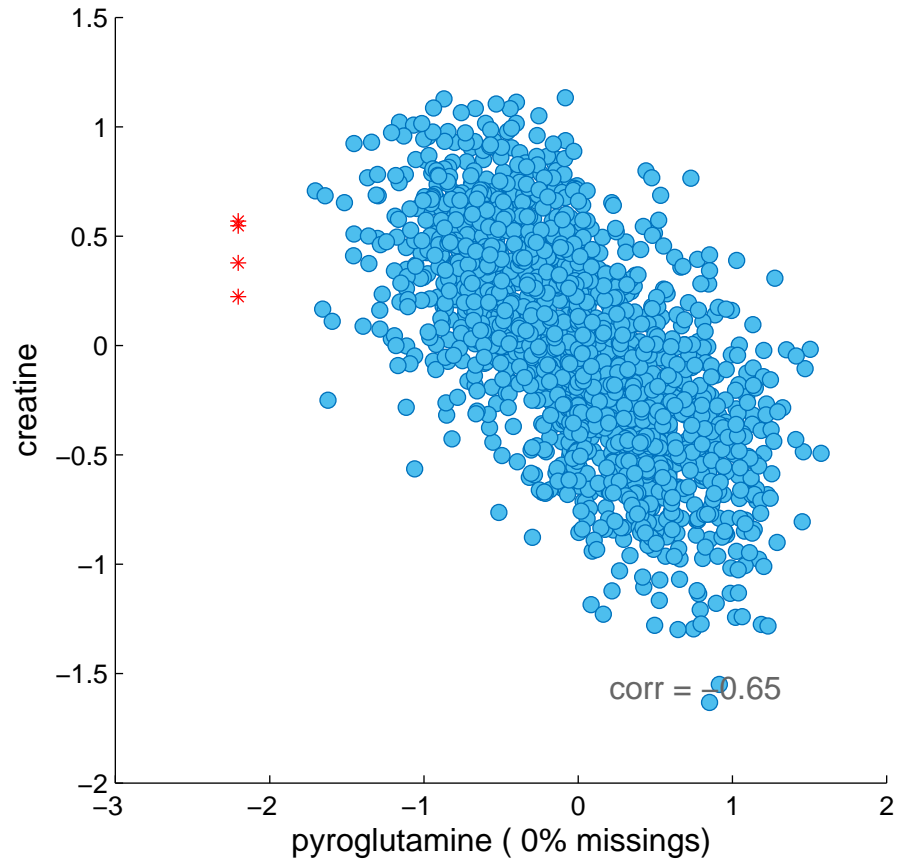
Missing values of pyridoxate
in pantothenate



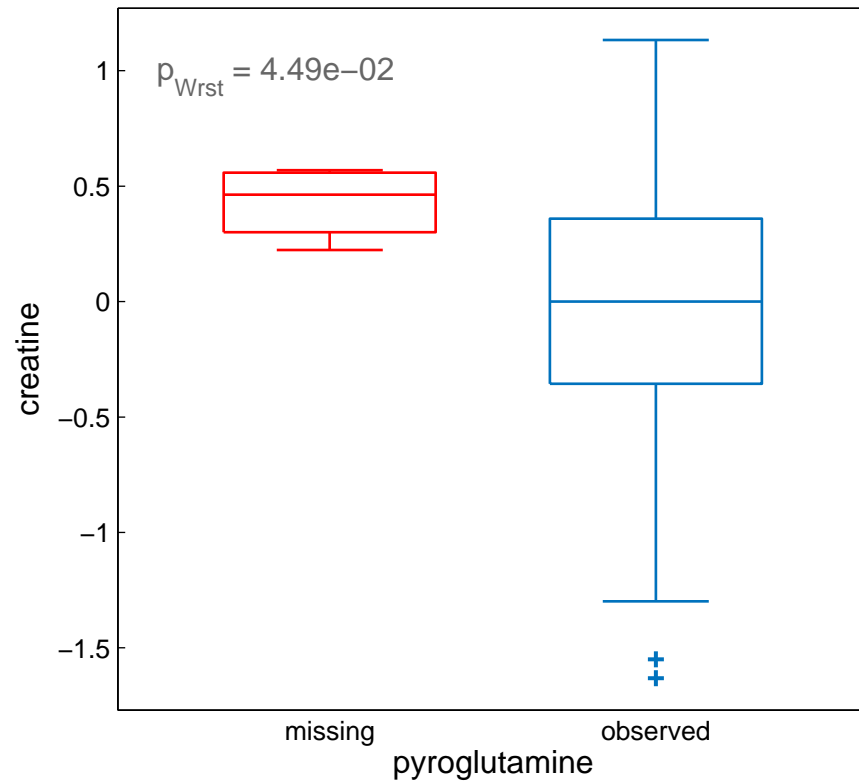
Concentrations of pantothenate in
missing and observed pyridoxate



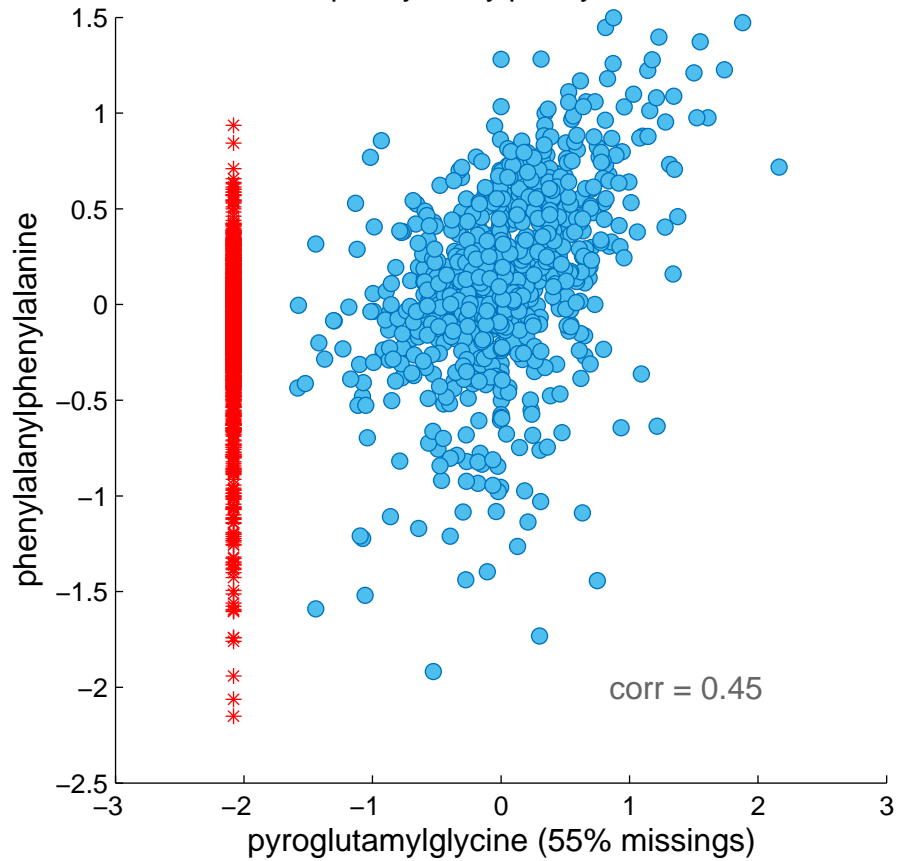
Missing values of pyroglutamine
in creatine



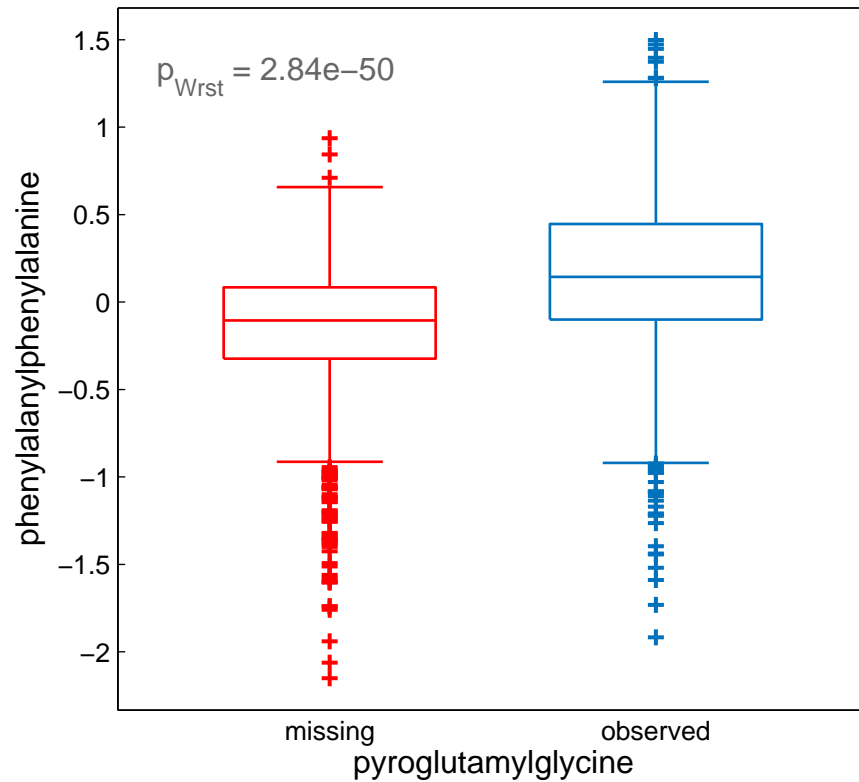
Concentrations of creatine in
missing and observed pyroglutamine



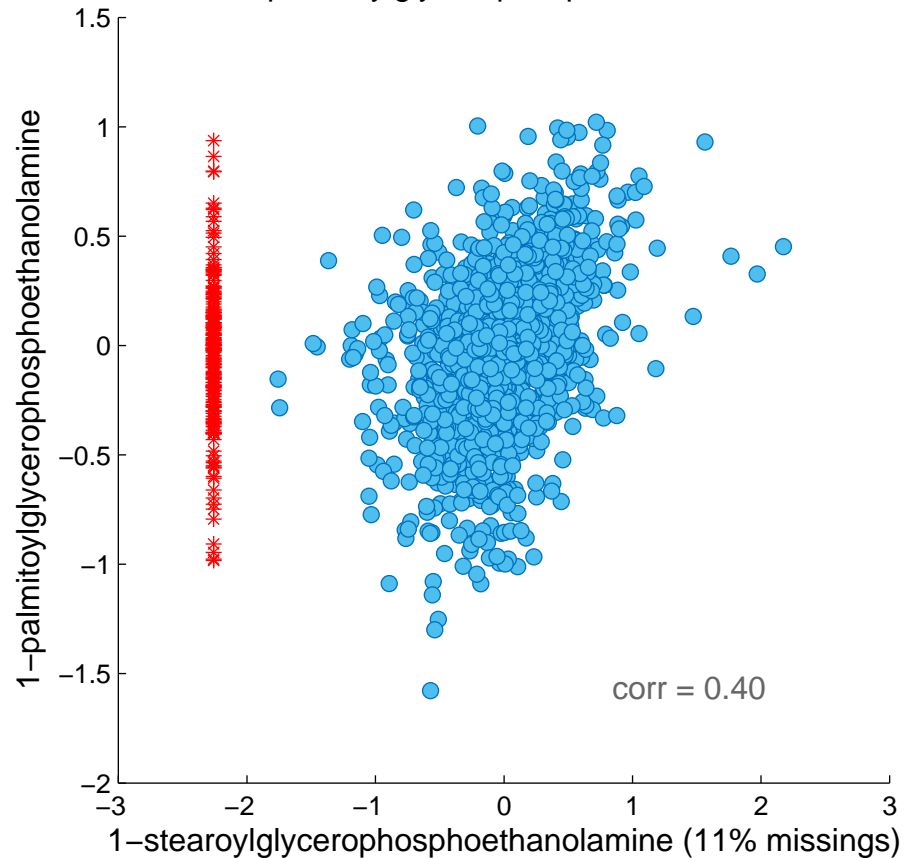
Missing values of pyroglutamylglycine
in phenylalanylphenylalanine



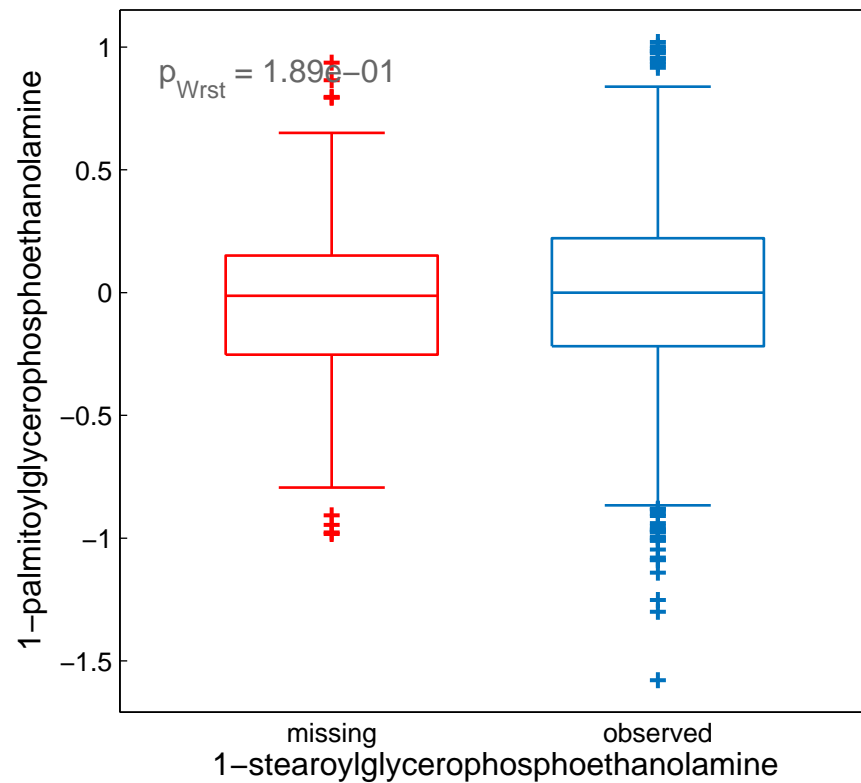
Concentrations of phenylalanylphenylalanine in
missing and observed pyroglutamylglycine



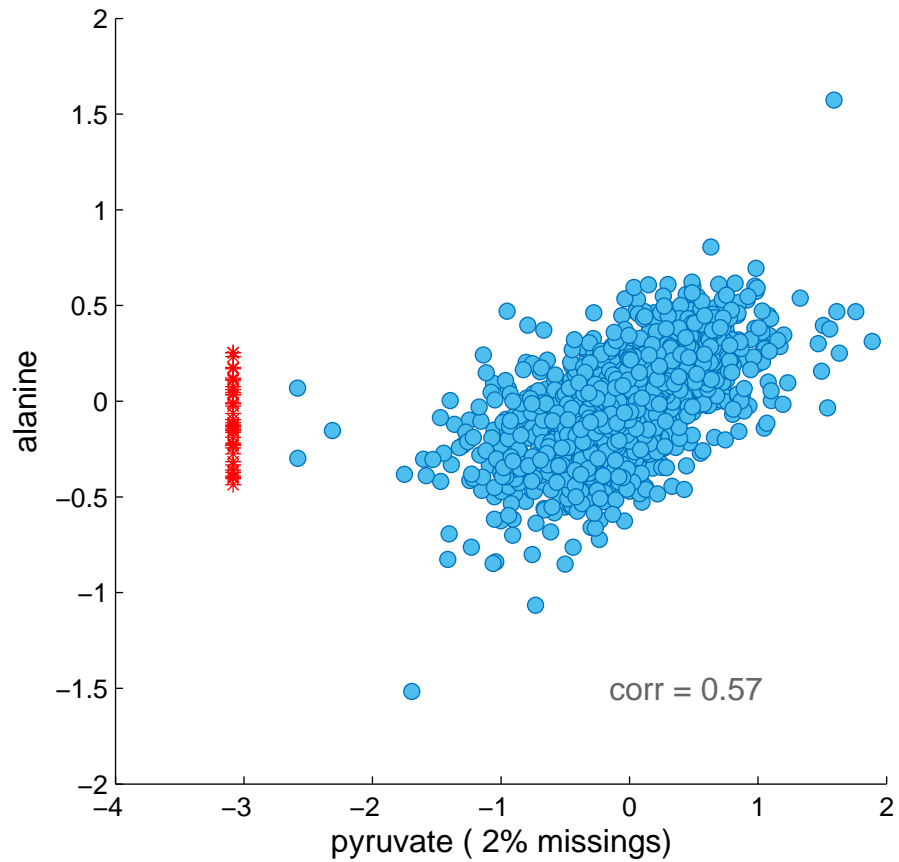
Missing values of 1-stearoylglycerophosphoethanolamine in 1-palmitoylglycerophosphoethanolamine



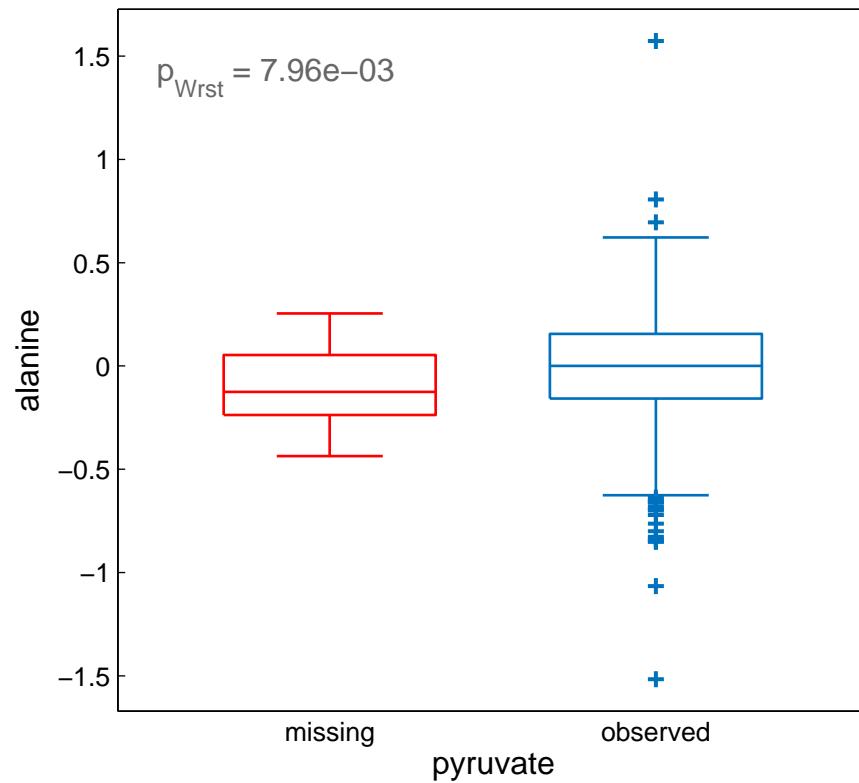
Concentrations of 1-palmitoylglycerophosphoethanolamine in missing and observed 1-stearoylglycerophosphoethanolamine



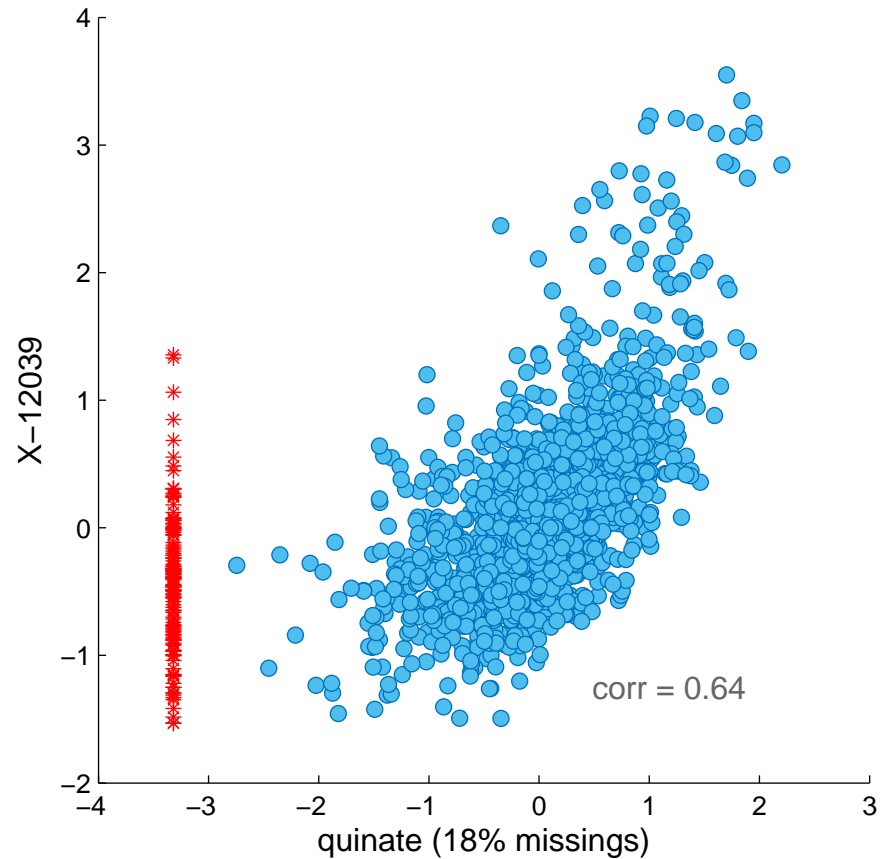
Missing values of pyruvate
in alanine



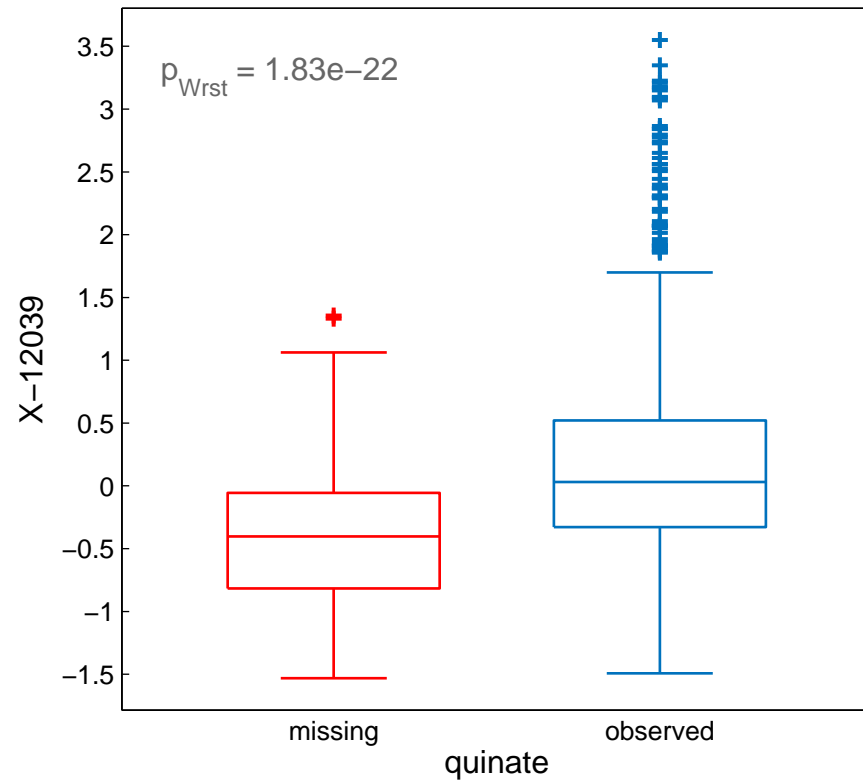
Concentrations of alanine in
missing and observed pyruvate



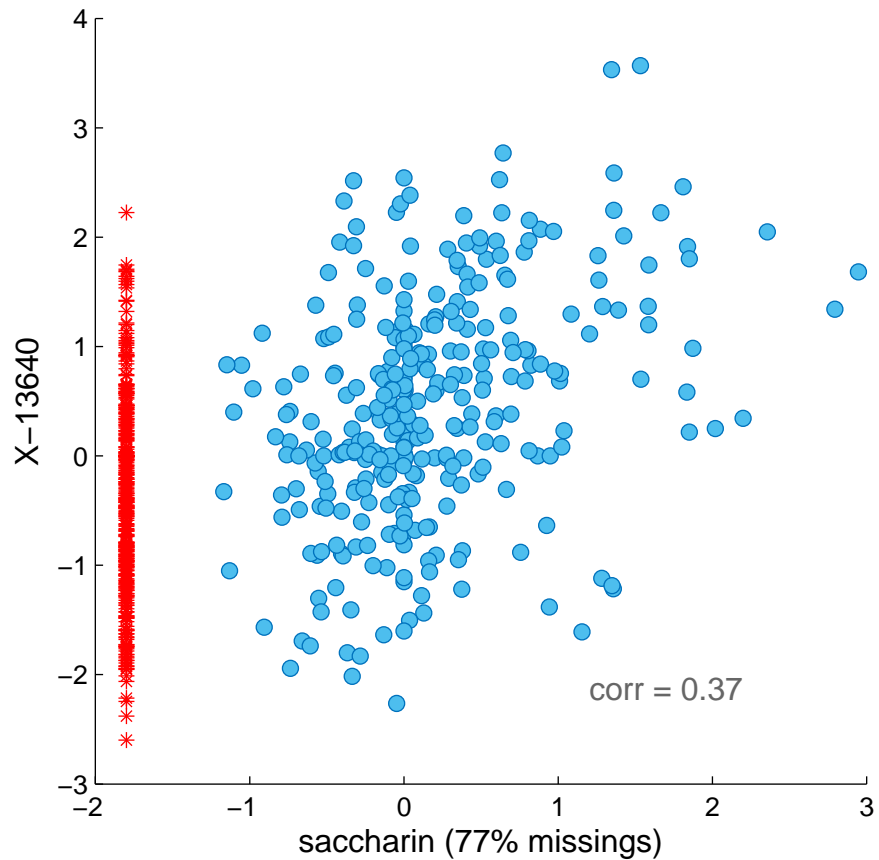
Missing values of quinate
in X-12039



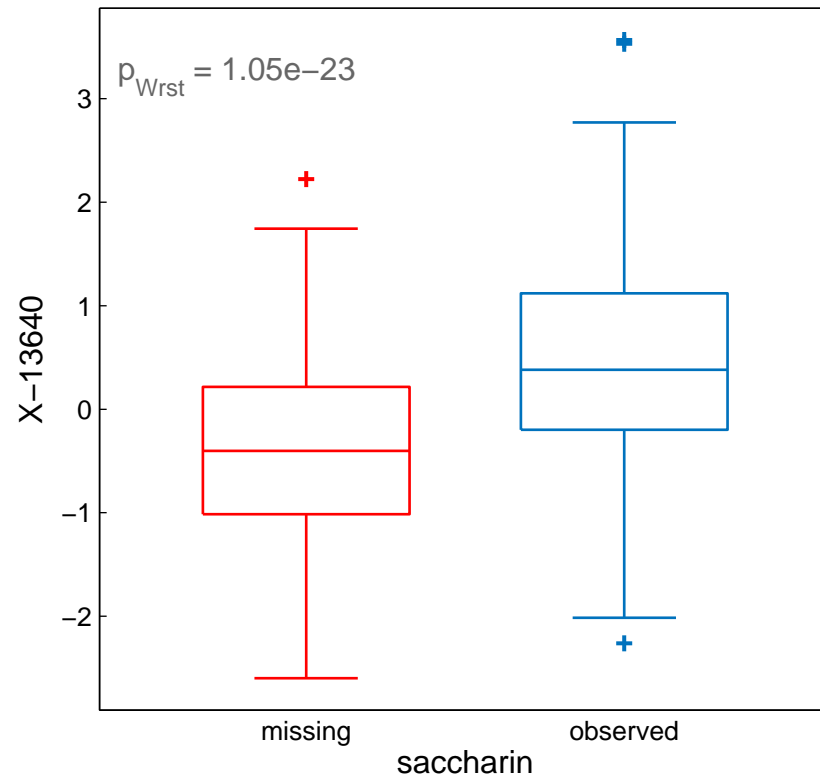
Concentrations of X-12039 in
missing and observed quinate



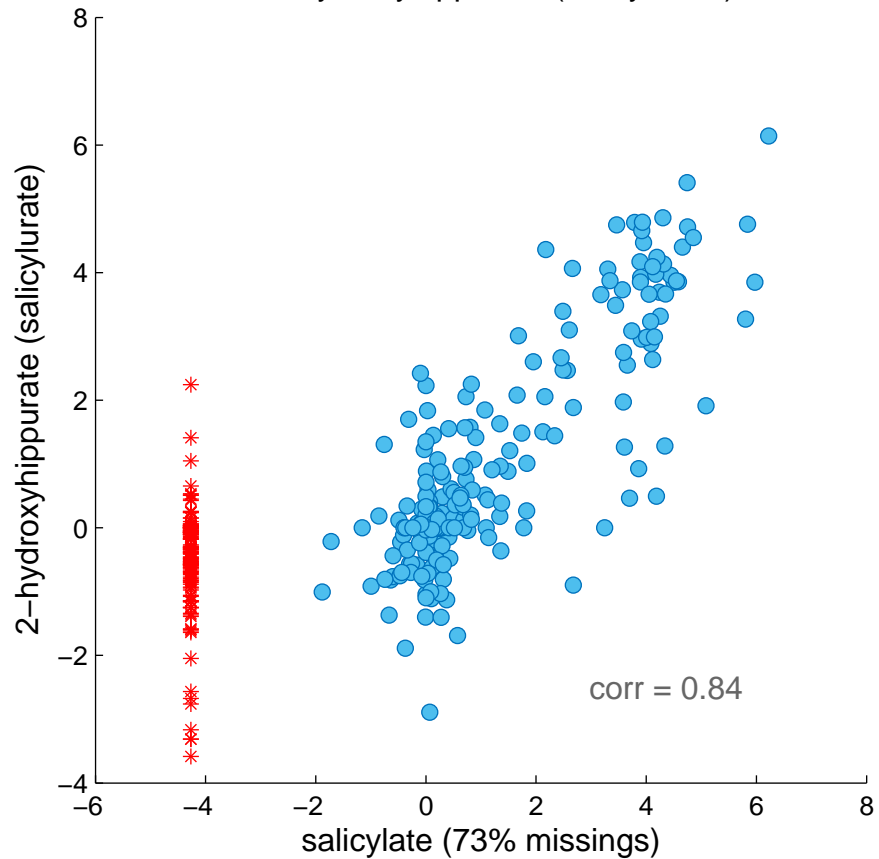
Missing values of saccharin
in X-13640



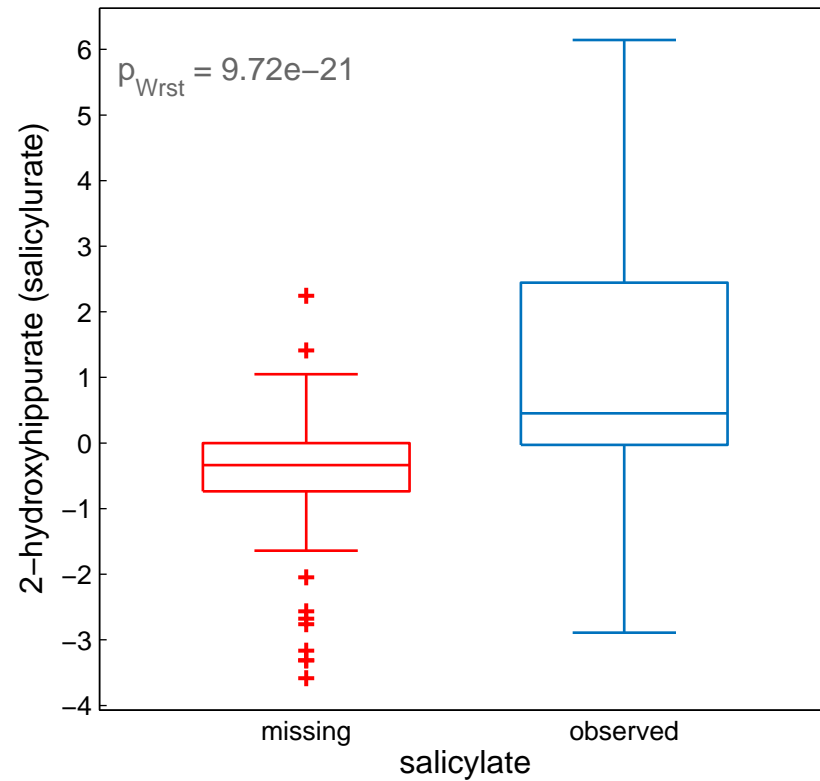
Concentrations of X-13640 in
missing and observed saccharin



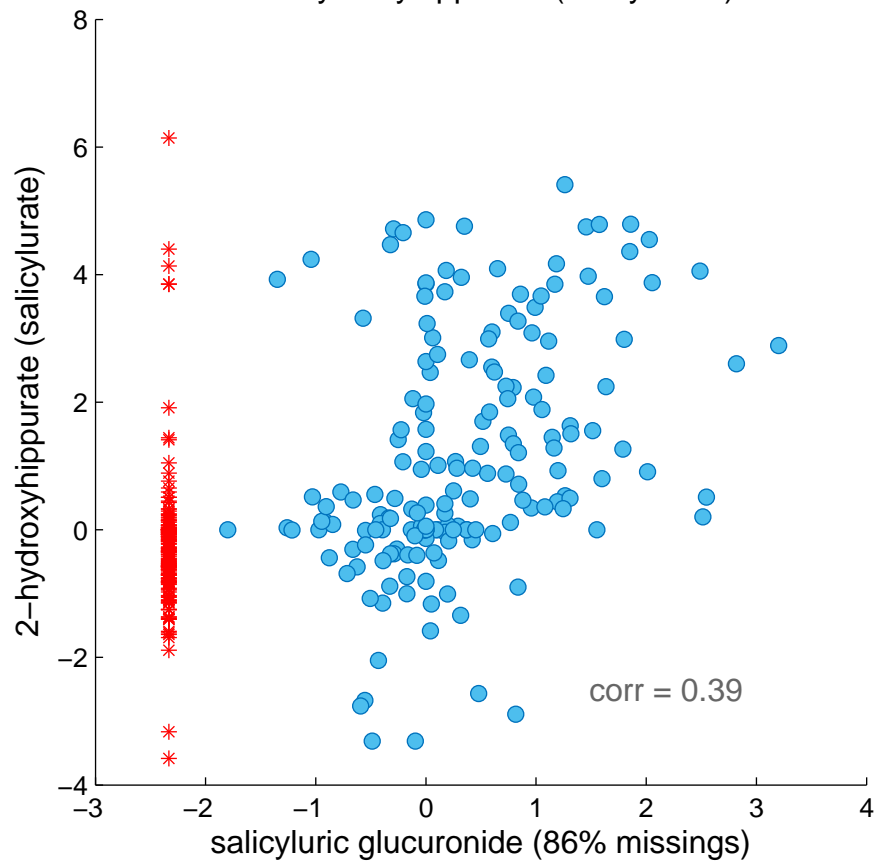
Missing values of salicylate
in 2-hydroxyhippurate (salicylurate)



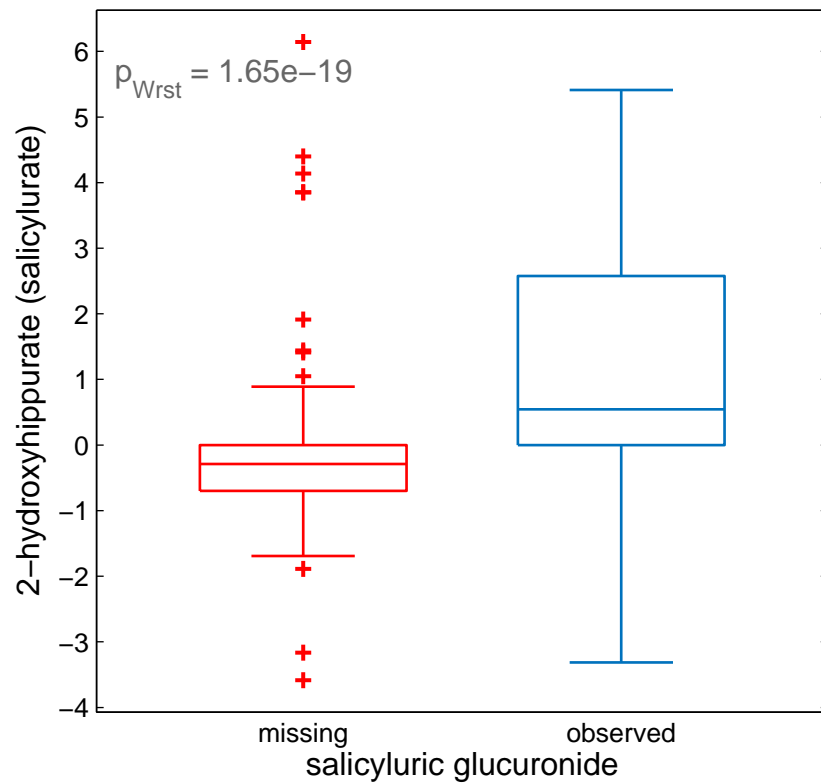
Concentrations of 2-hydroxyhippurate (salicylurate) in
missing and observed salicylate



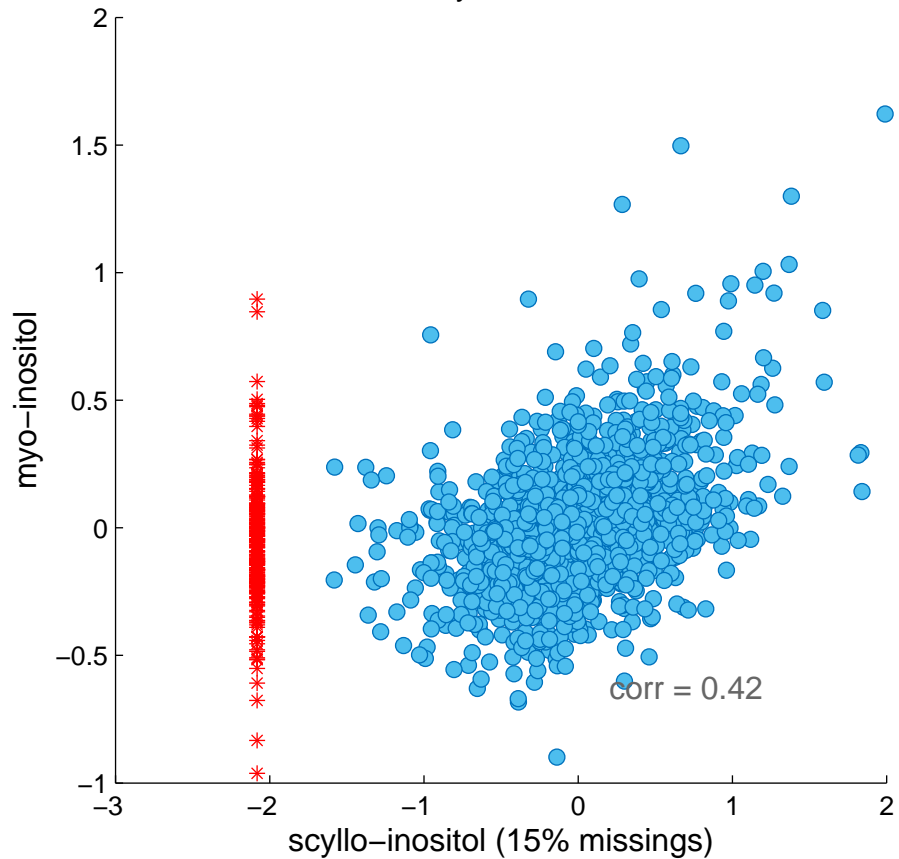
Missing values of salicylic glucuronide
in 2-hydroxyhippurate (salicylurate)



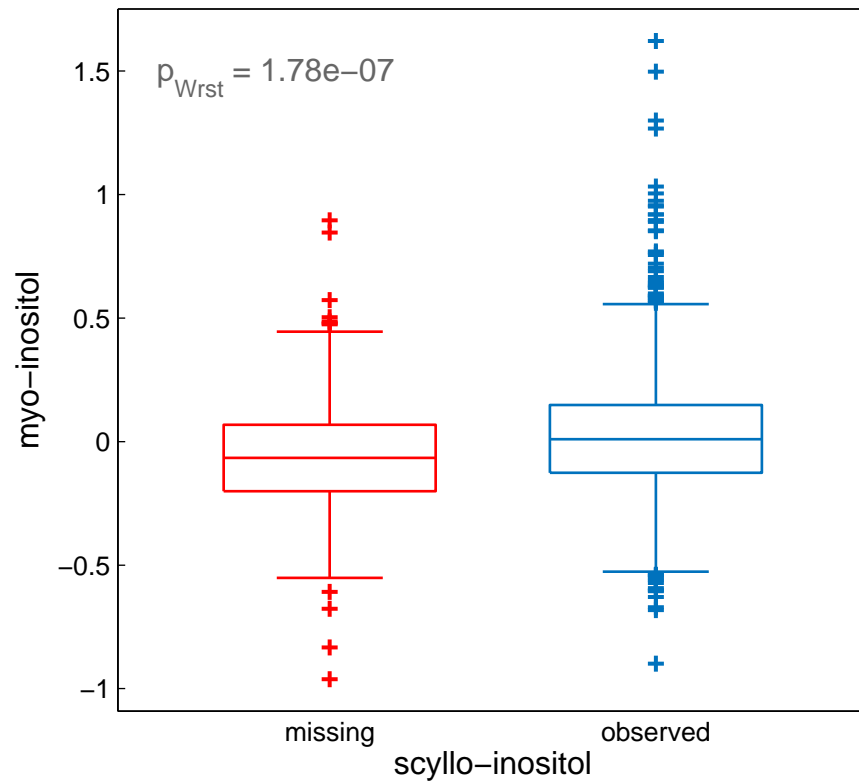
Concentrations of 2-hydroxyhippurate (salicylurate) in
missing and observed salicylic glucuronide



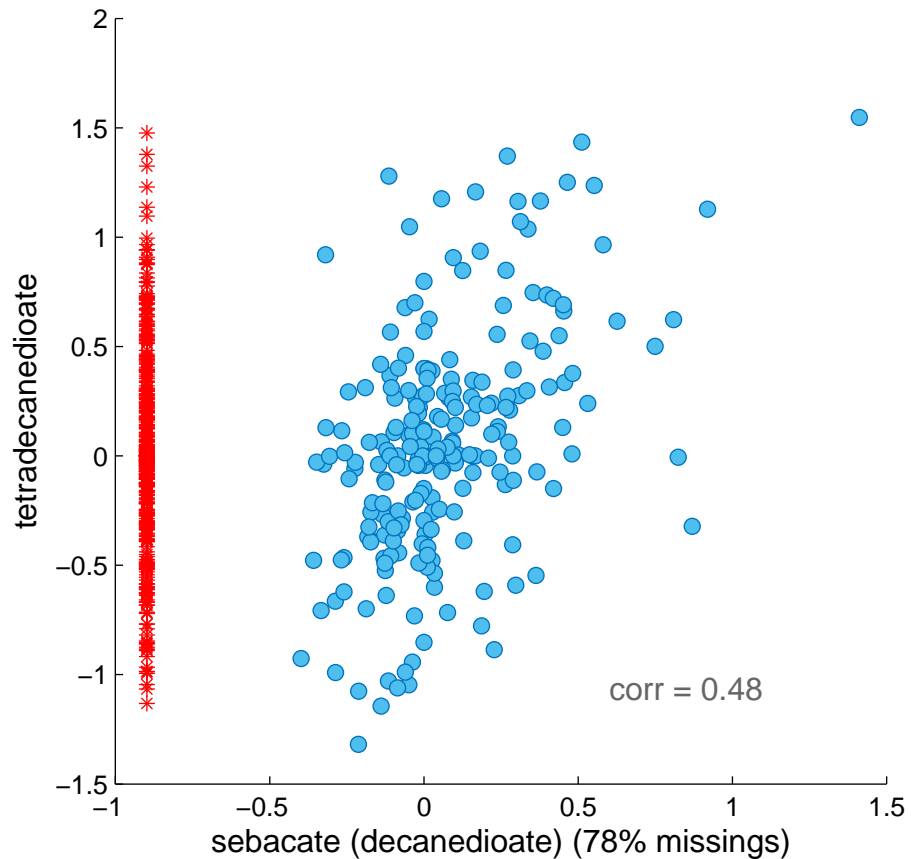
Missing values of scylo-inositol
in myo-inositol



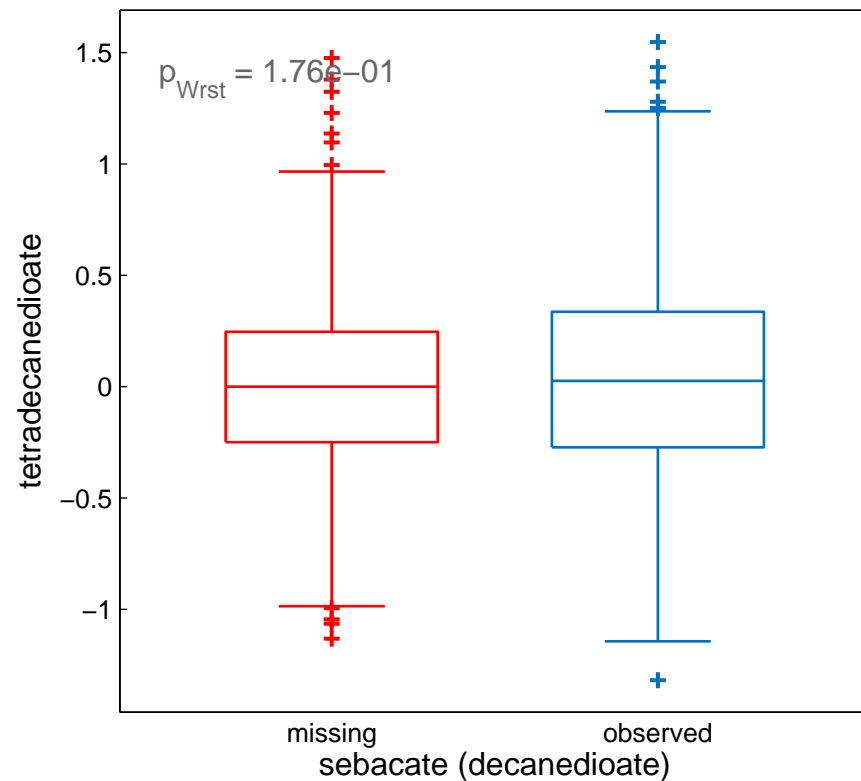
Concentrations of myo-inositol in
missing and observed scylo-inositol



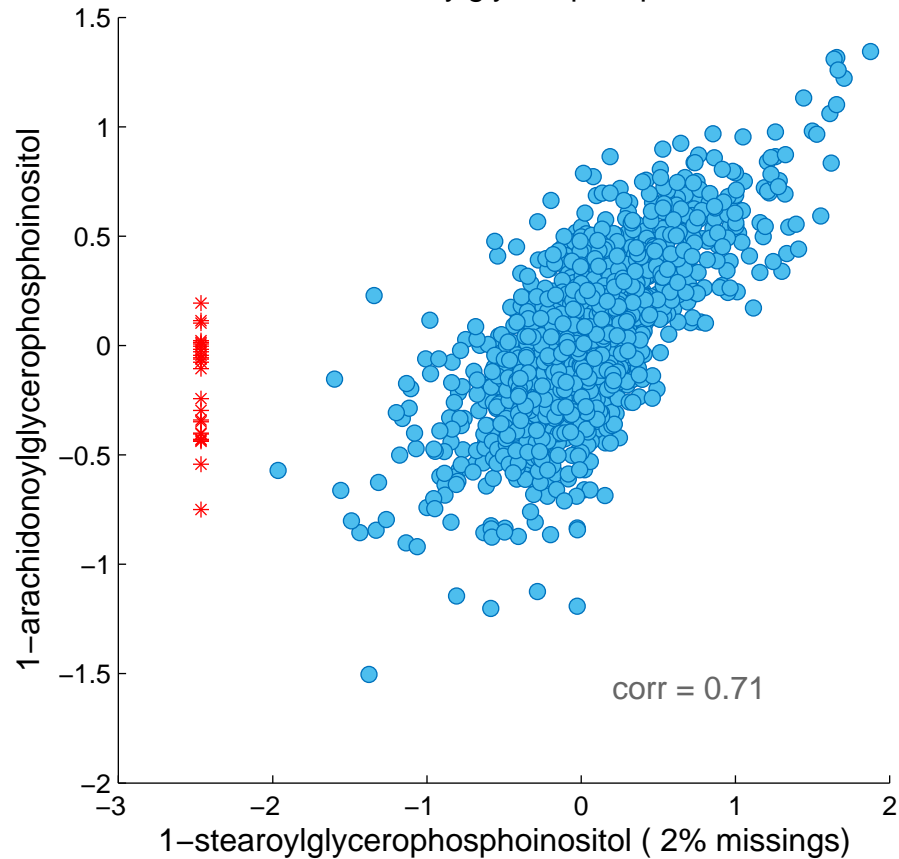
Missing values of sebacate (decanedioate)
in tetradecanedioate



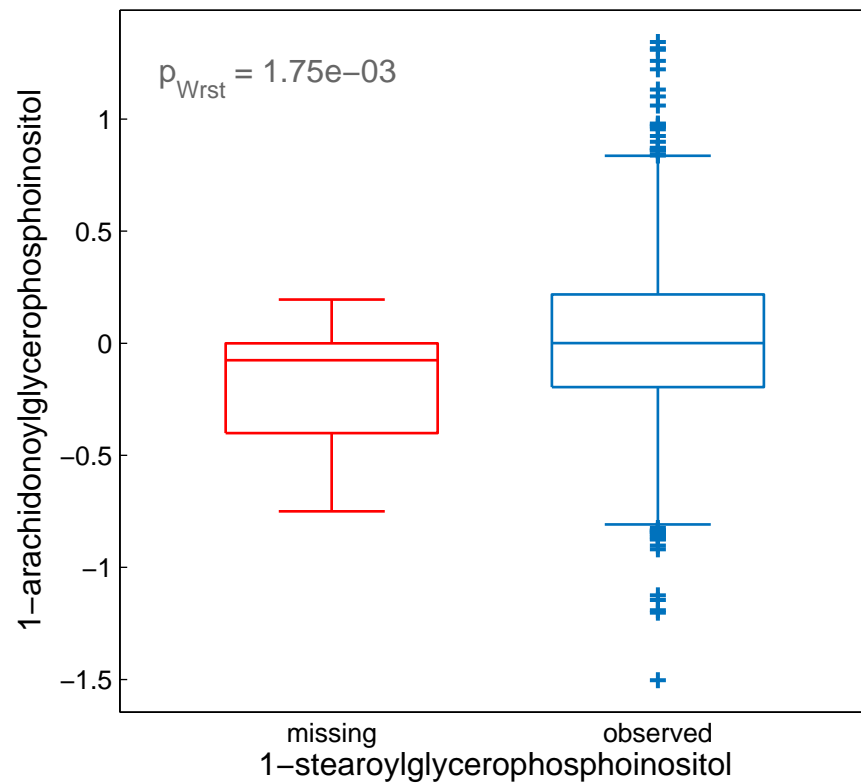
Concentrations of tetradecanedioate in
missing and observed sebacate (decanedioate)



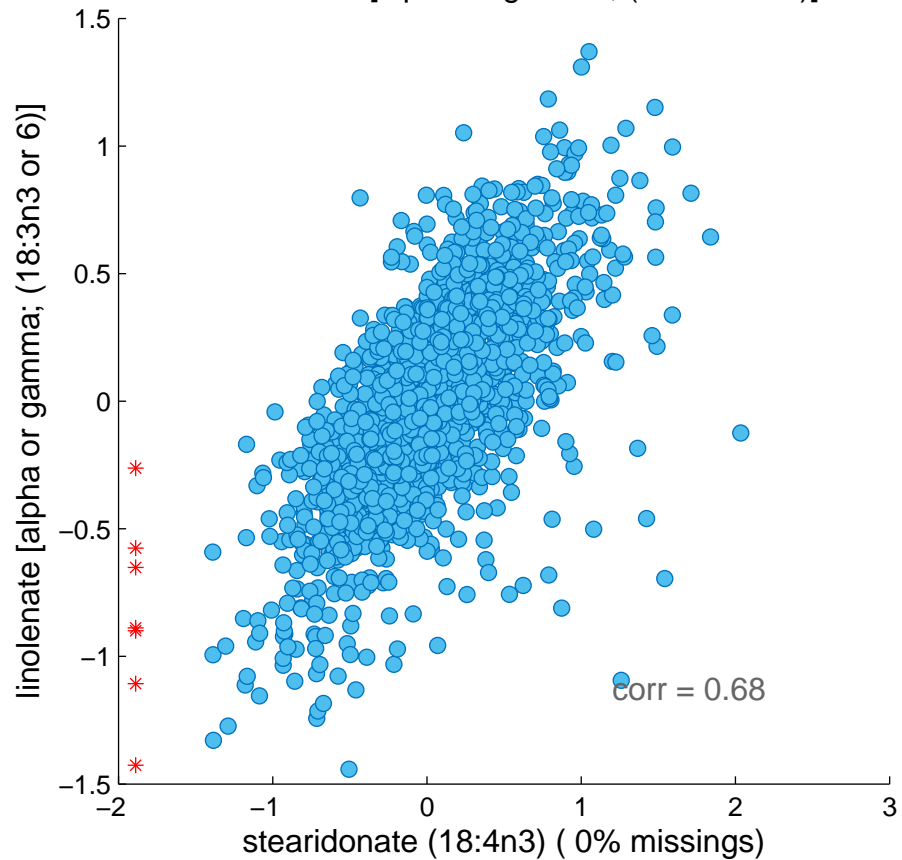
Missing values of 1-stearoylglycerophosphoinositol
in 1-arachidonoylglycerophosphoinositol



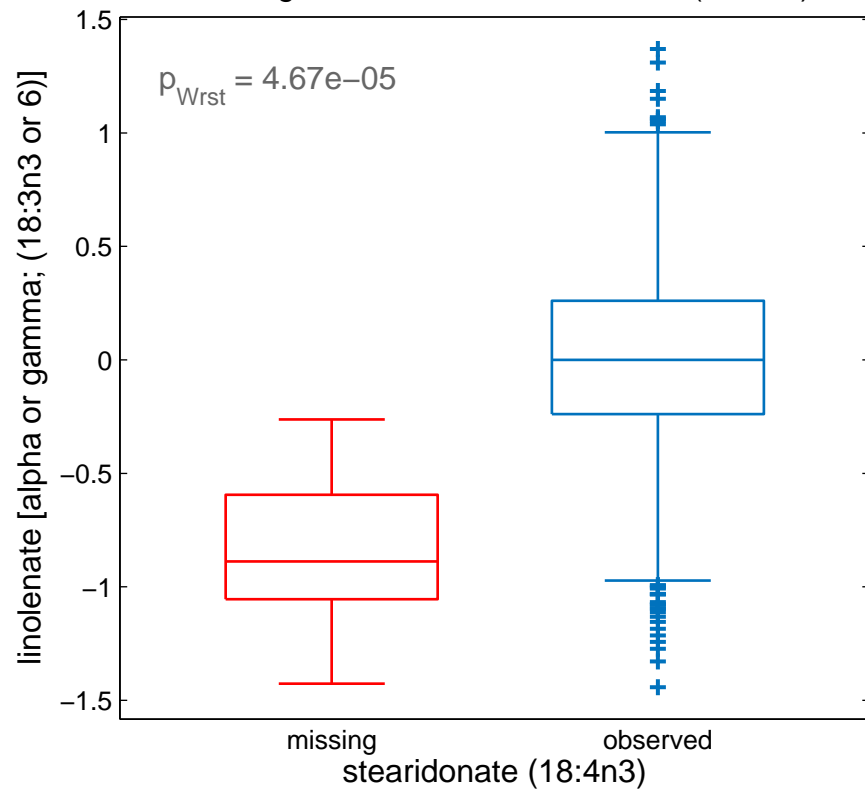
Concentrations of 1-arachidonoylglycerophosphoinositol in
missing and observed 1-stearoylglycerophosphoinositol



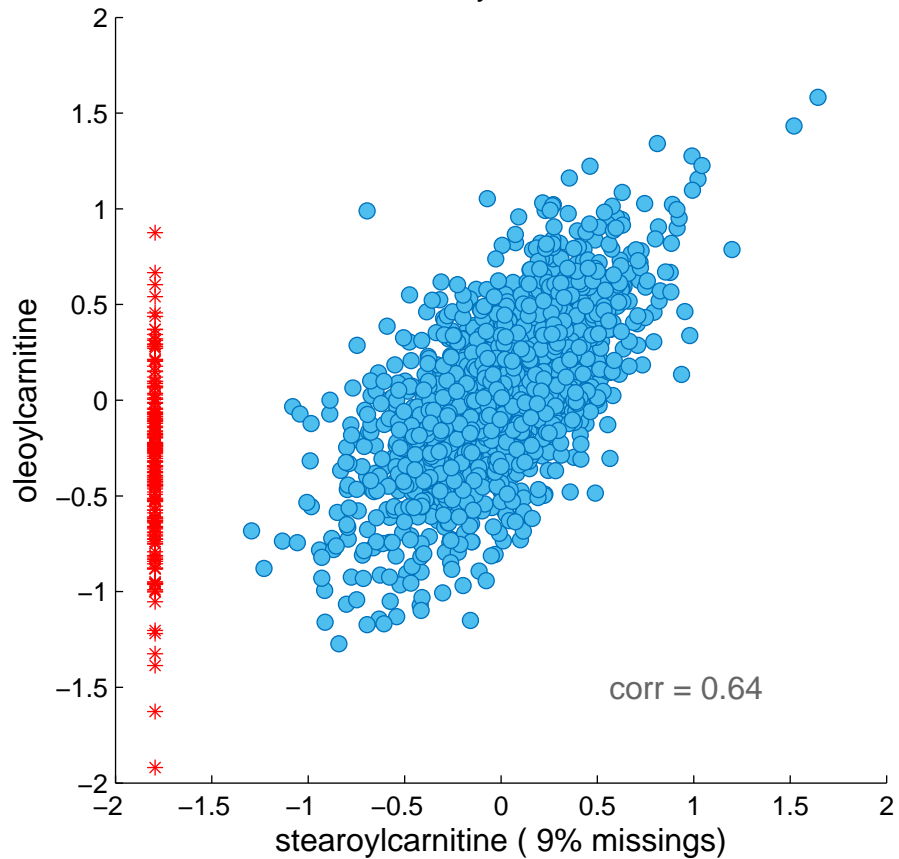
Missing values of stearidonate (18:4n3)
in linolenate [alpha or gamma; (18:3n3 or 6)]



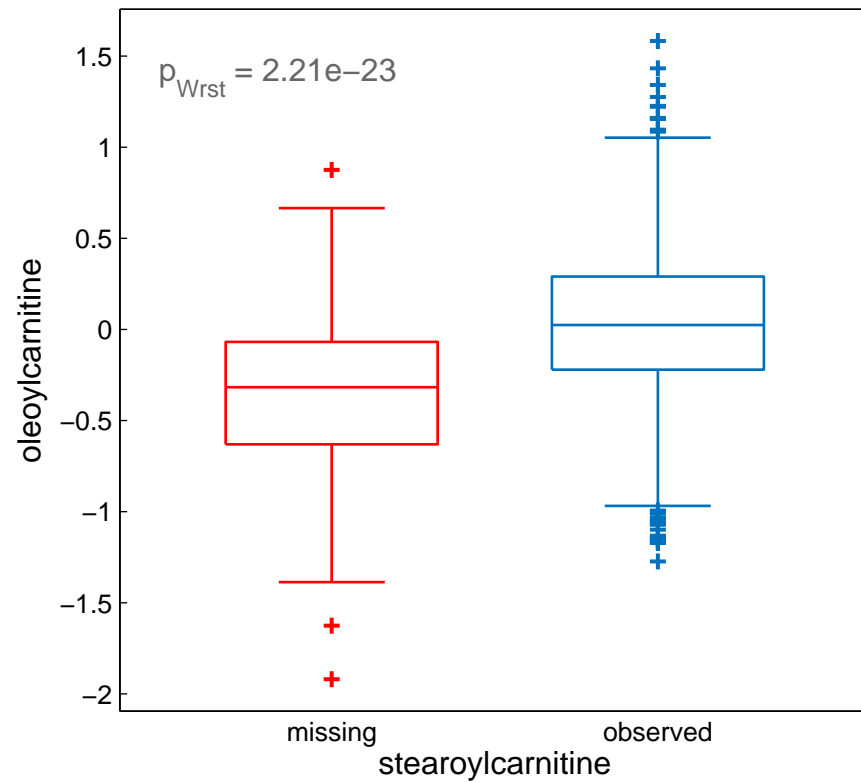
Concentrations of linolenate [alpha or gamma; (18:3n3 or 6)] in
missing and observed stearidonate (18:4n3)



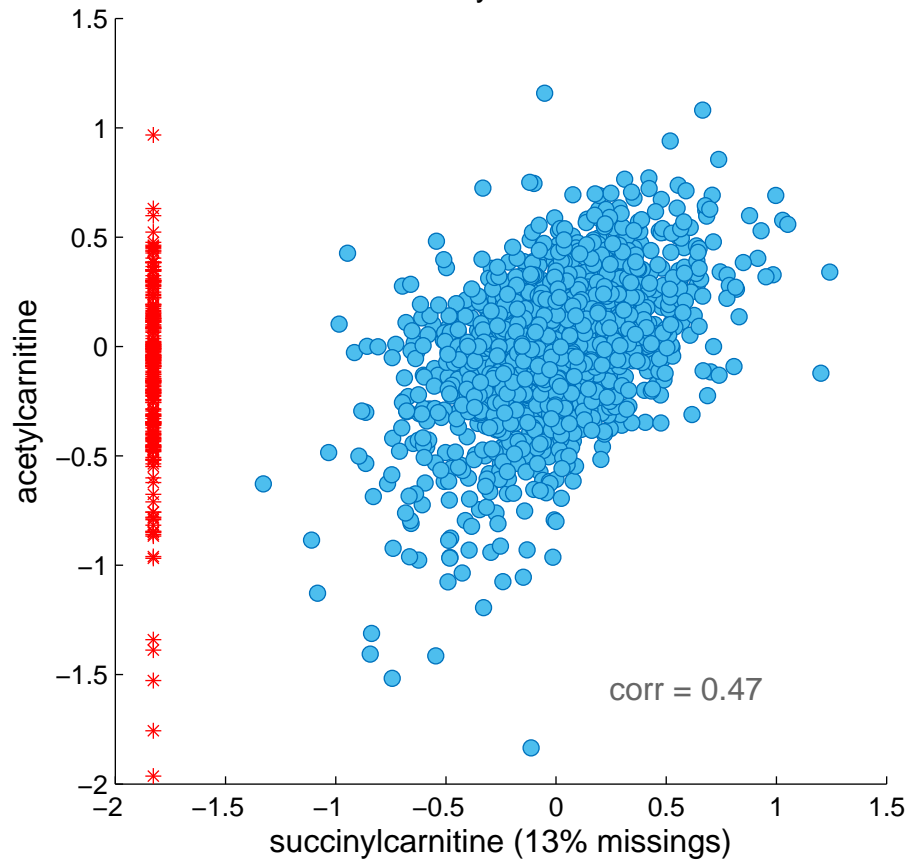
Missing values of stearyl carnitine
in oleoyl carnitine



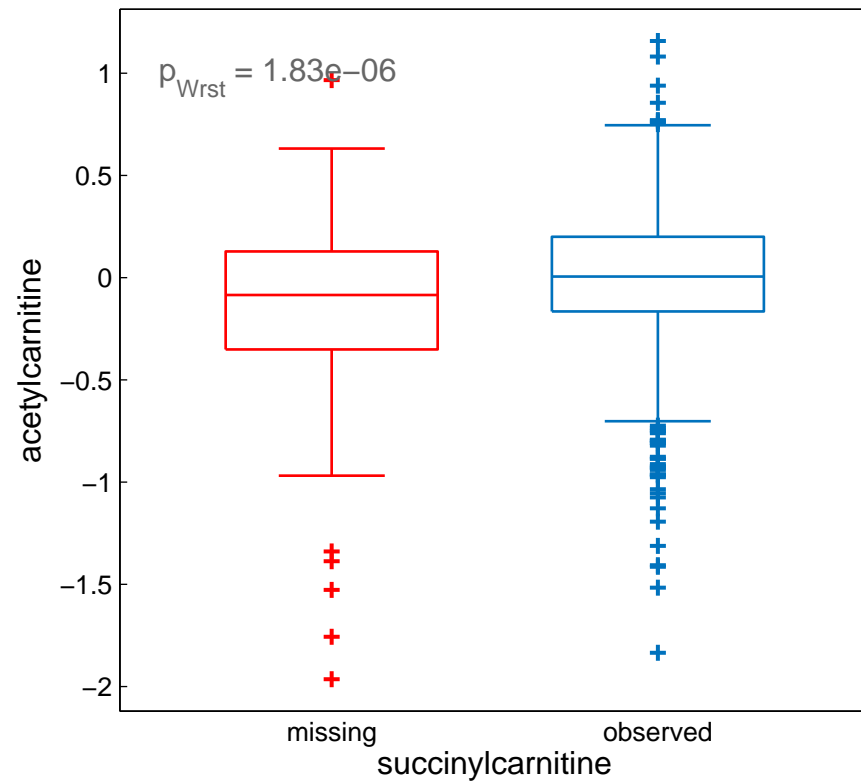
Concentrations of oleoyl carnitine in
missing and observed stearyl carnitine



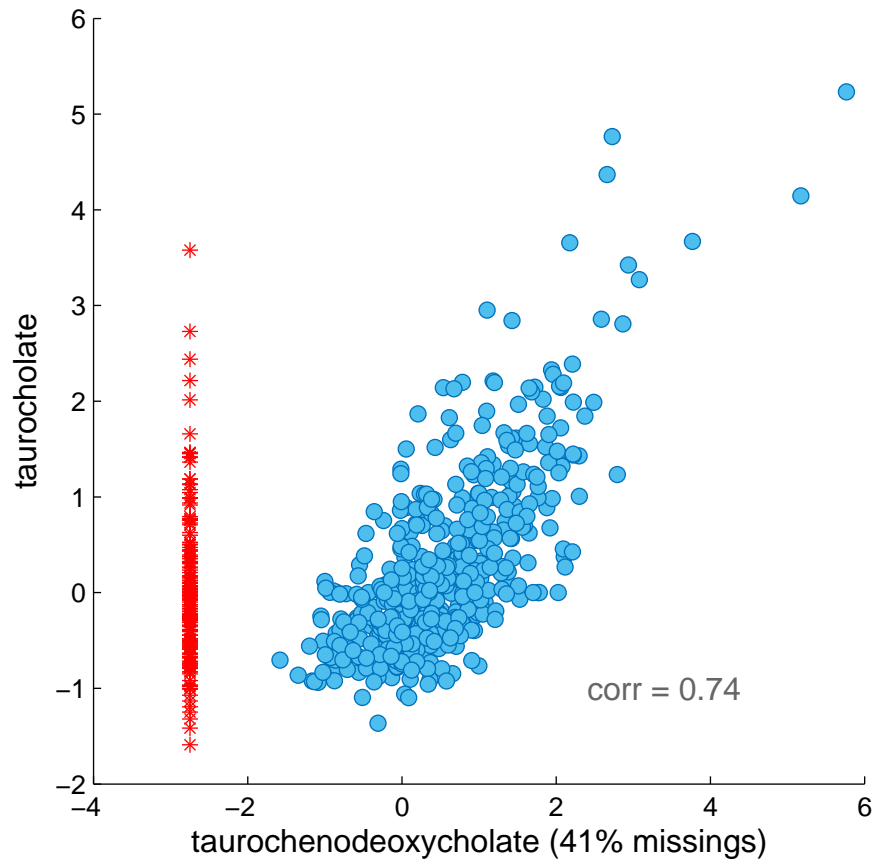
Missing values of succinylcarnitine
in acetylcarnitine



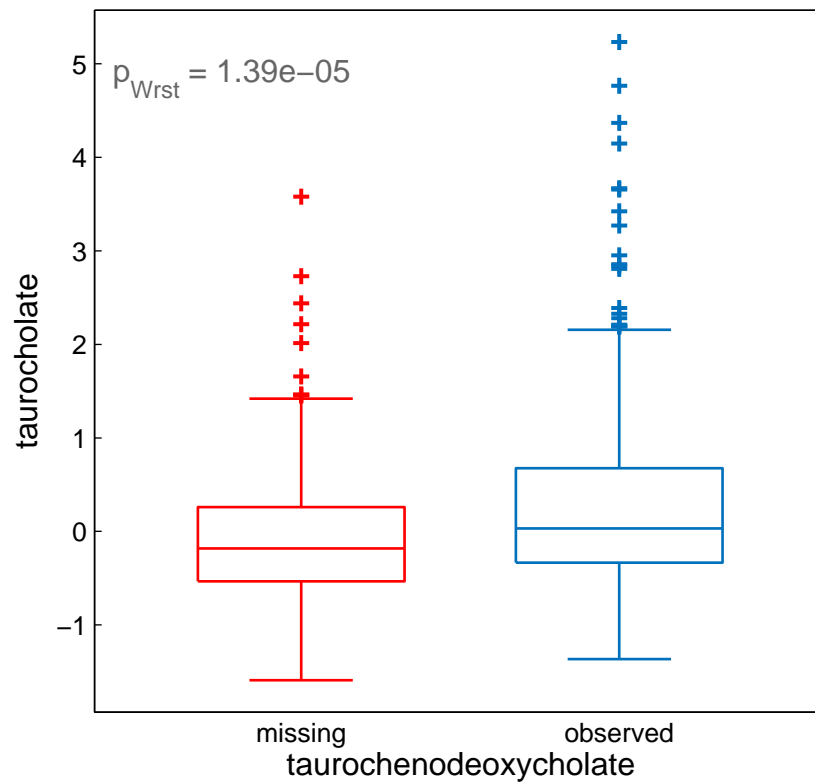
Concentrations of acetylcarnitine in
missing and observed succinylcarnitine

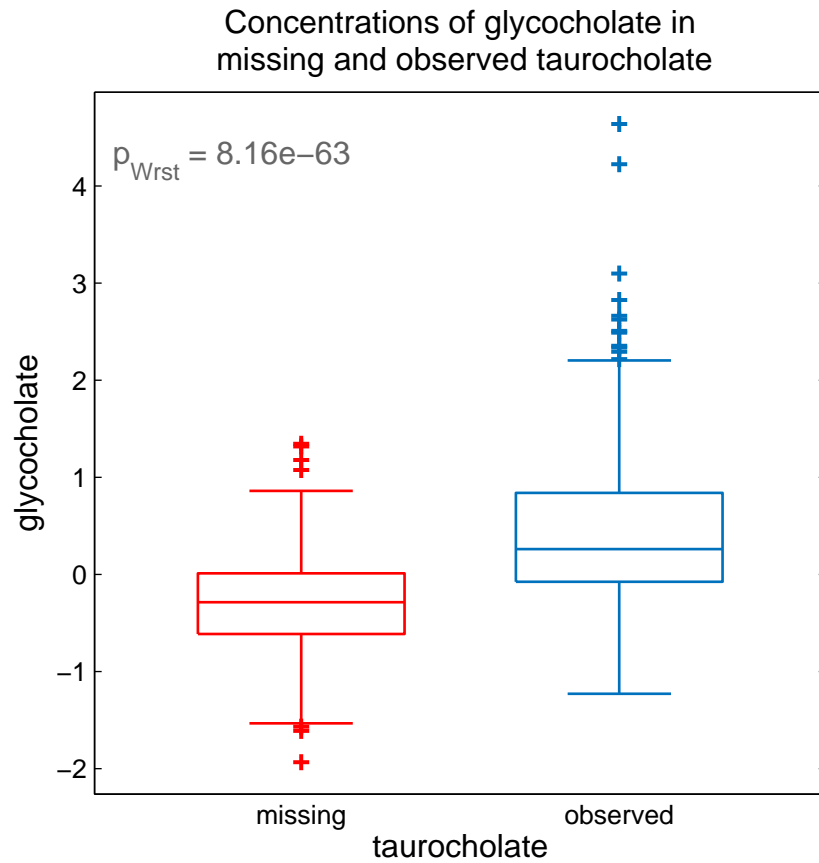
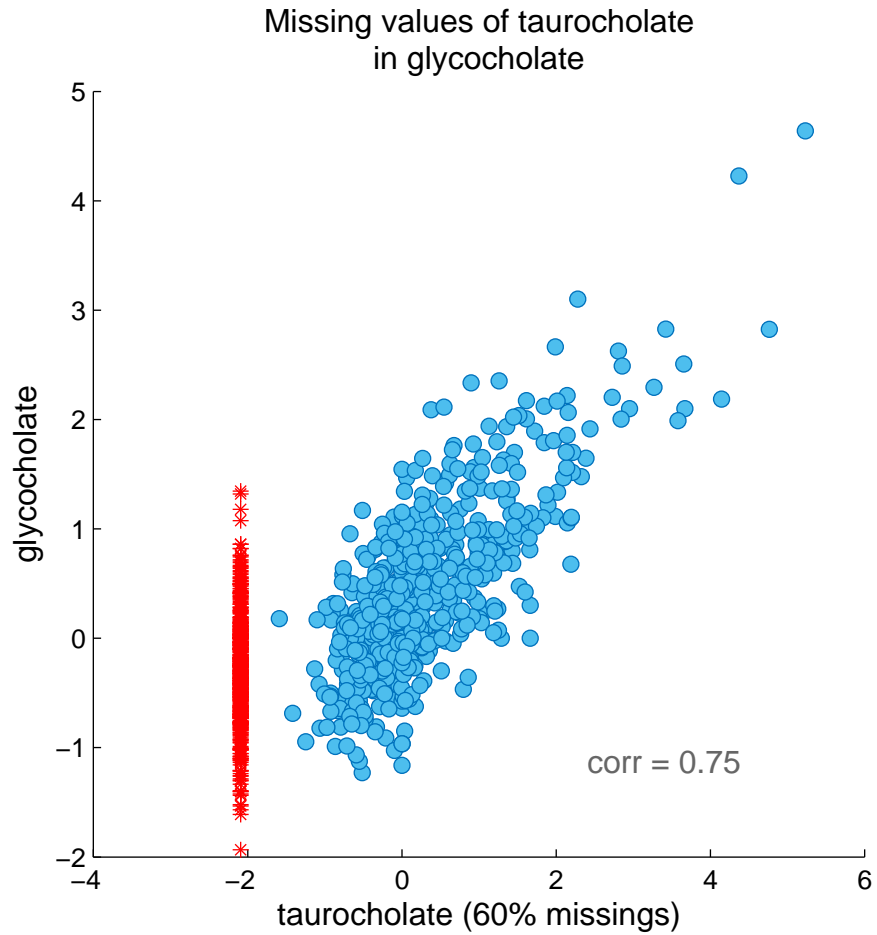


Missing values of taurochenodeoxycholate
in taurocholate

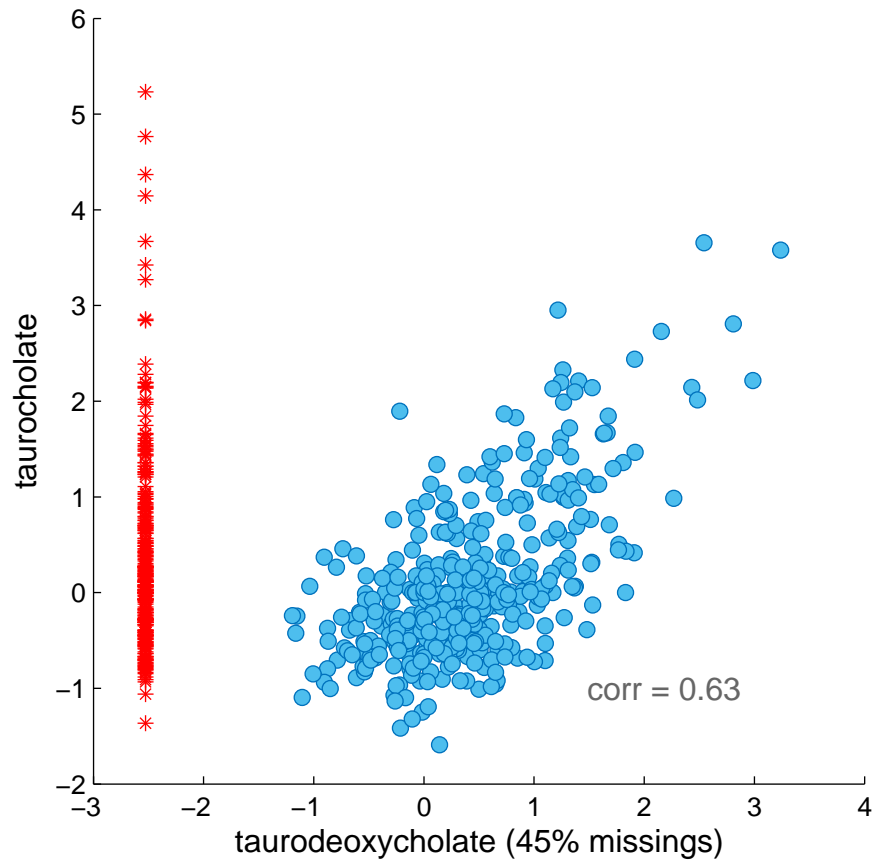


Concentrations of taurocholate in
missing and observed taurochenodeoxycholate

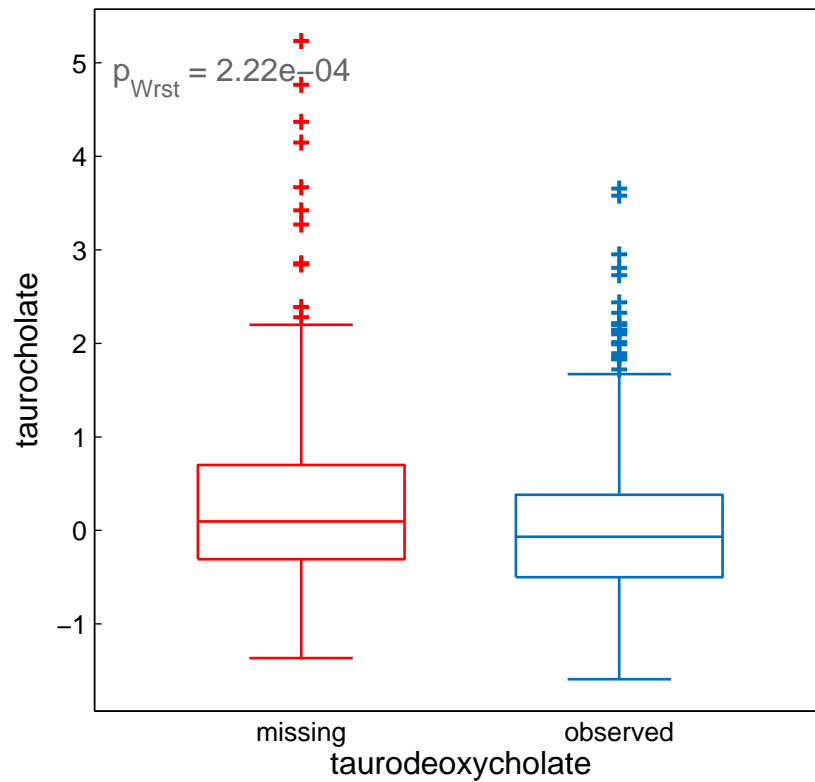




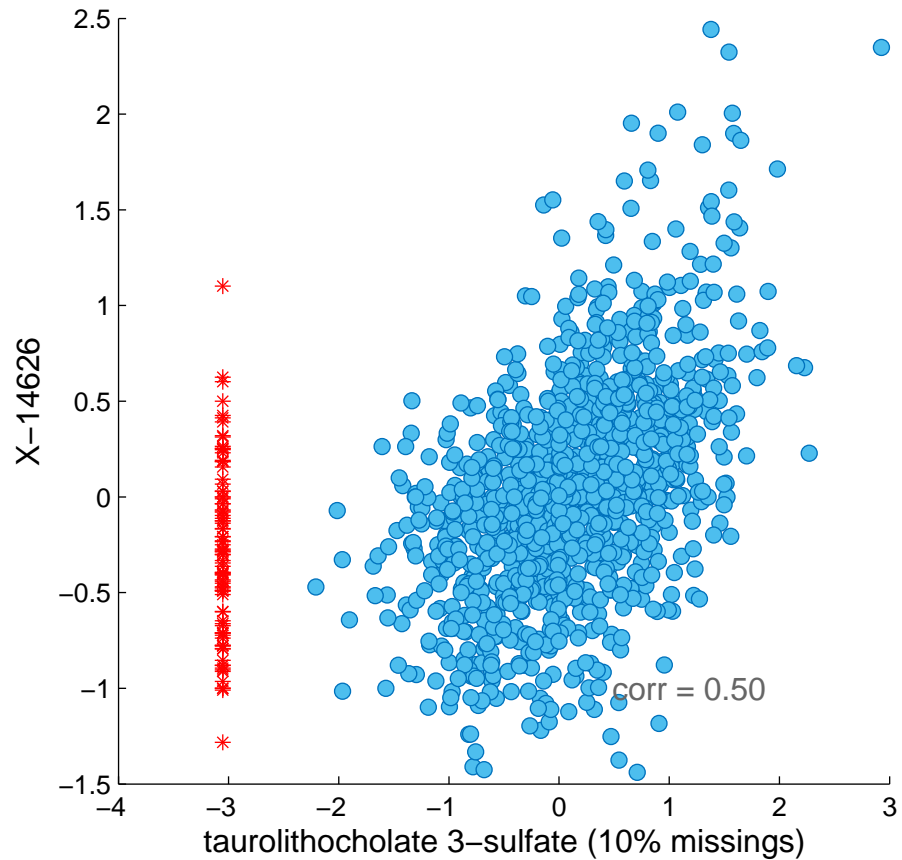
Missing values of taurodeoxycholate in taurocholate



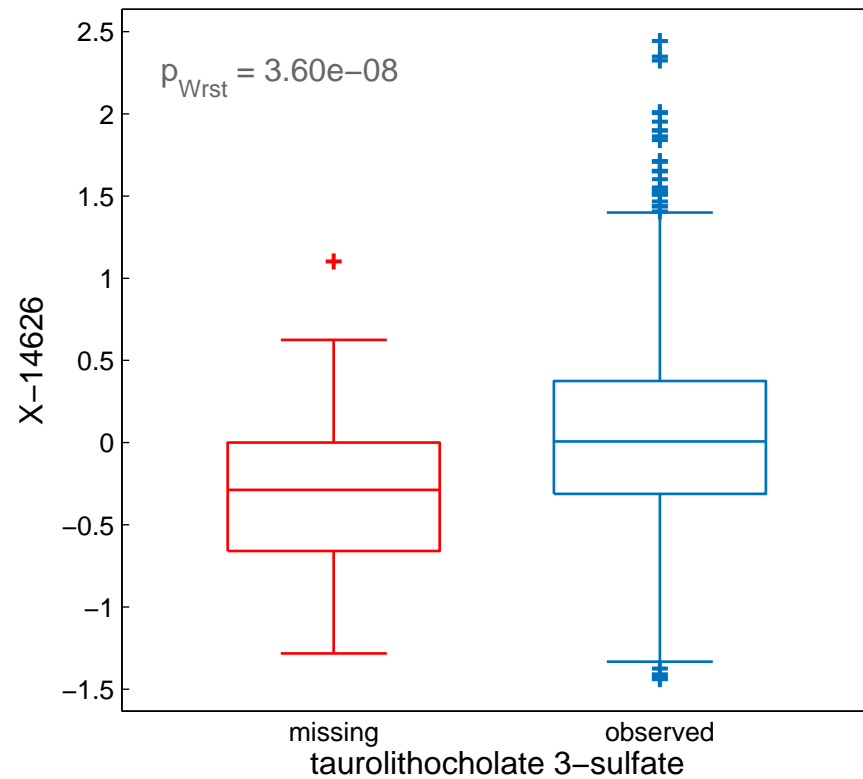
Concentrations of taurocholate in missing and observed taurodeoxycholate



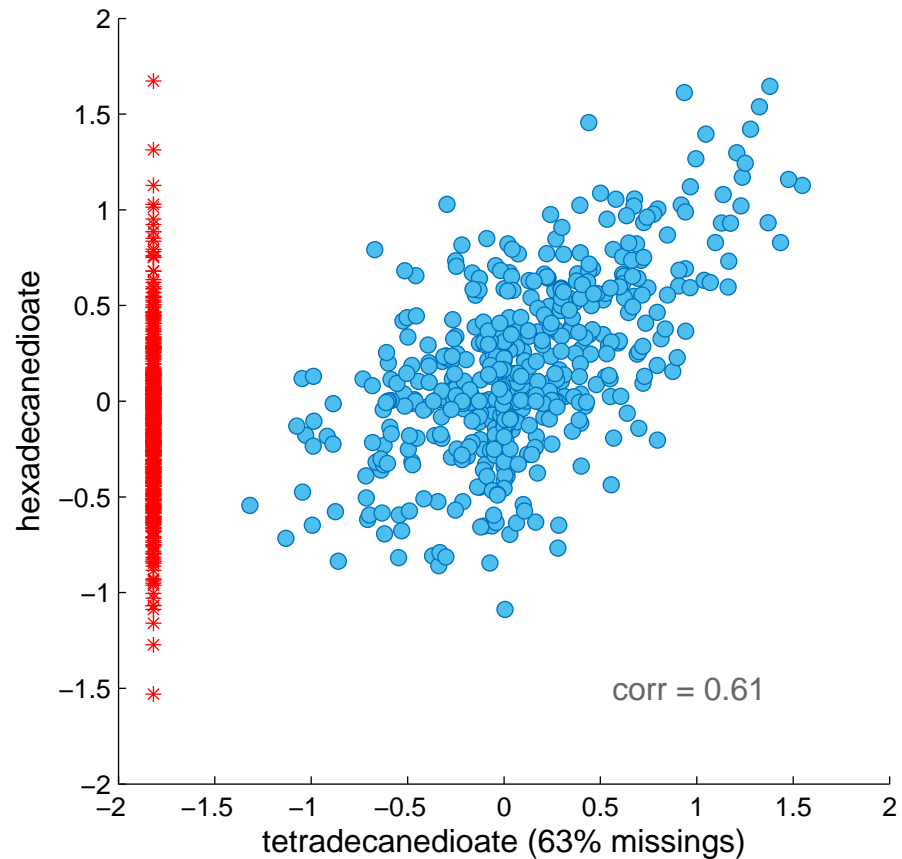
Missing values of tauroolithocholate 3-sulfate
in X-14626



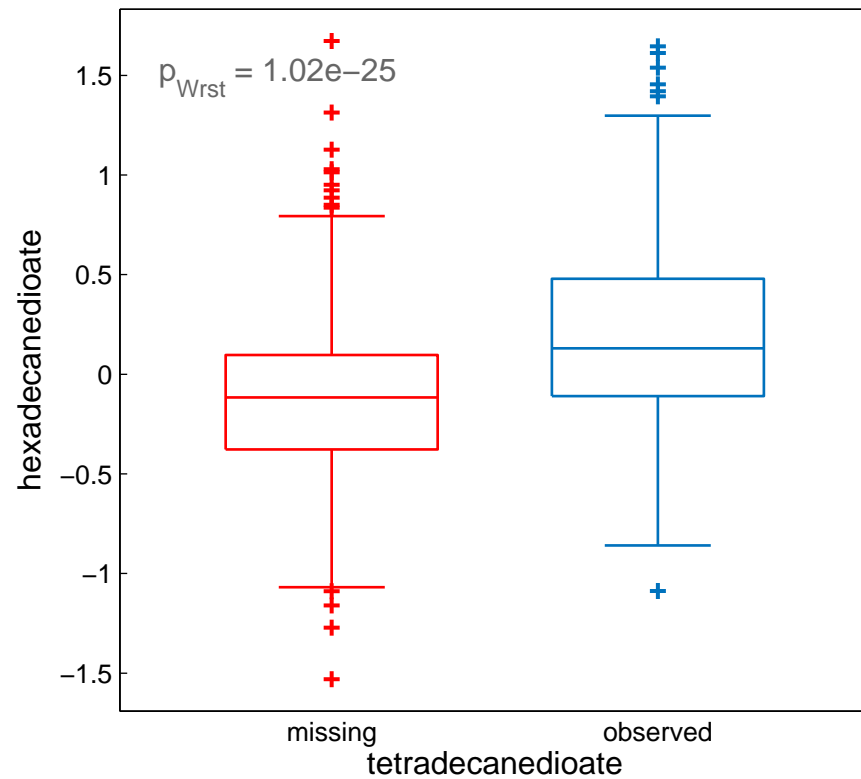
Concentrations of X-14626 in
missing and observed tauroolithocholate 3-sulfate



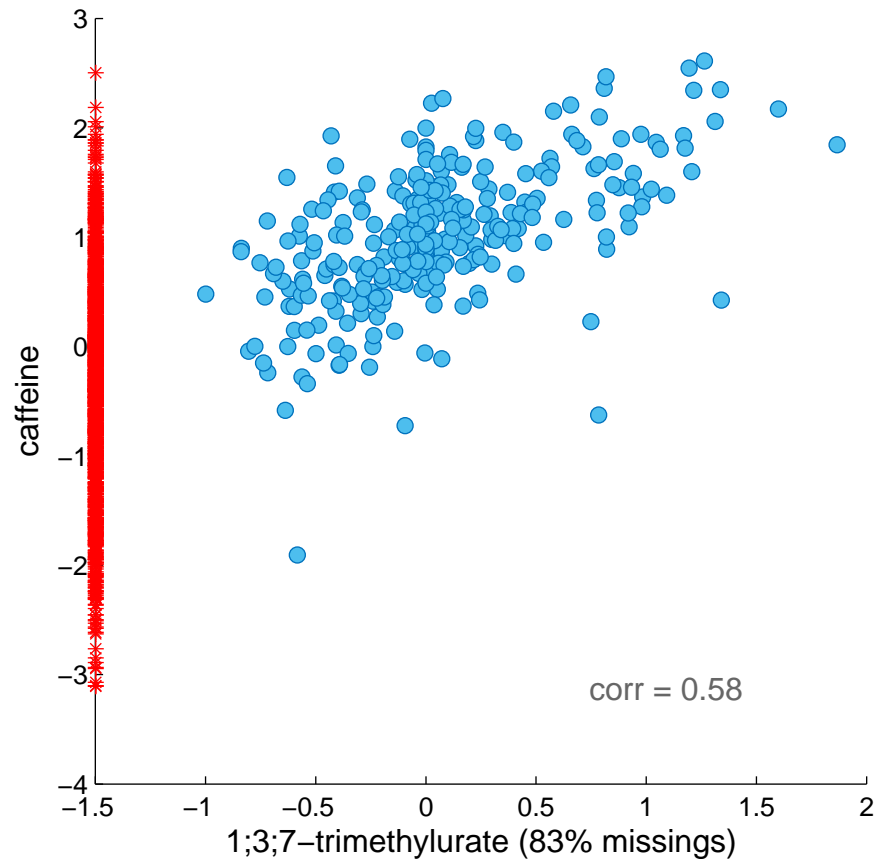
Missing values of tetradecanedioate
in hexadecanedioate



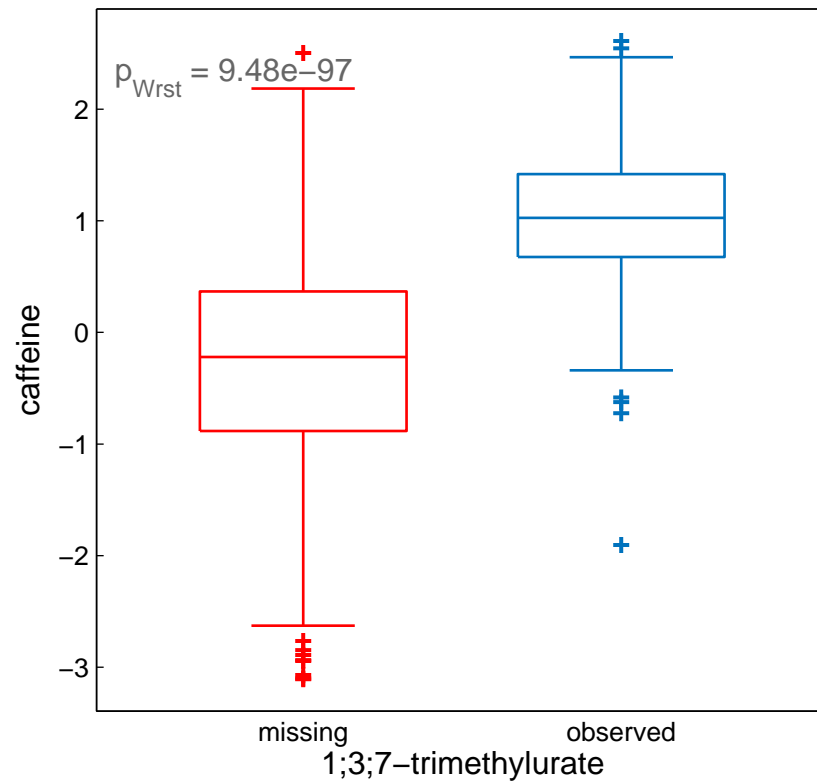
Concentrations of hexadecanedioate in
missing and observed tetradecanedioate



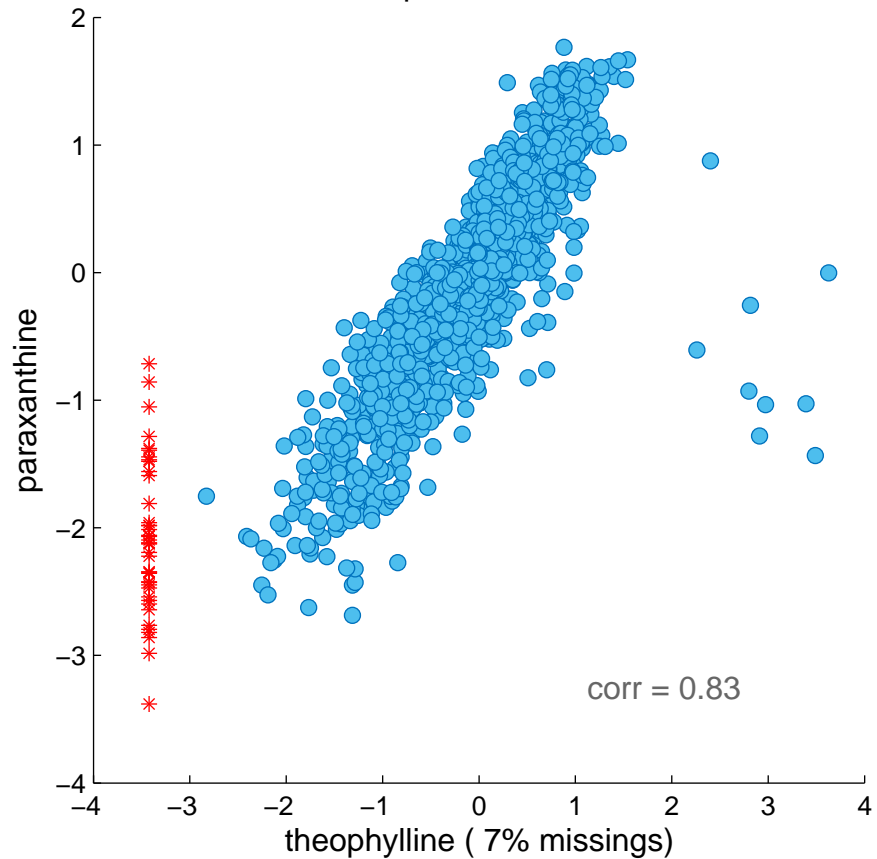
Missing values of 1;3;7-trimethylurate
in caffeine



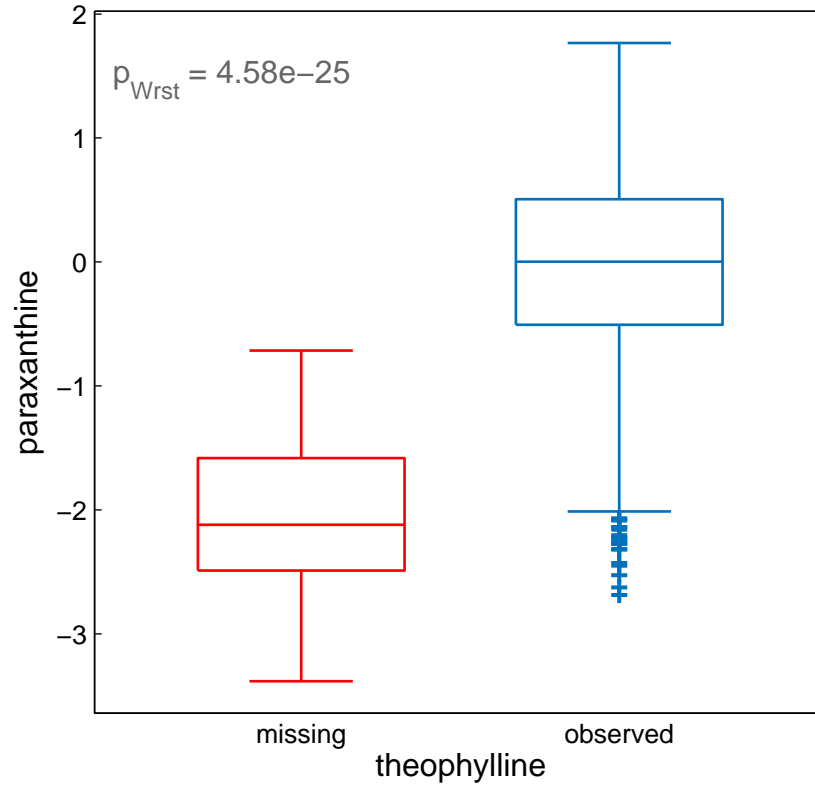
Concentrations of caffeine in
missing and observed 1;3;7-trimethylurate



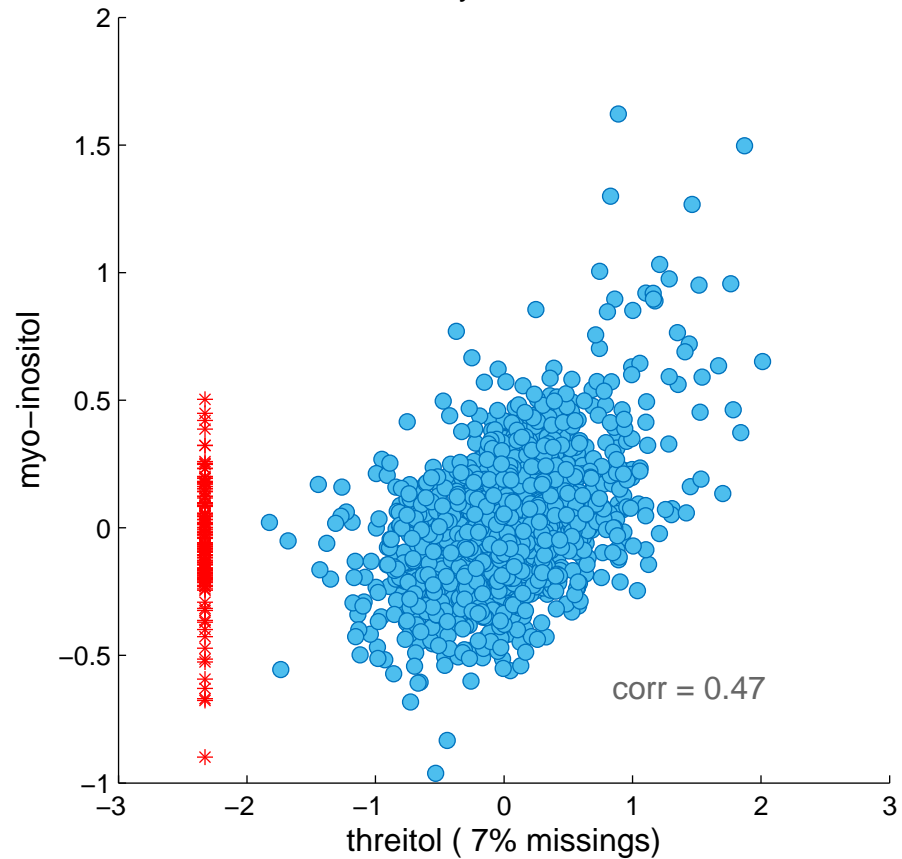
Missing values of theophylline
in paraxanthine



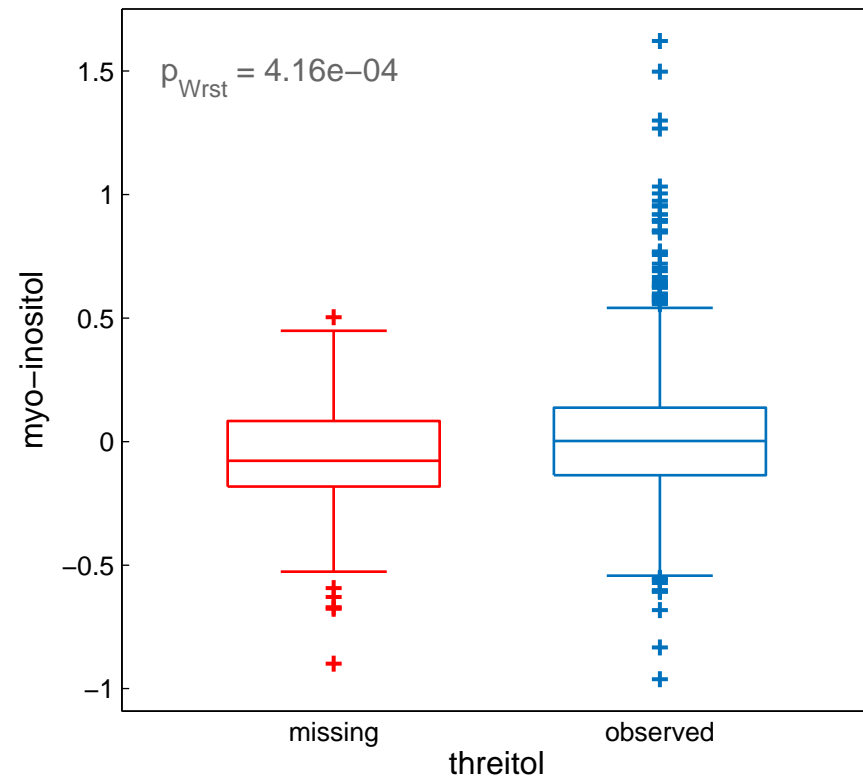
Concentrations of paraxanthine in
missing and observed theophylline



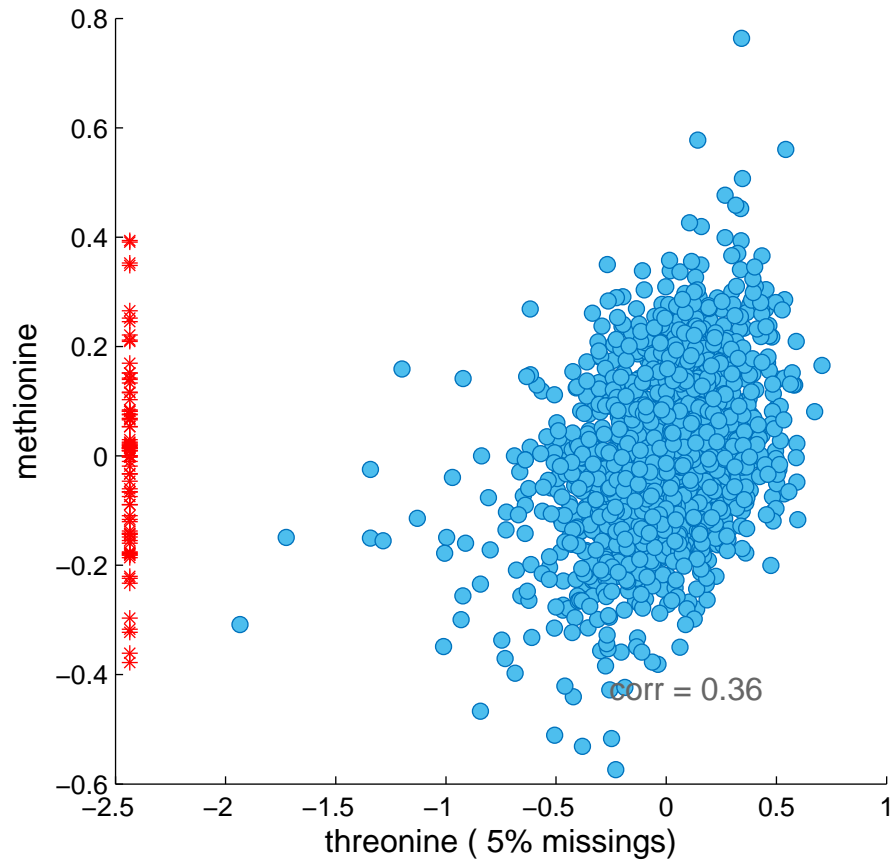
Missing values of threitol
in myo-inositol



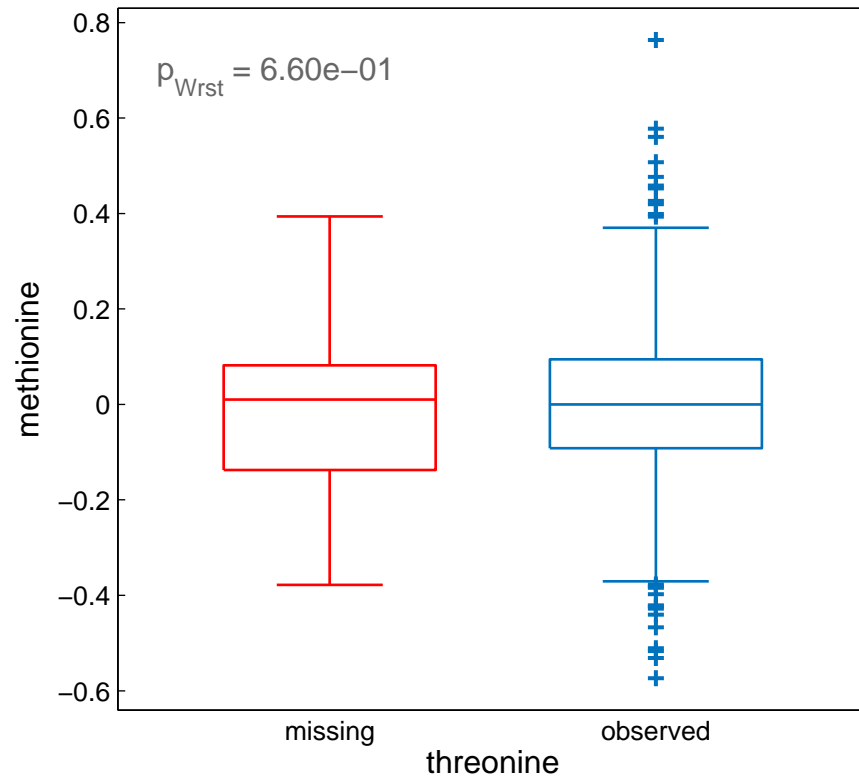
Concentrations of myo-inositol in
missing and observed threitol



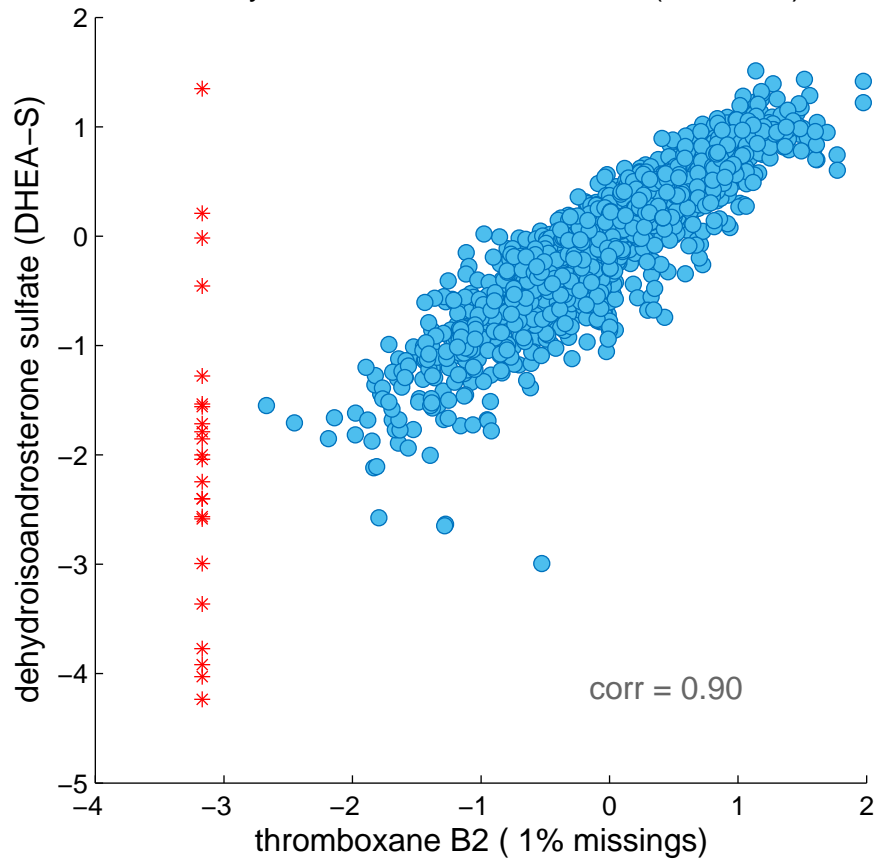
Missing values of threonine
in methionine



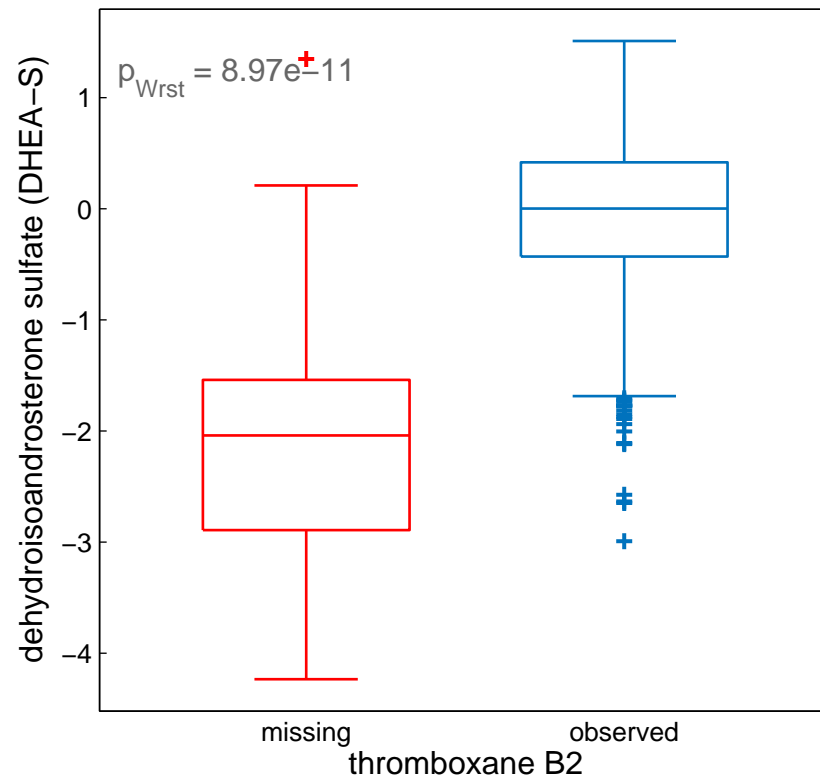
Concentrations of methionine in
missing and observed threonine



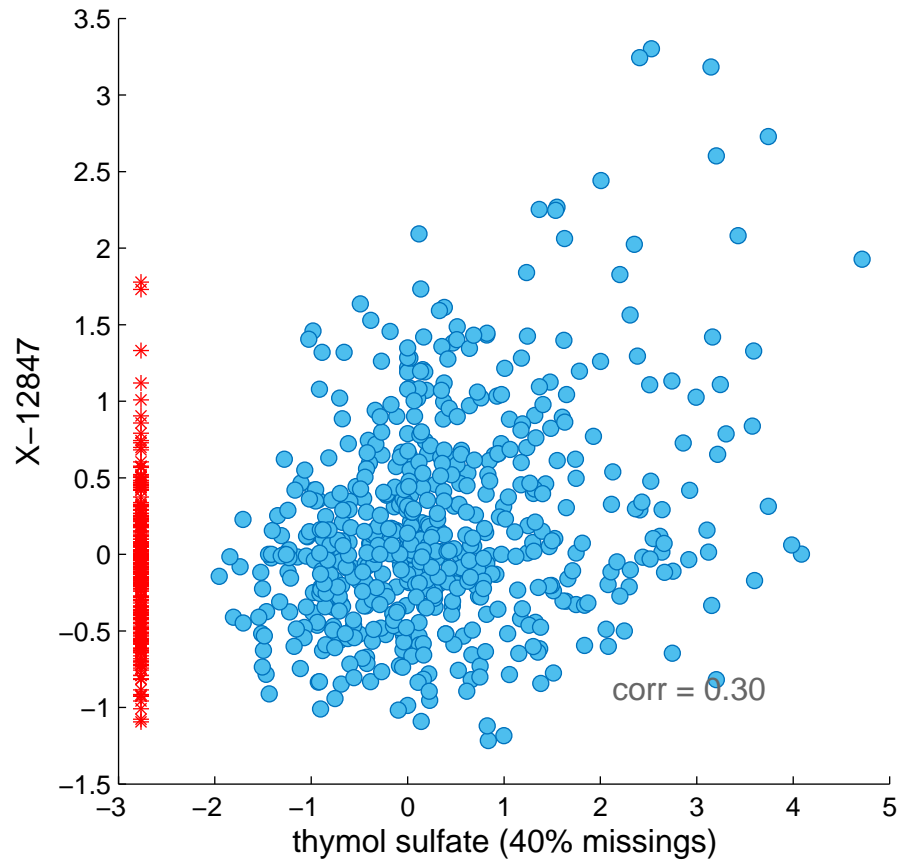
Missing values of thromboxane B2
in dehydroisoandrosterone sulfate (DHEA-S)



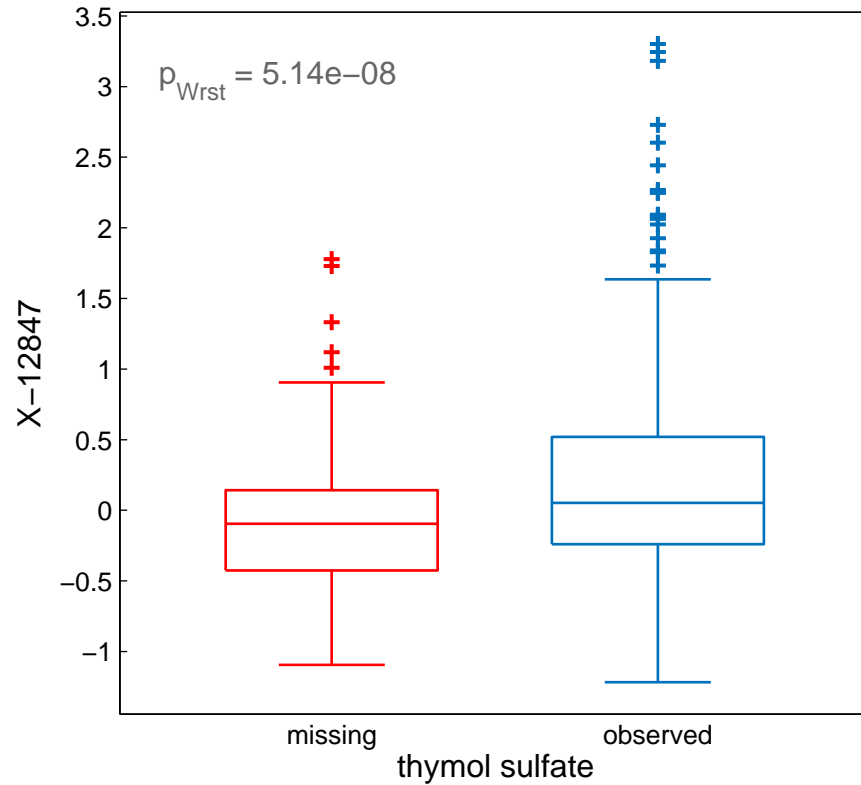
Concentrations of dehydroisoandrosterone sulfate (DHEA-S) in
missing and observed thromboxane B2



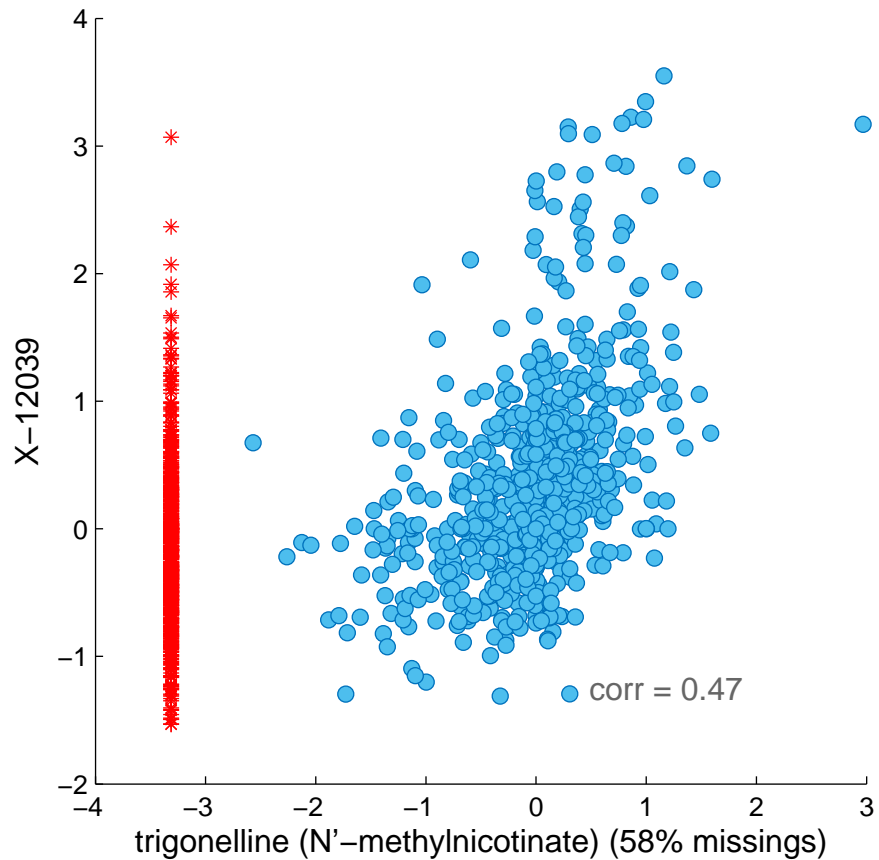
Missing values of thymol sulfate
in X-12847



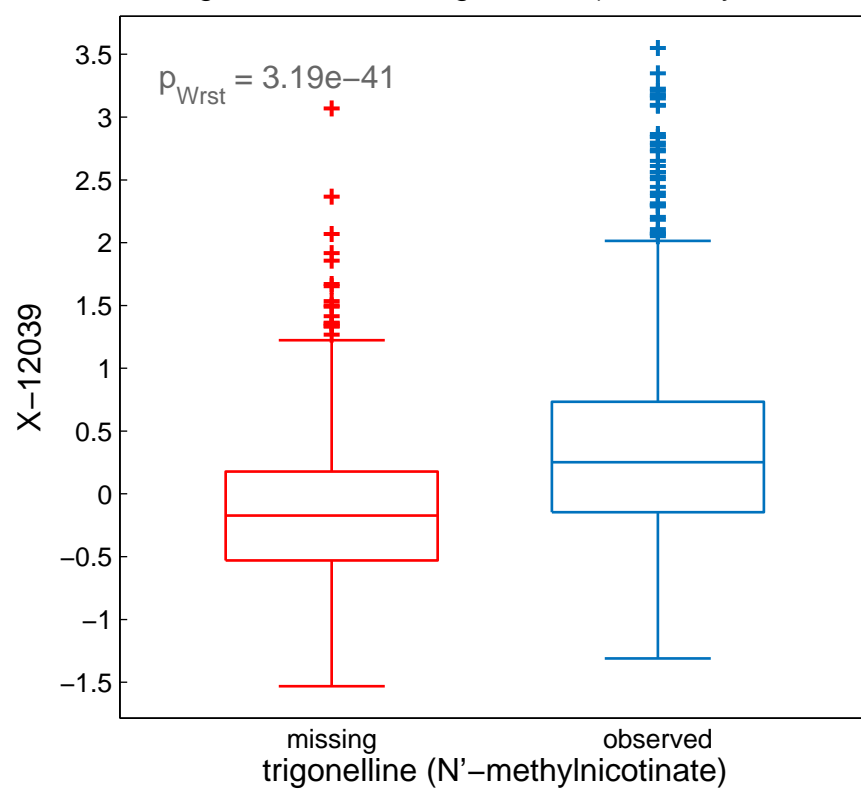
Concentrations of X-12847 in
missing and observed thymol sulfate



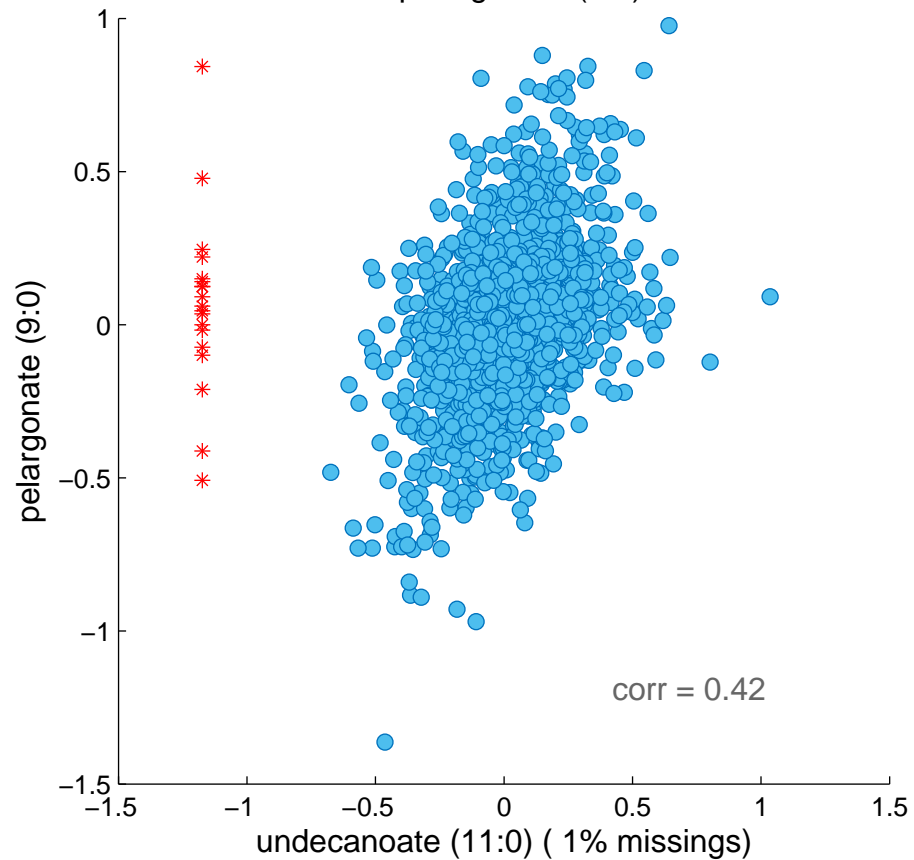
Missing values of trigonelline (N'-methylnicotinate) in X-12039



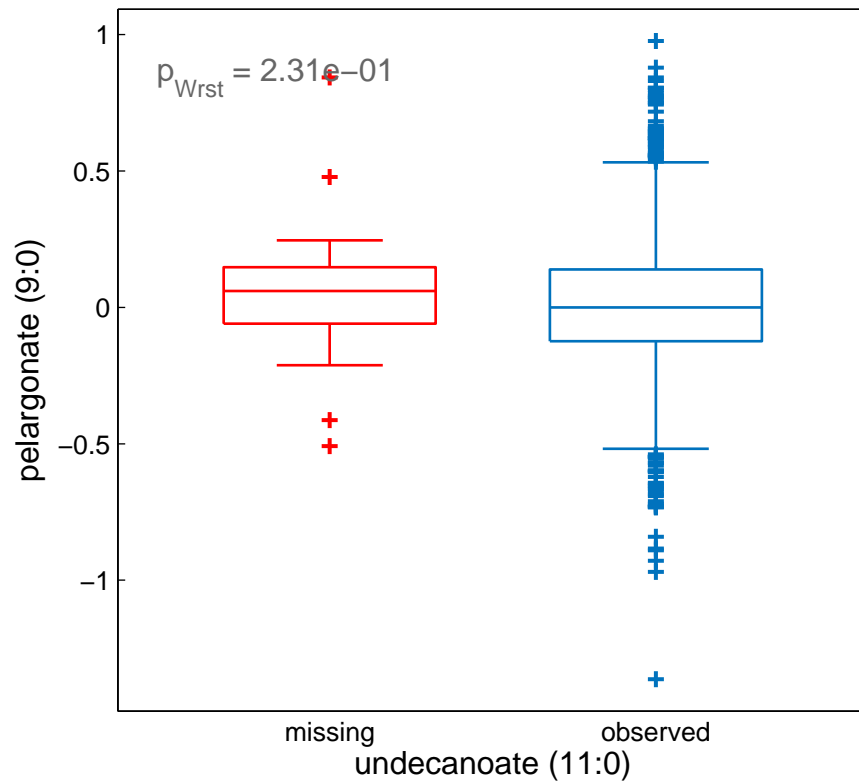
Concentrations of X-12039 in missing and observed trigonelline (N'-methylnicotinate)



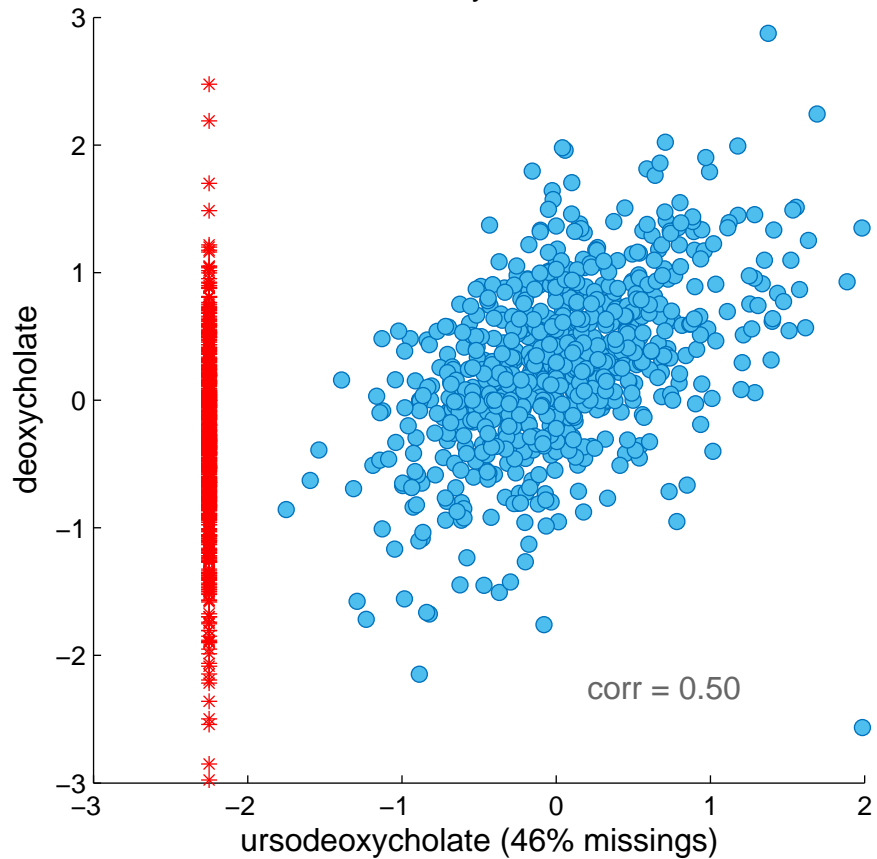
Missing values of undecanoate (11:0)
in pelargonate (9:0)



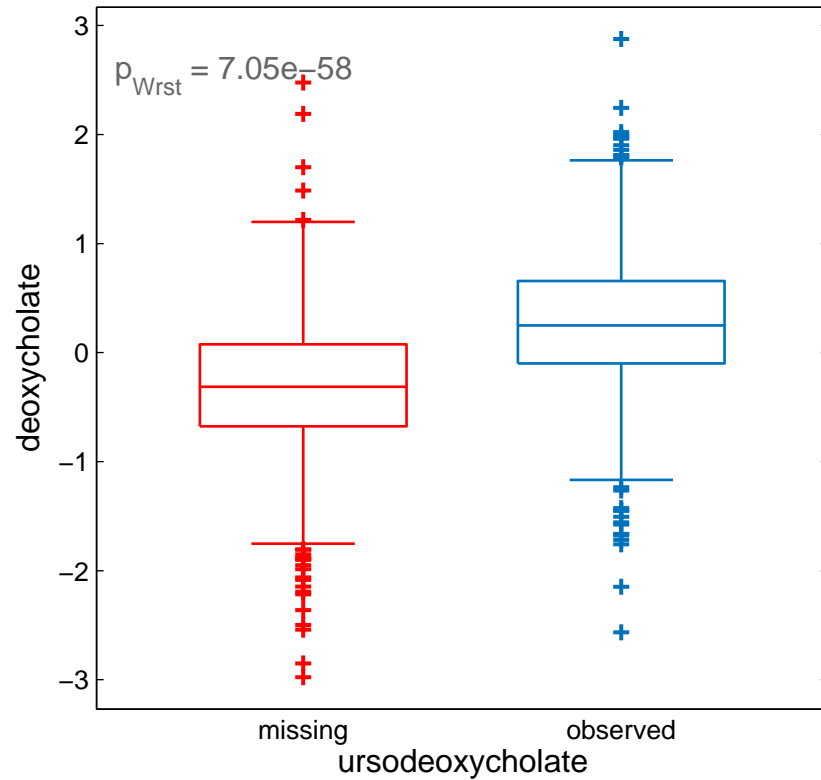
Concentrations of pelargonate (9:0) in
missing and observed undecanoate (11:0)



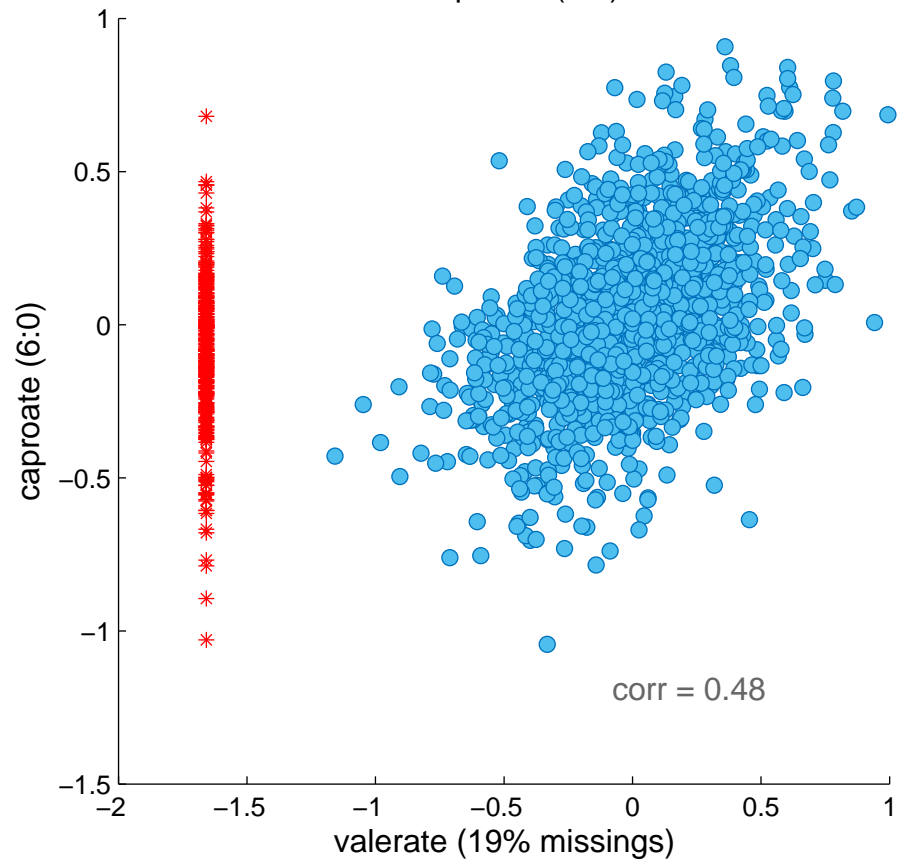
Missing values of ursodeoxycholate
in deoxycholate



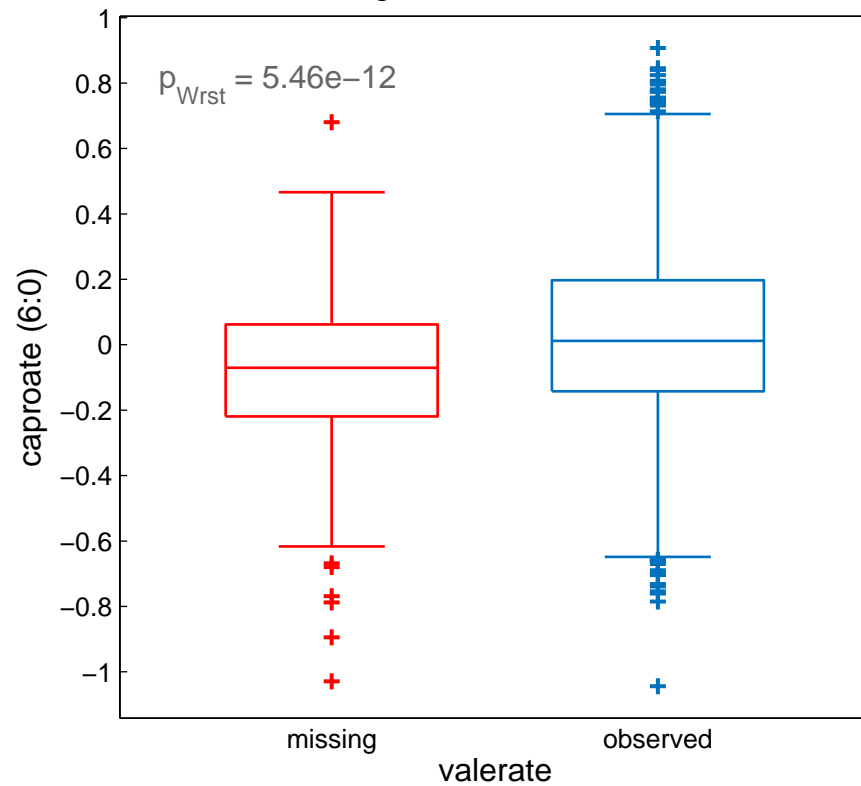
Concentrations of deoxycholate in
missing and observed ursodeoxycholate



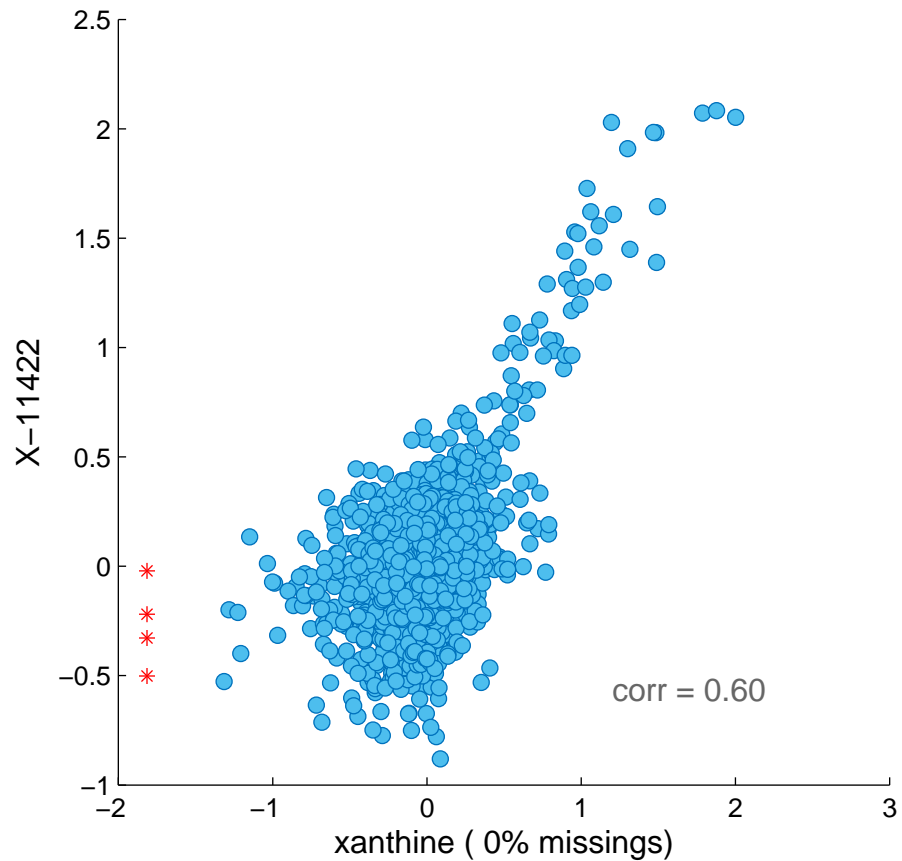
Missing values of valerate
in caproate (6:0)



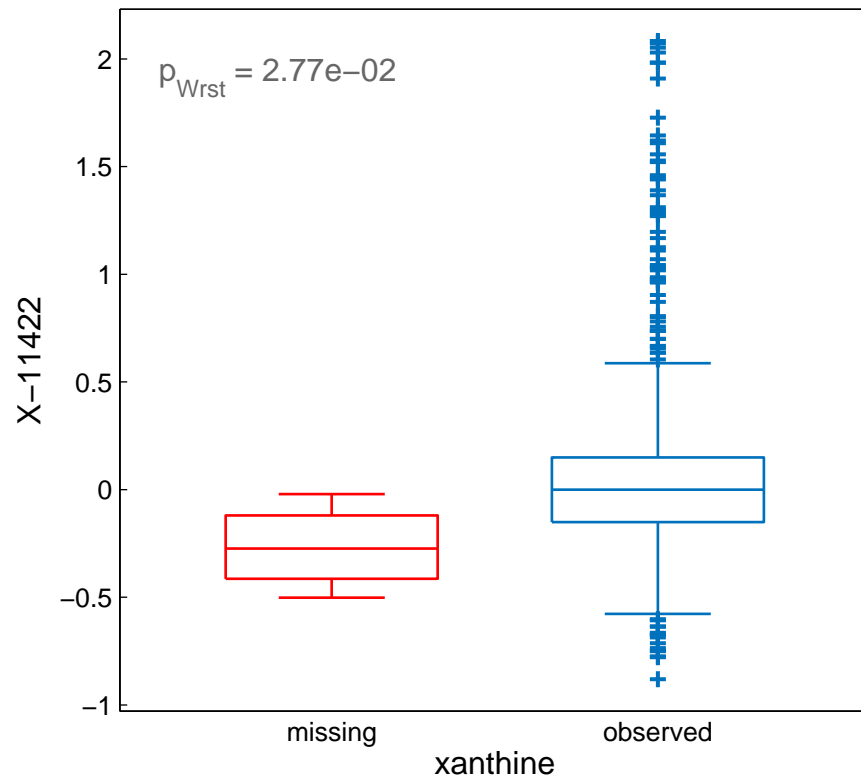
Concentrations of caproate (6:0) in
missing and observed valerate



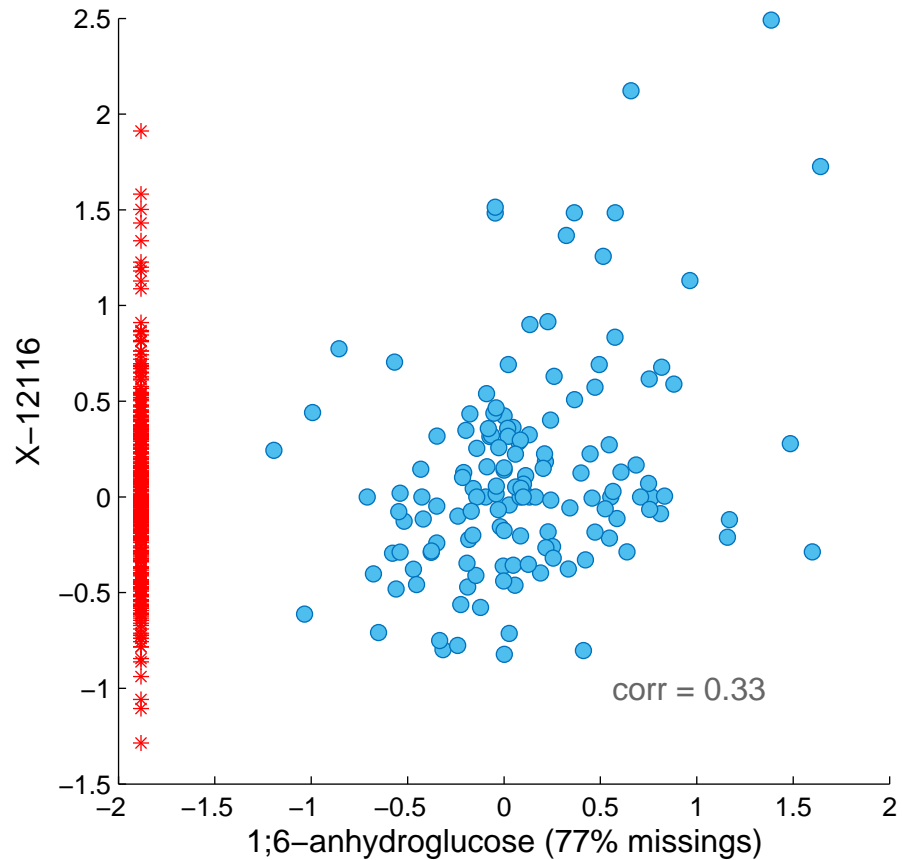
Missing values of xanthine
in X-11422



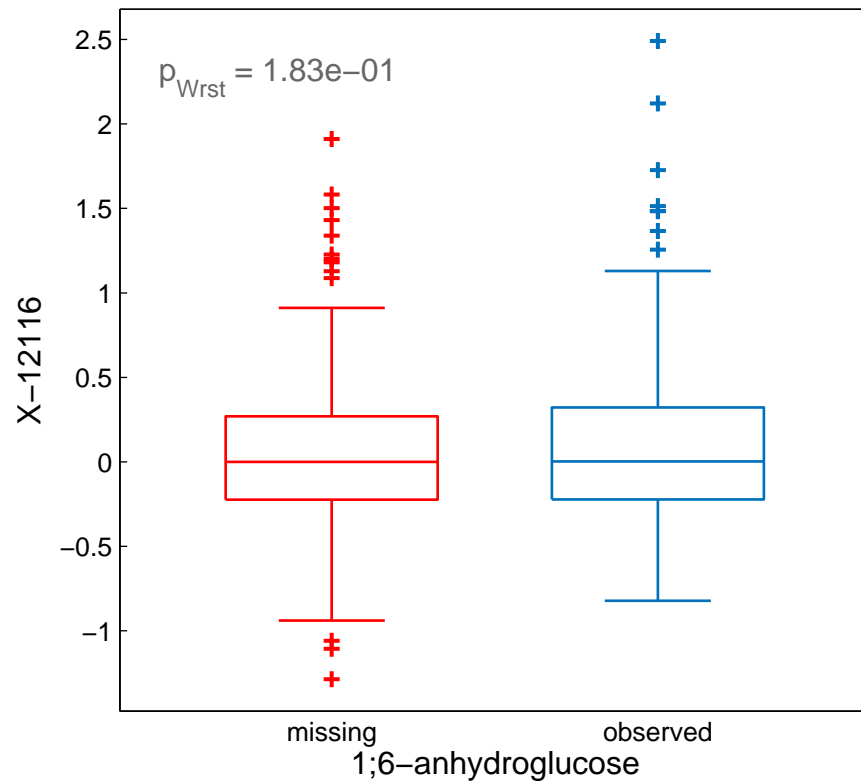
Concentrations of X-11422 in
missing and observed xanthine



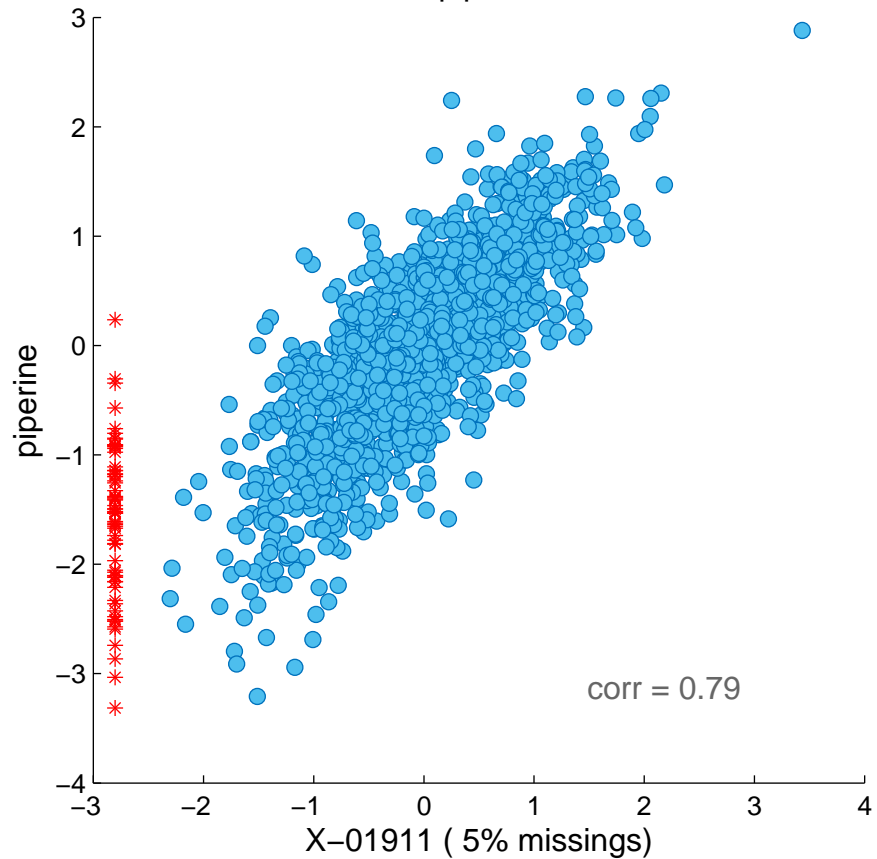
Missing values of 1;6-anhydroglucose
in X-12116



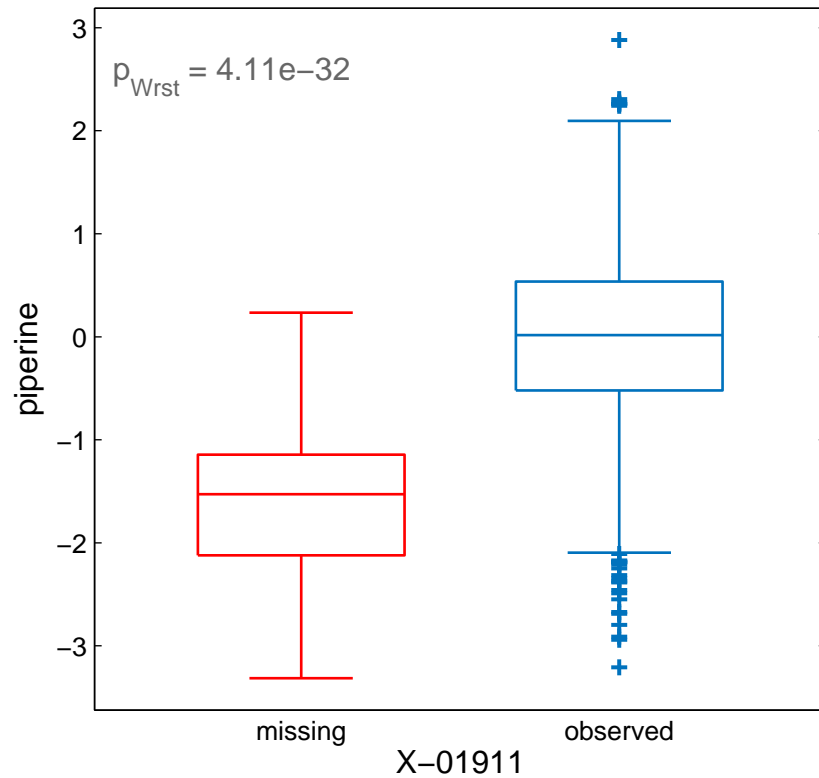
Concentrations of X-12116 in
missing and observed 1;6-anhydroglucose



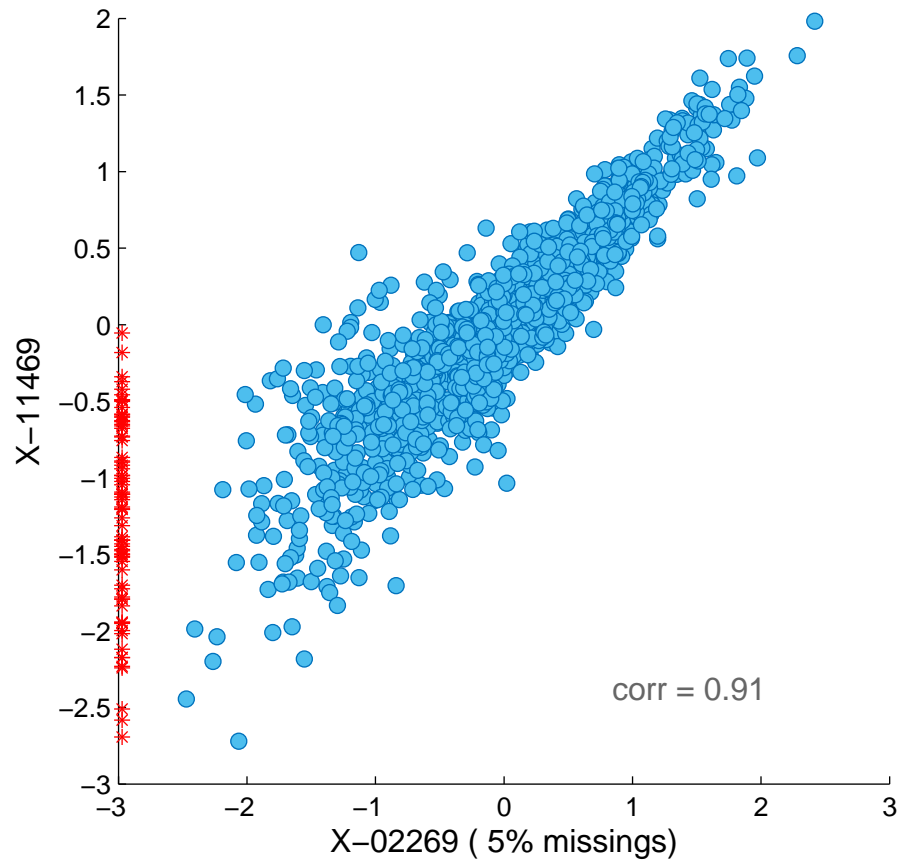
Missing values of X-01911
in piperine



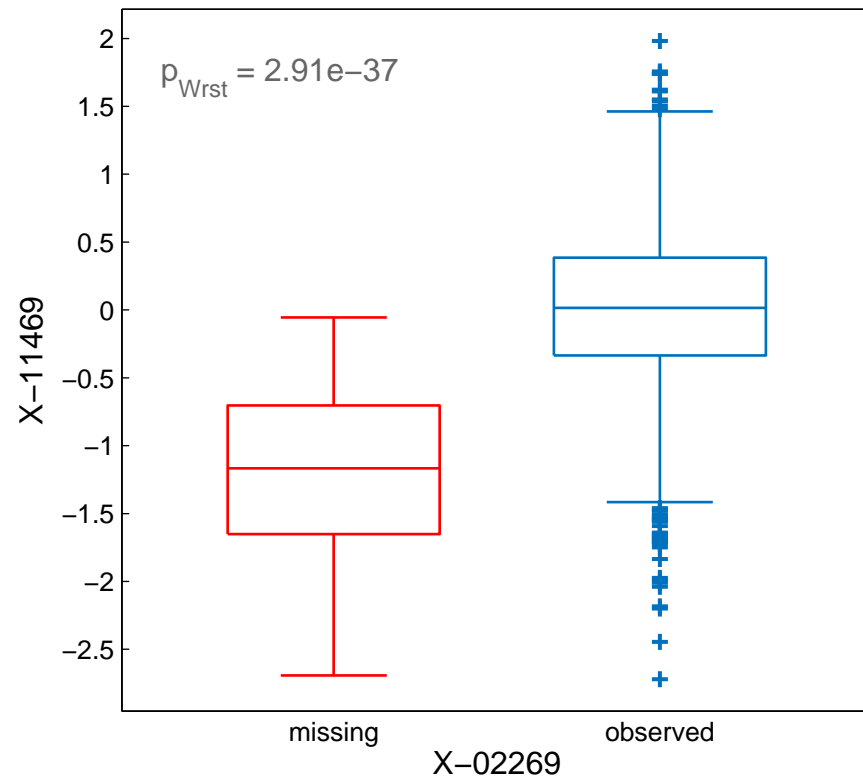
Concentrations of piperine in
missing and observed X-01911



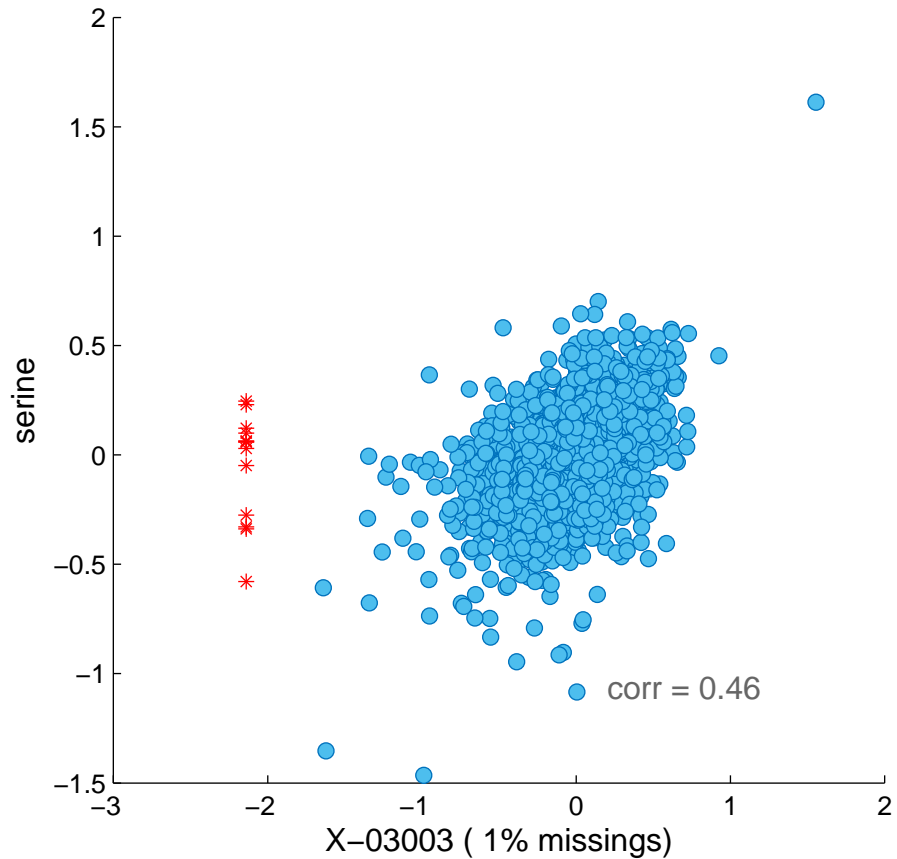
Missing values of X-02269
in X-11469



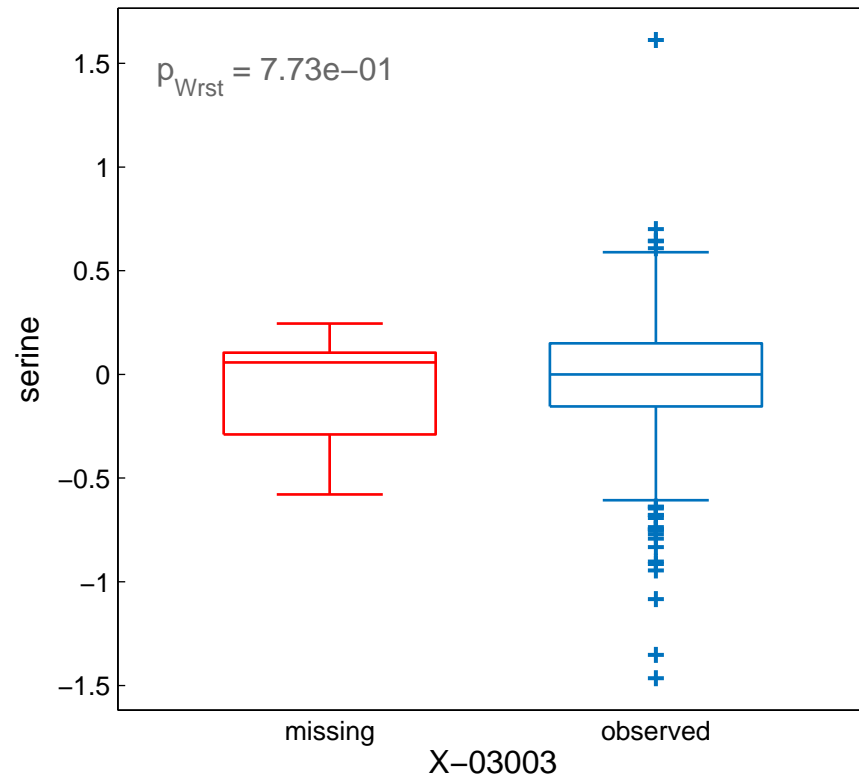
Concentrations of X-11469 in
missing and observed X-02269



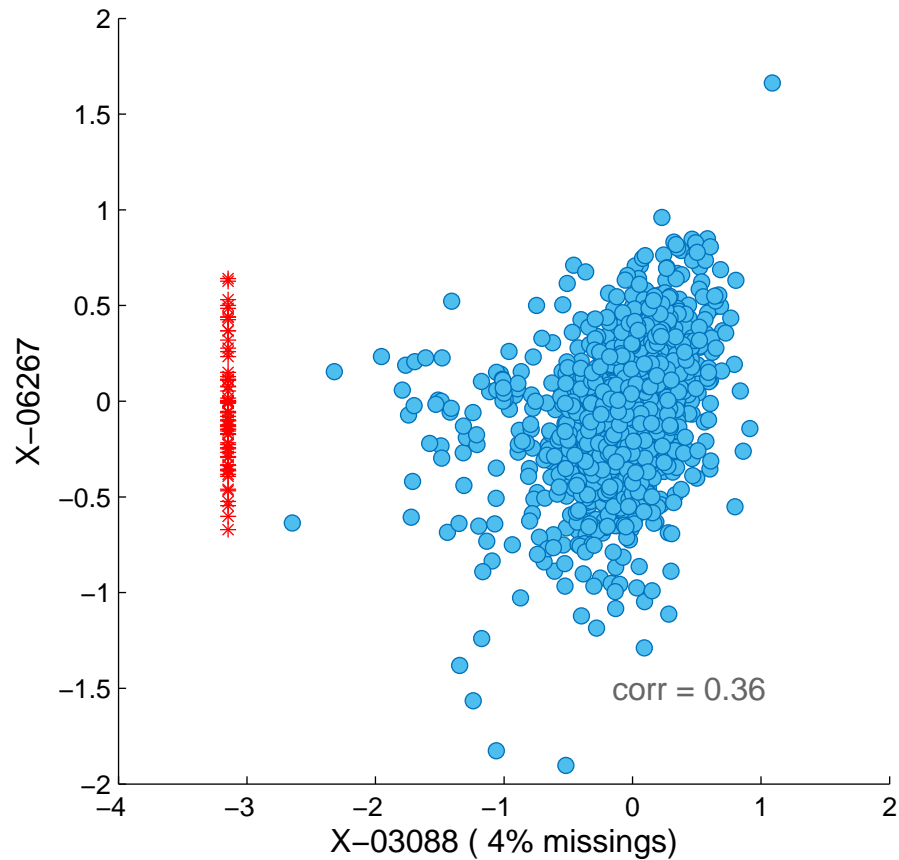
Missing values of X-03003
in serine



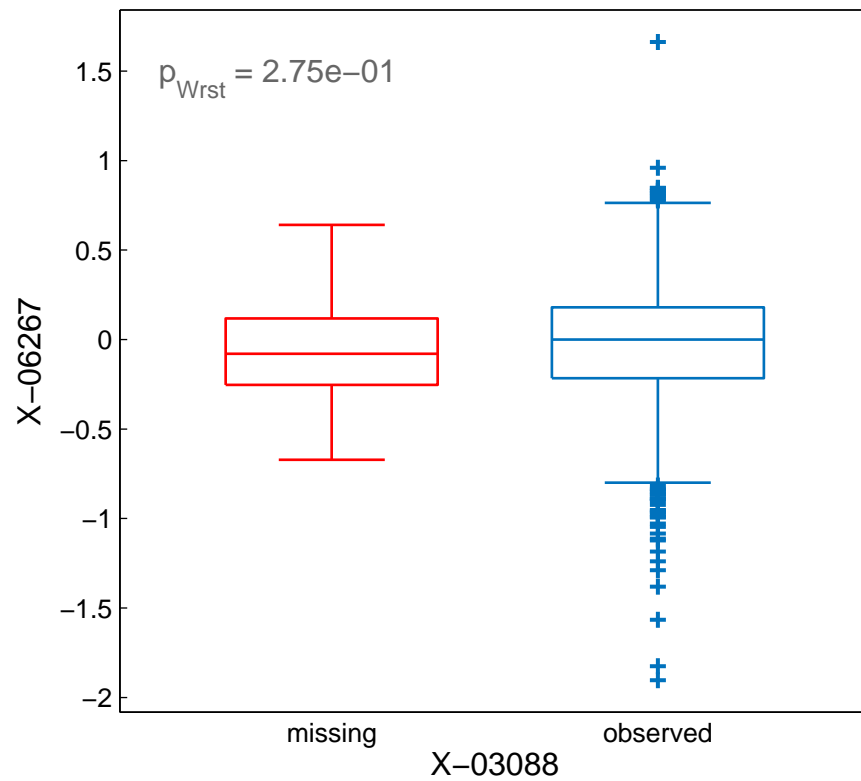
Concentrations of serine in
missing and observed X-03003



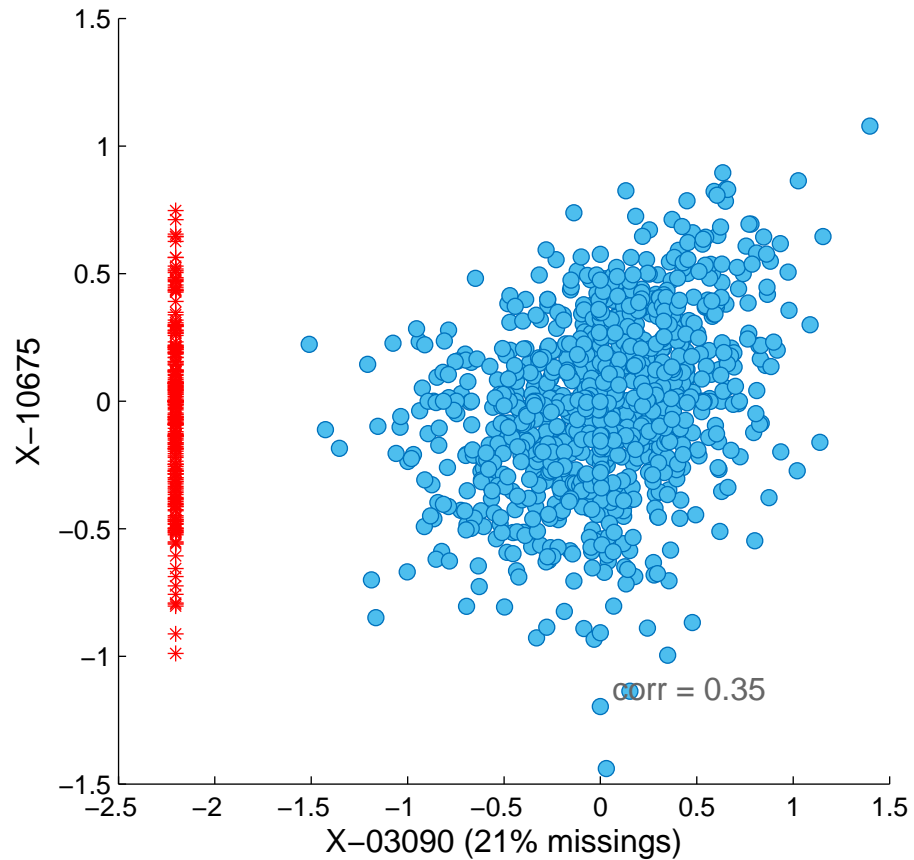
Missing values of X-03088
in X-06267



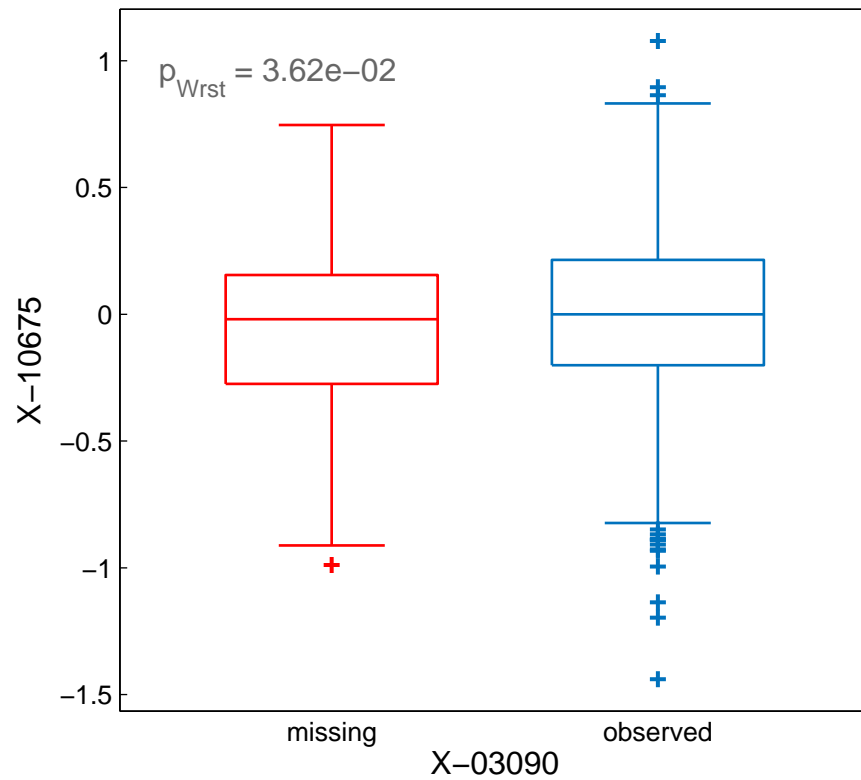
Concentrations of X-06267 in
missing and observed X-03088



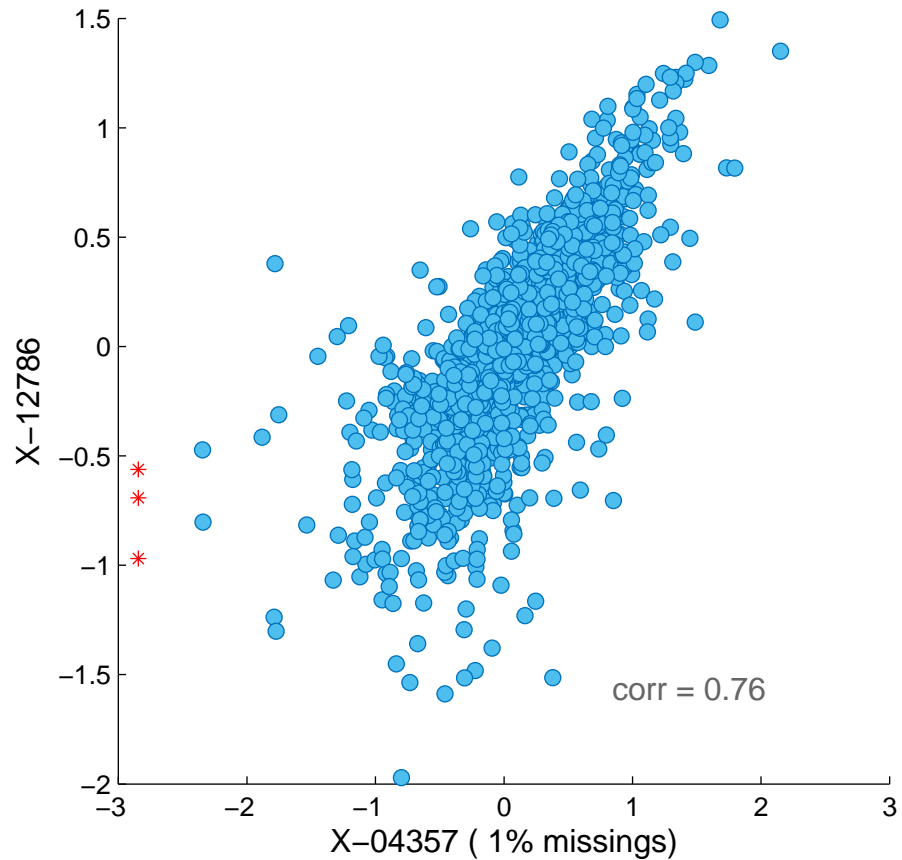
Missing values of X-03090
in X-10675



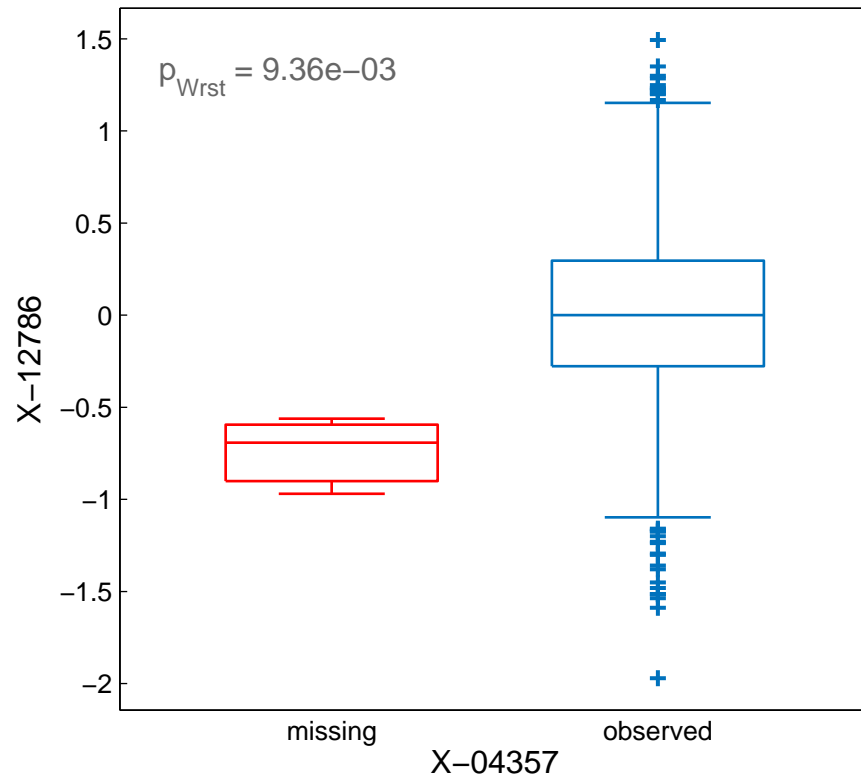
Concentrations of X-10675 in
missing and observed X-03090



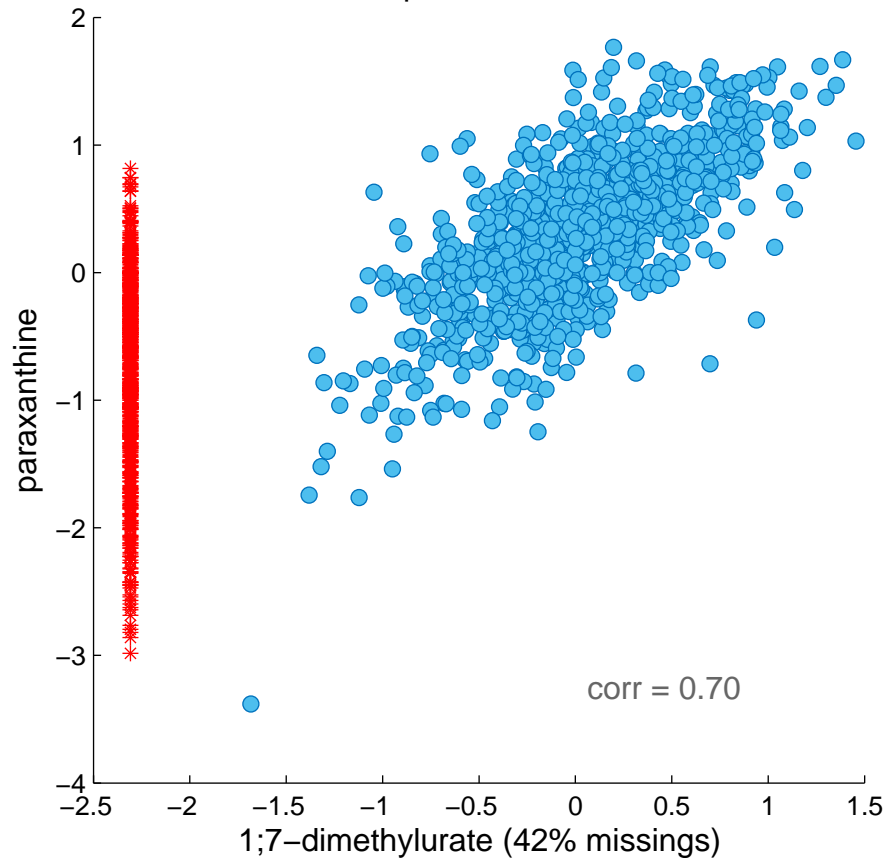
Missing values of X-04357
in X-12786



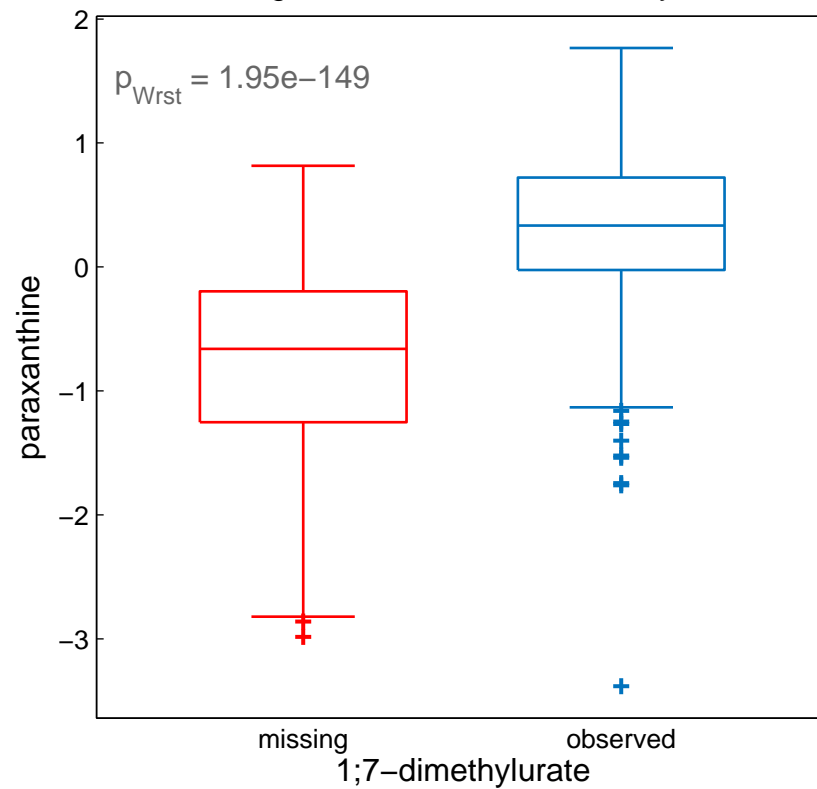
Concentrations of X-12786 in
missing and observed X-04357



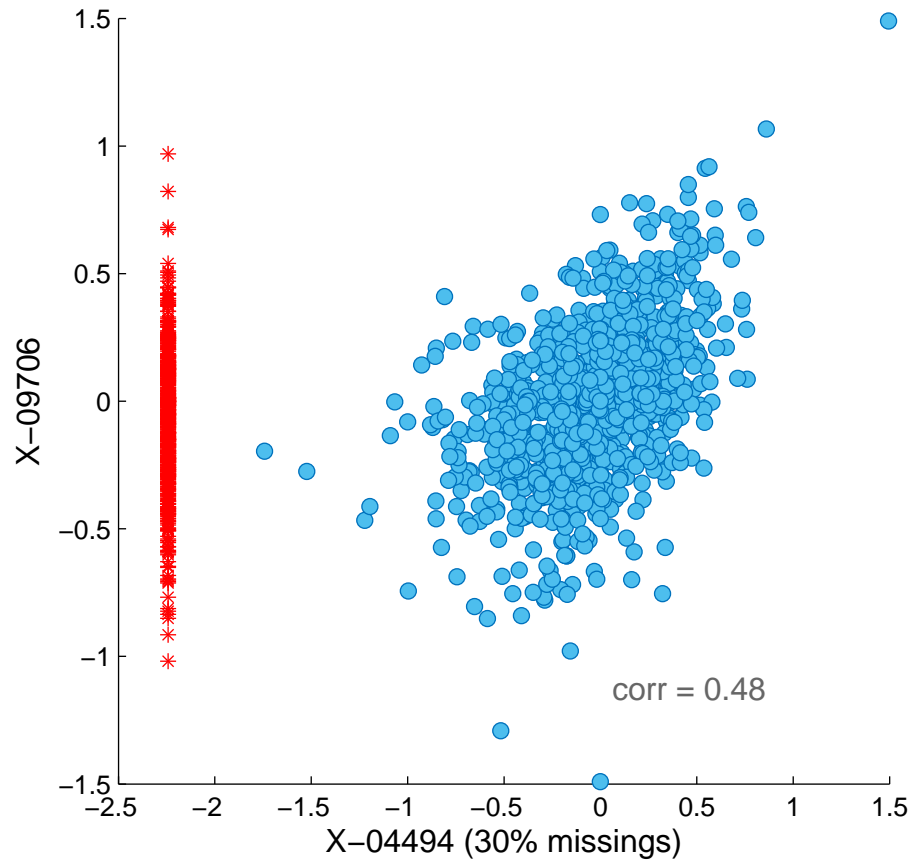
Missing values of 1;7-dimethylurate
in paraxanthine



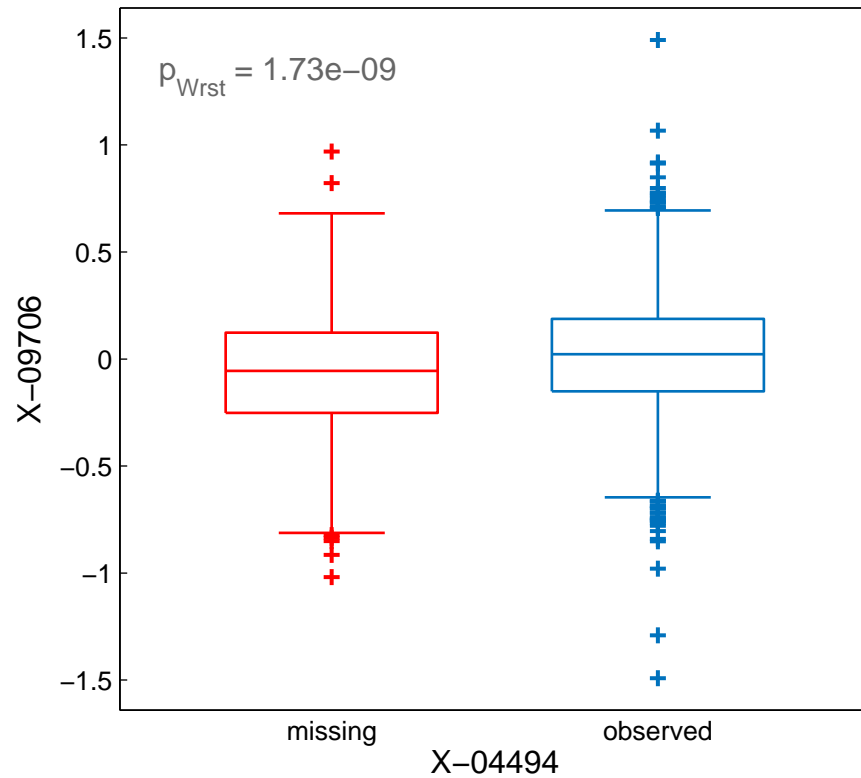
Concentrations of paraxanthine in
missing and observed 1;7-dimethylurate



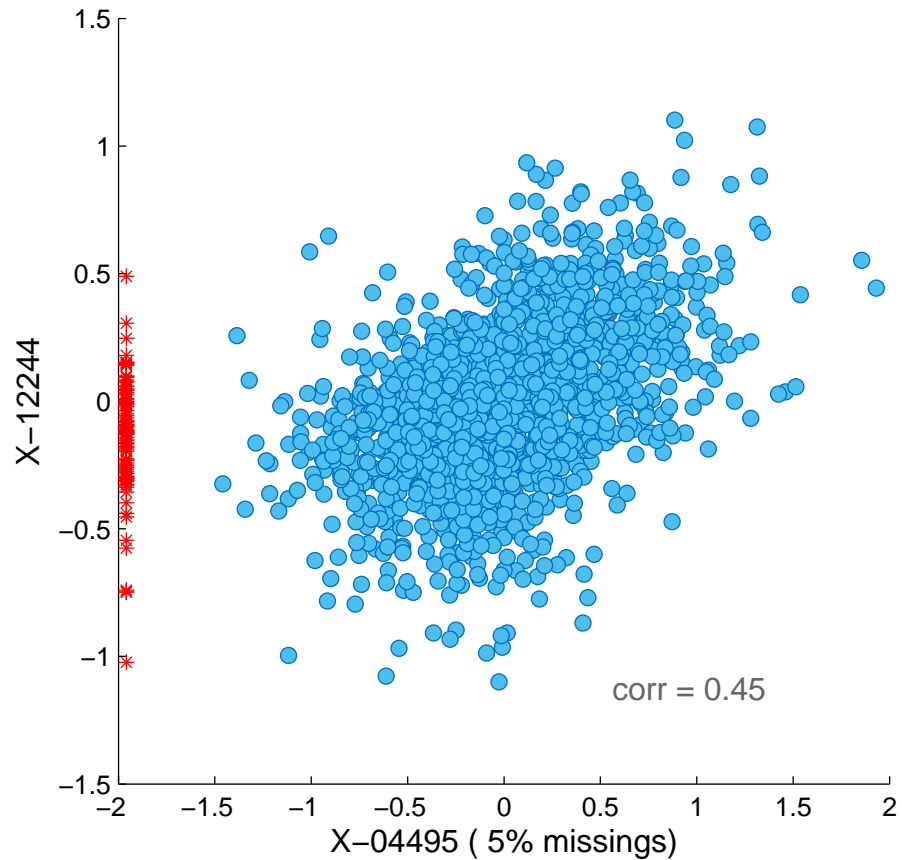
Missing values of X-04494
in X-09706



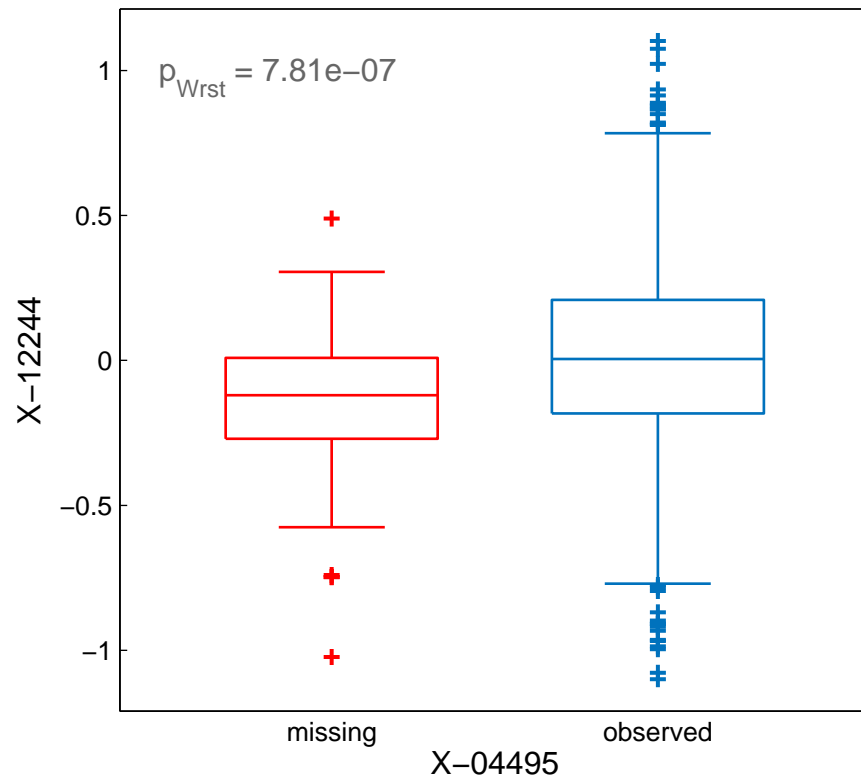
Concentrations of X-09706 in
missing and observed X-04494



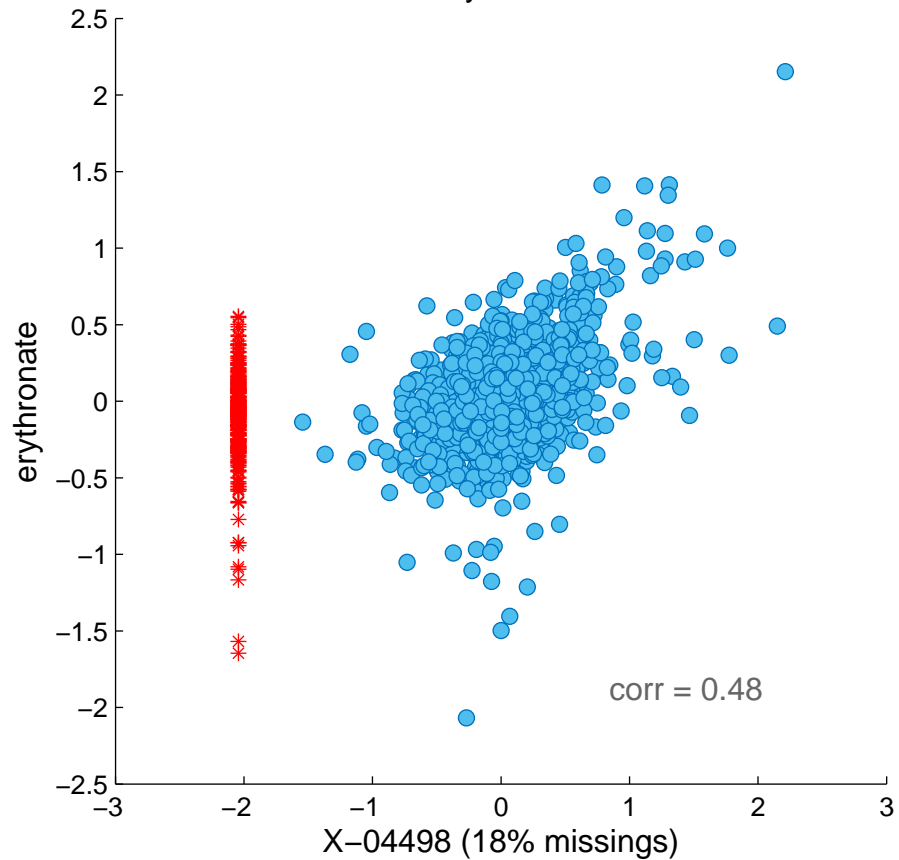
Missing values of X-04495
in X-12244



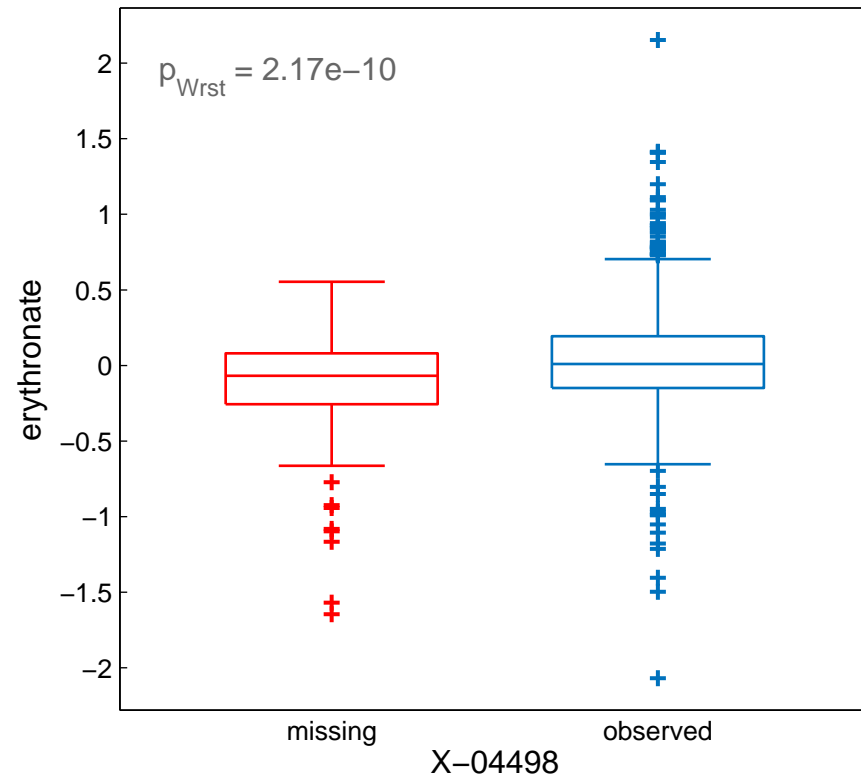
Concentrations of X-12244 in
missing and observed X-04495



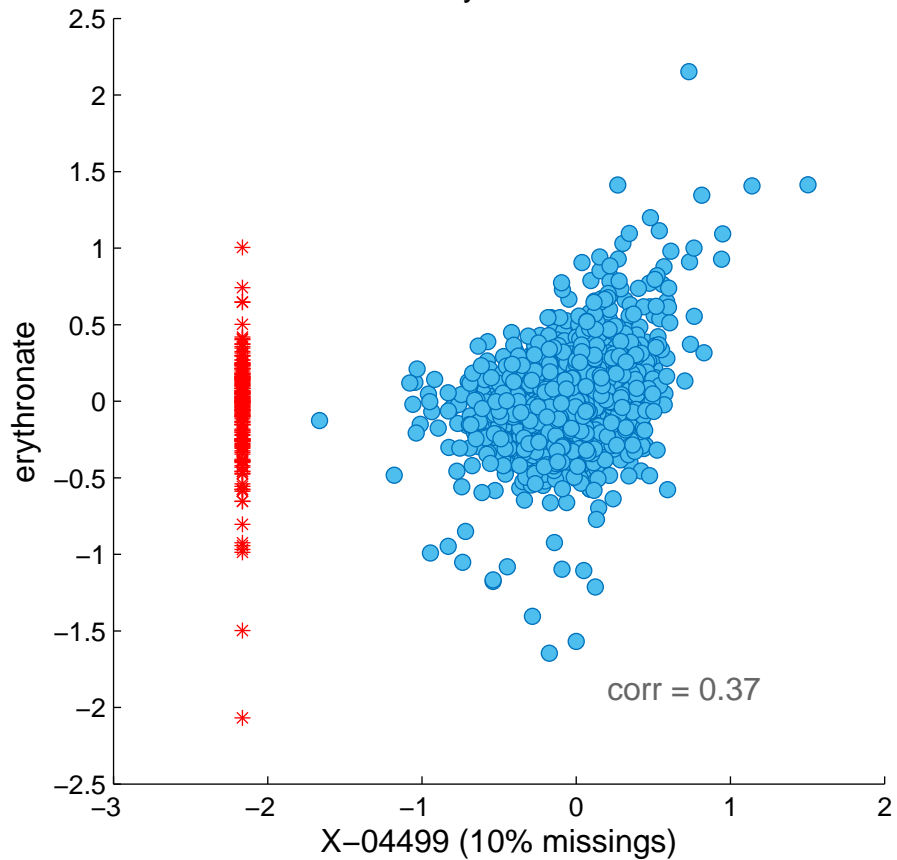
Missing values of X-04498
in erythronate



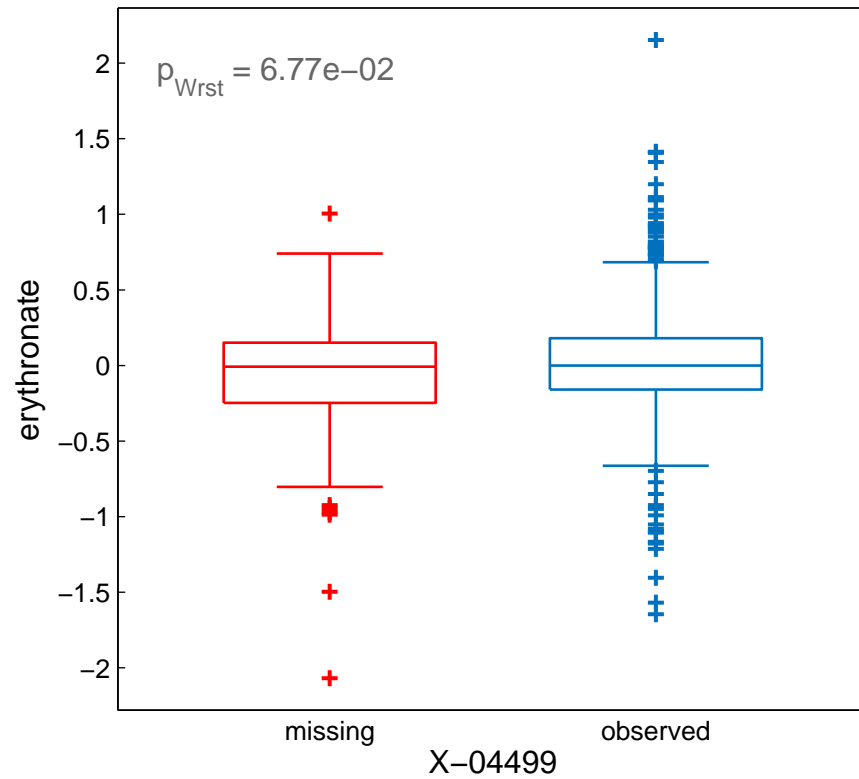
Concentrations of erythronate in
missing and observed X-04498



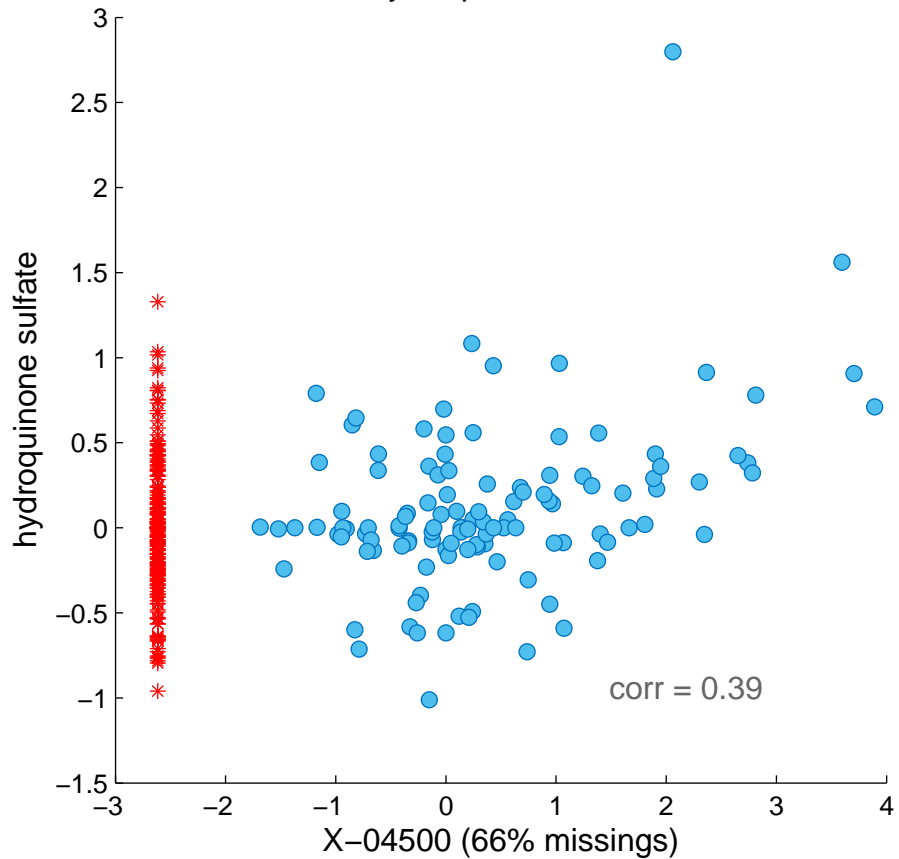
Missing values of X-04499
in erythronate



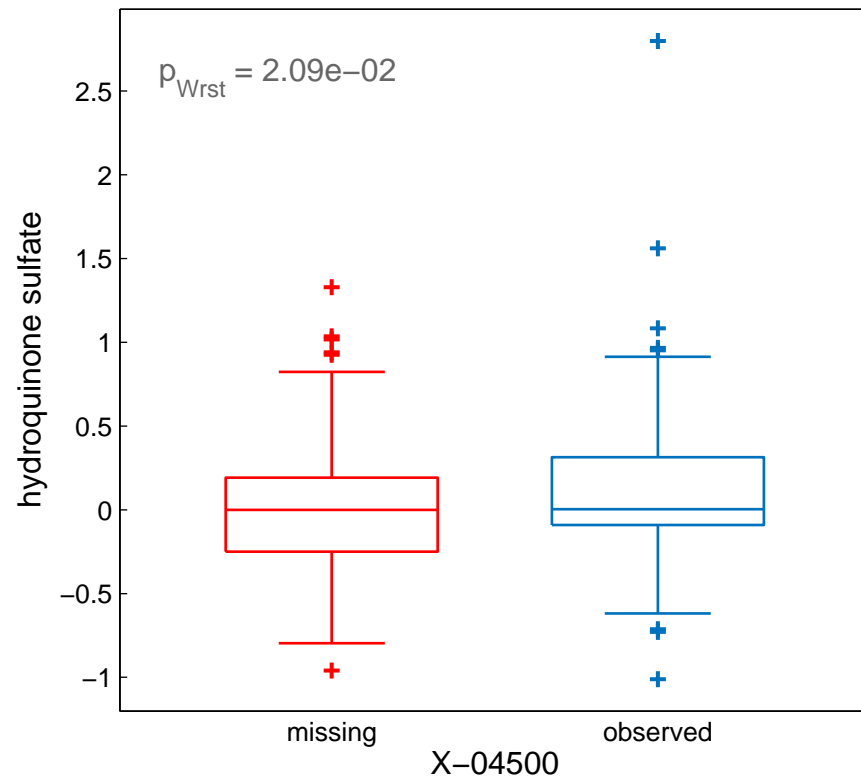
Concentrations of erythronate in
missing and observed X-04499



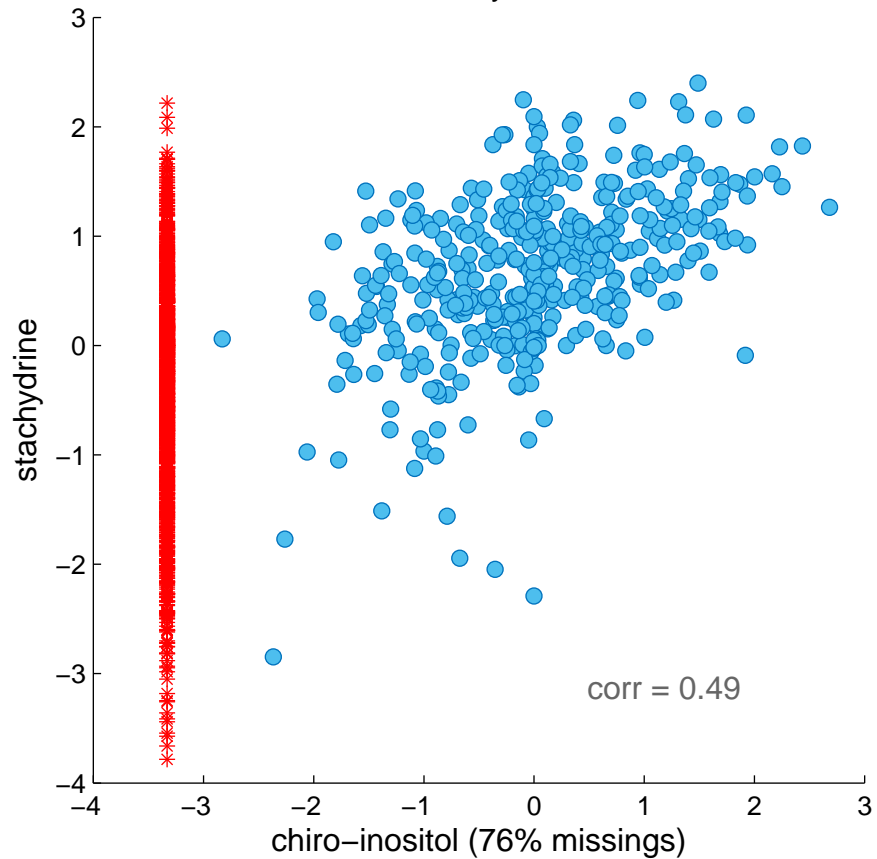
Missing values of X-04500
in hydroquinone sulfate



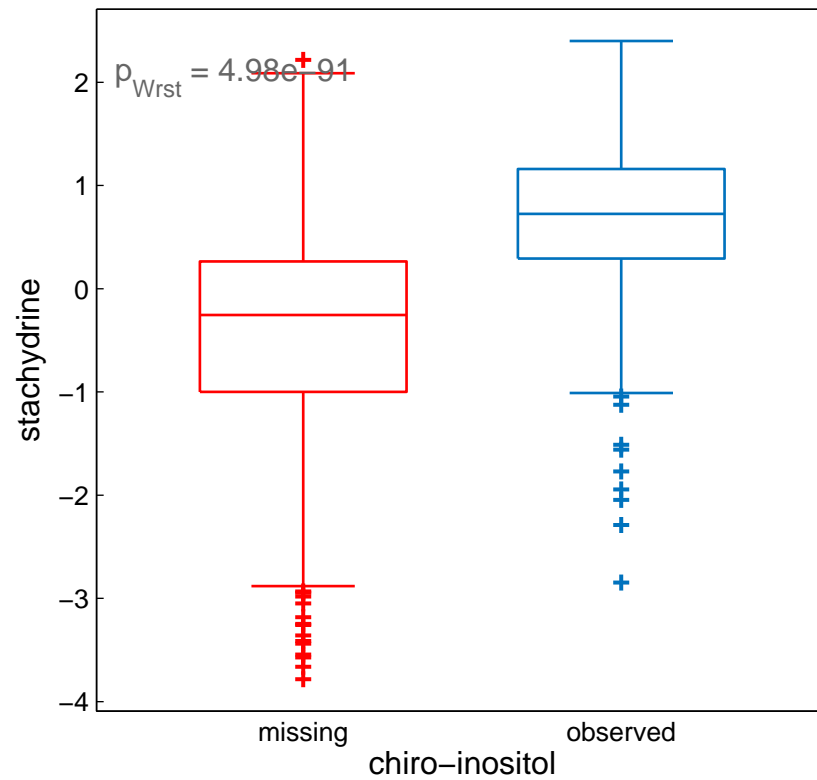
Concentrations of hydroquinone sulfate in
missing and observed X-04500



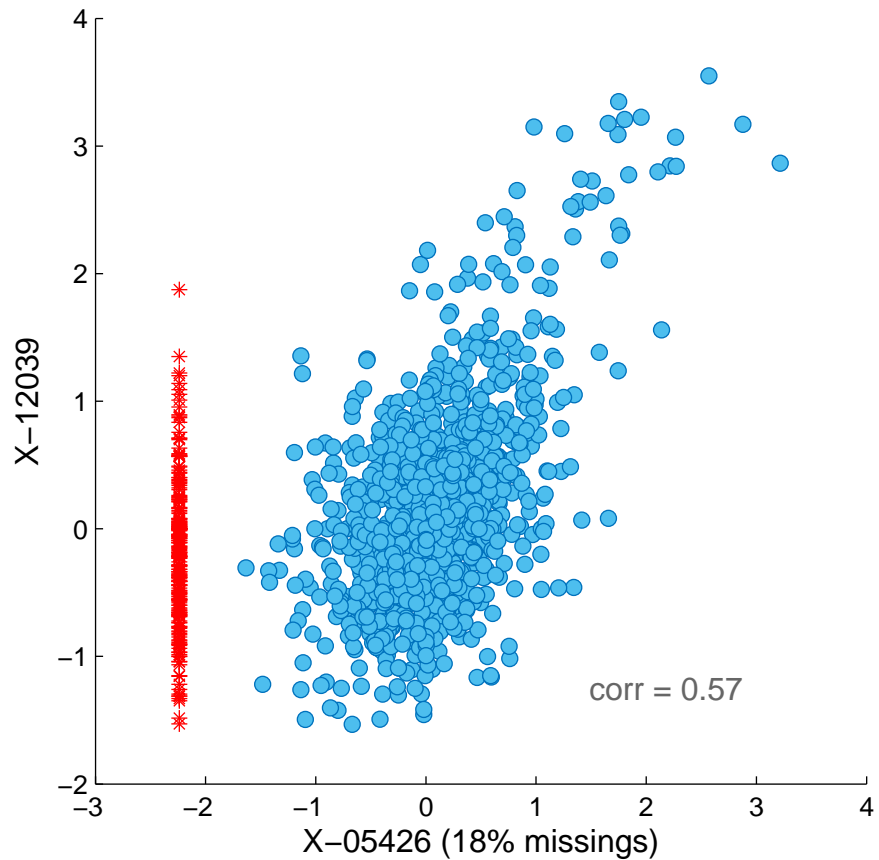
Missing values of chiro-*inositol* in stachydrine



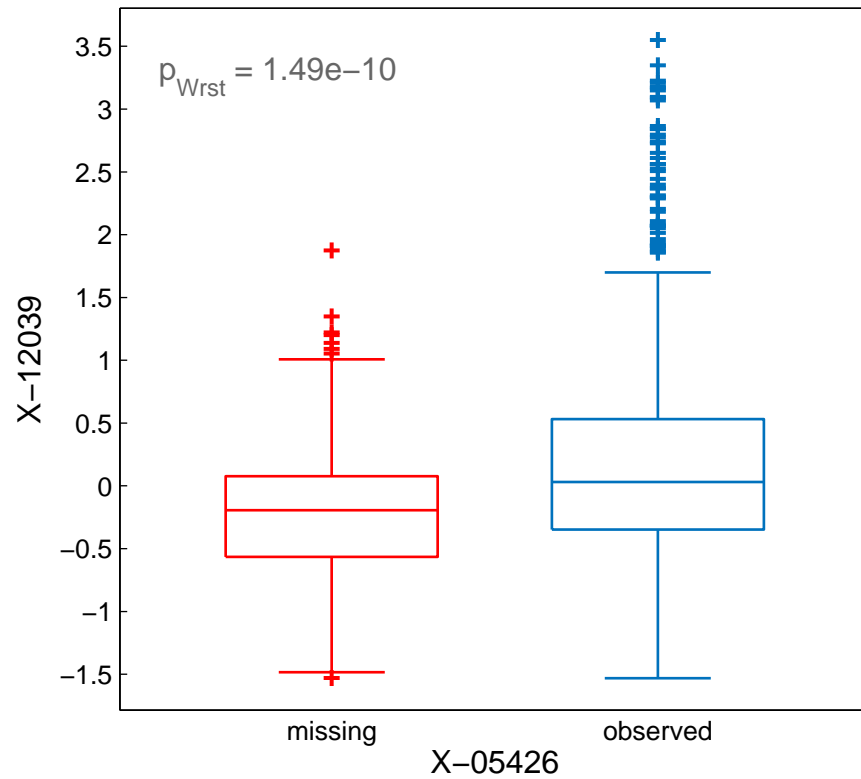
Concentrations of stachydrine in missing and observed chiro-*inositol*



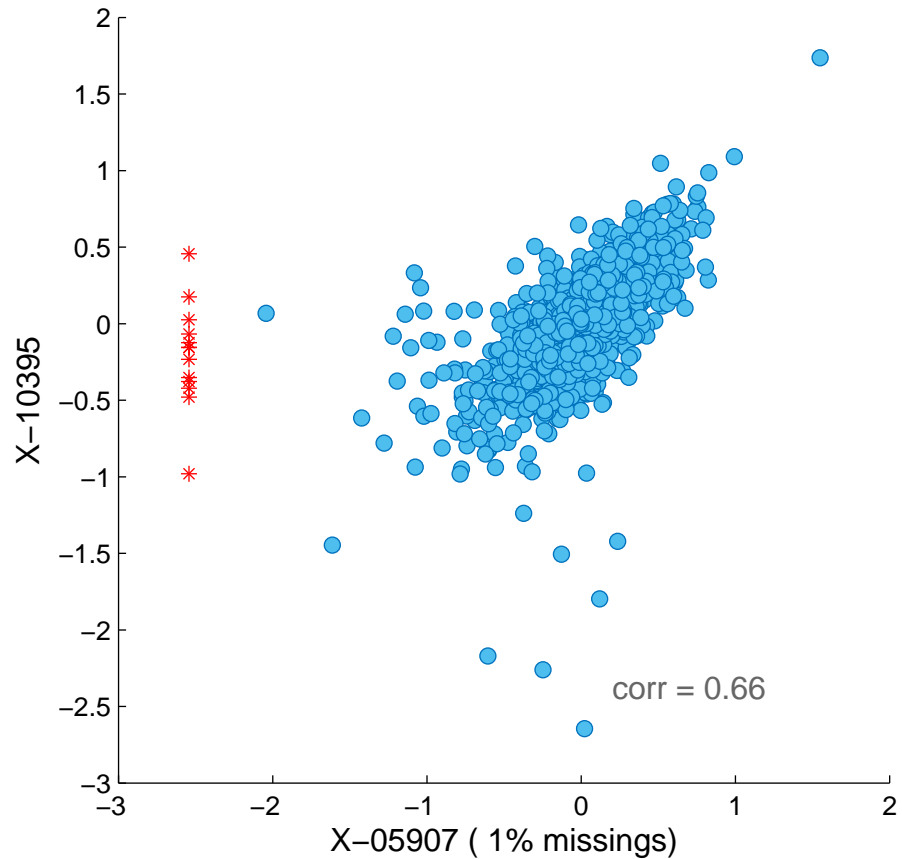
Missing values of X-05426
in X-12039



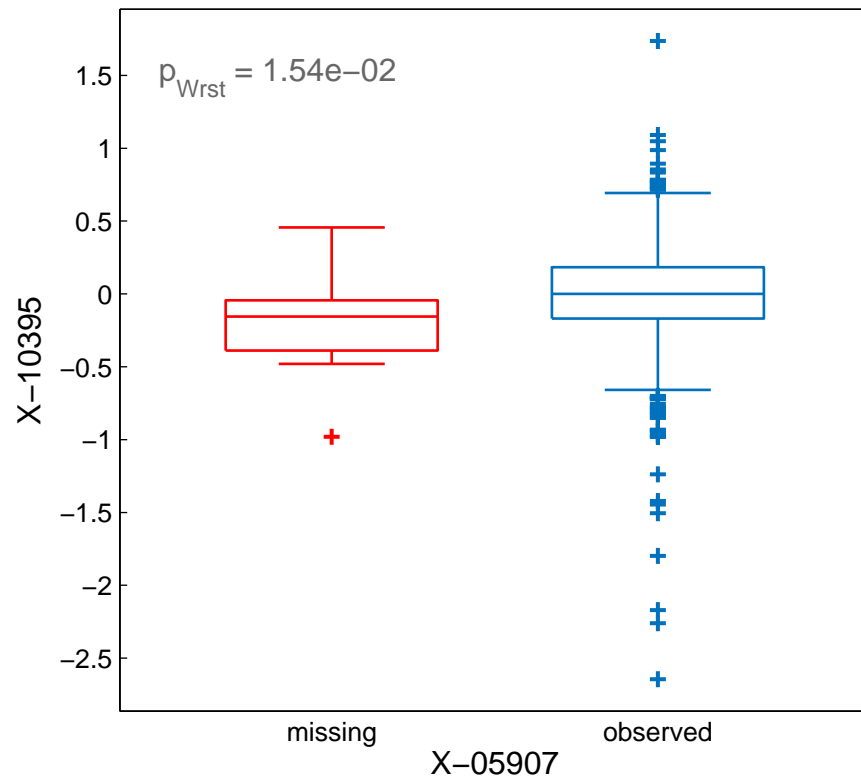
Concentrations of X-12039 in
missing and observed X-05426



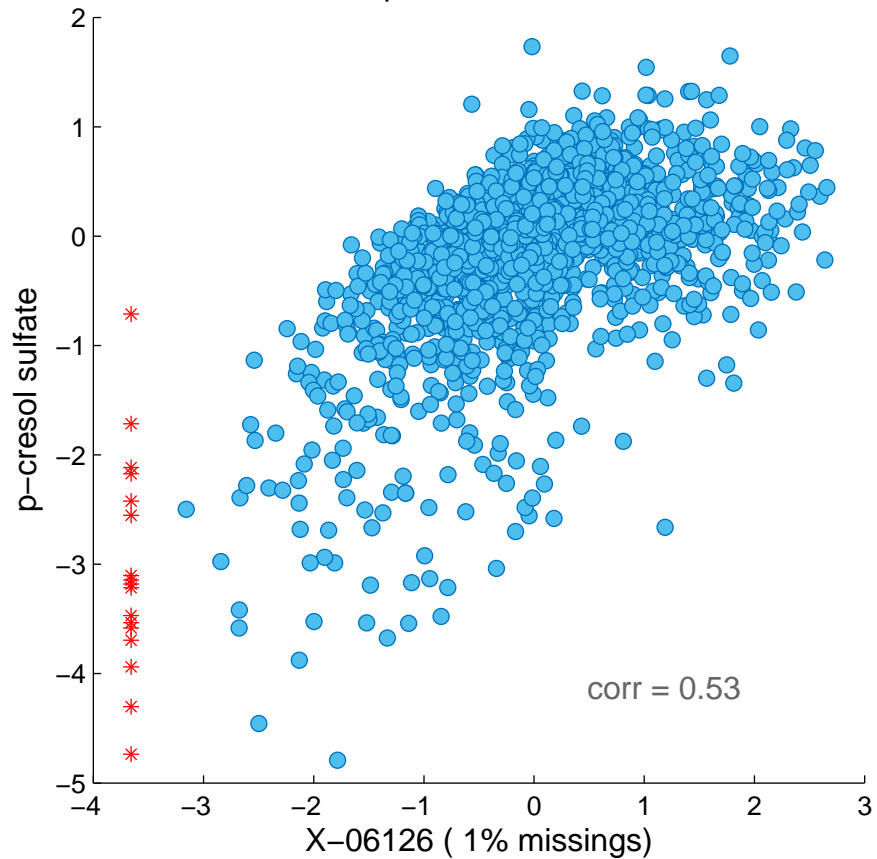
Missing values of X-05907
in X-10395



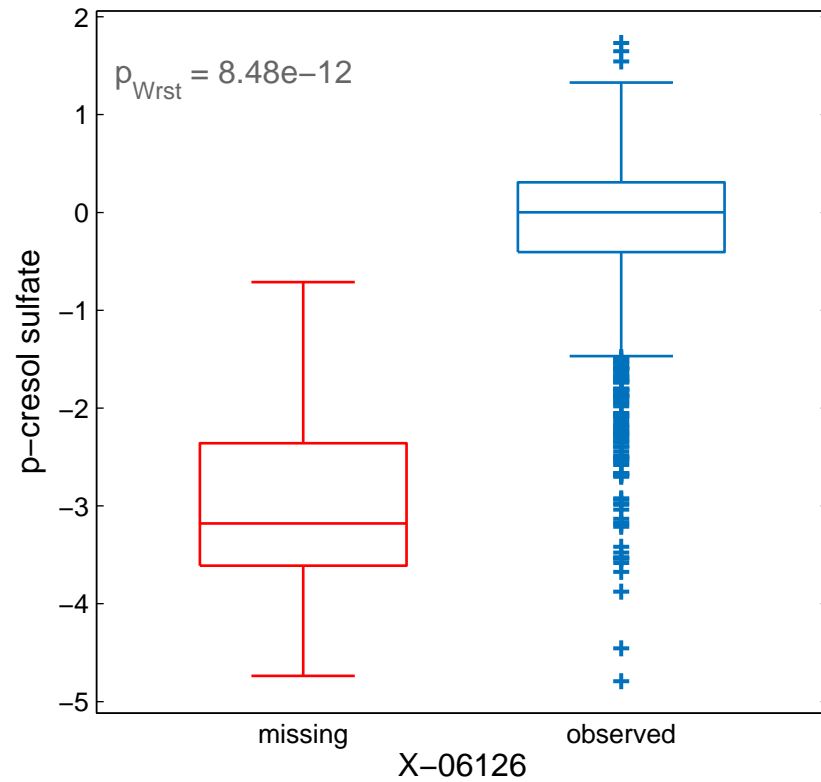
Concentrations of X-10395 in
missing and observed X-05907



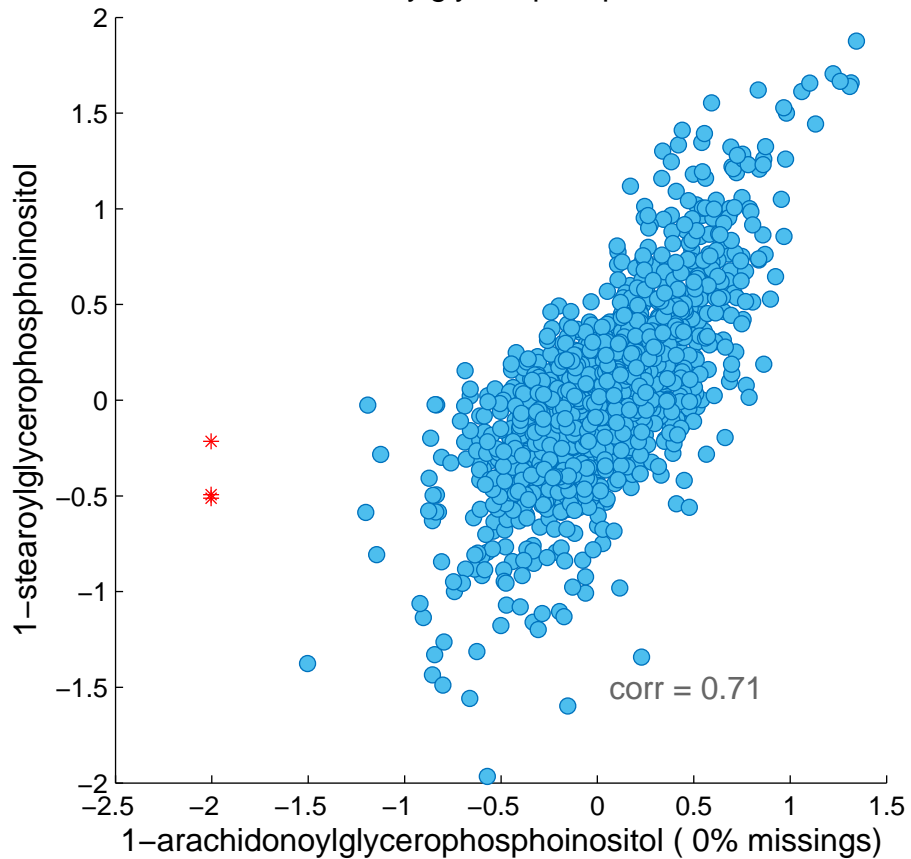
Missing values of X-06126
in p-cresol sulfate



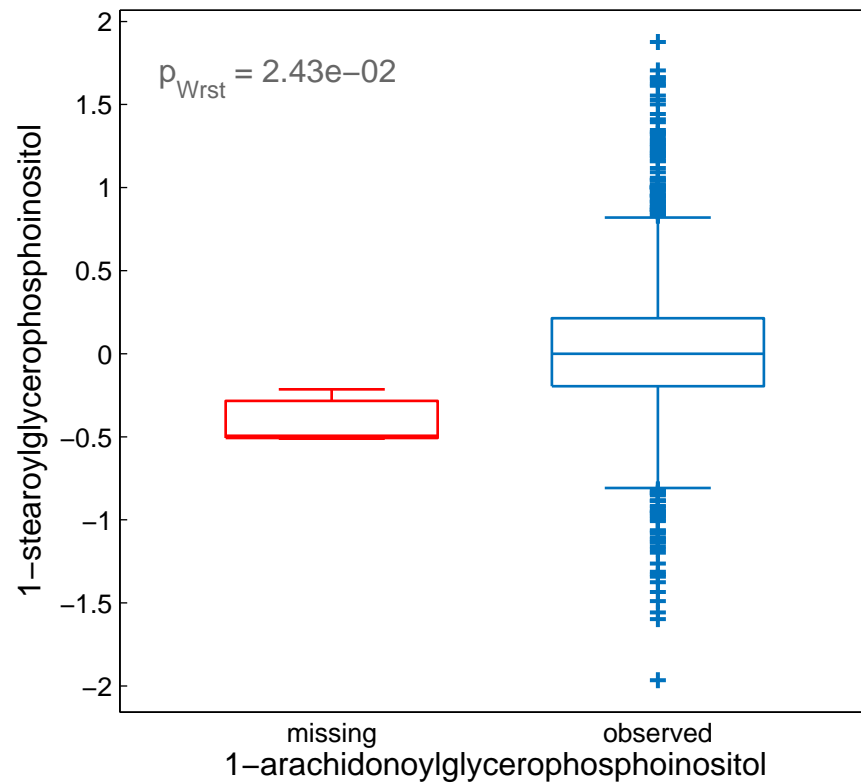
Concentrations of p-cresol sulfate in
missing and observed X-06126



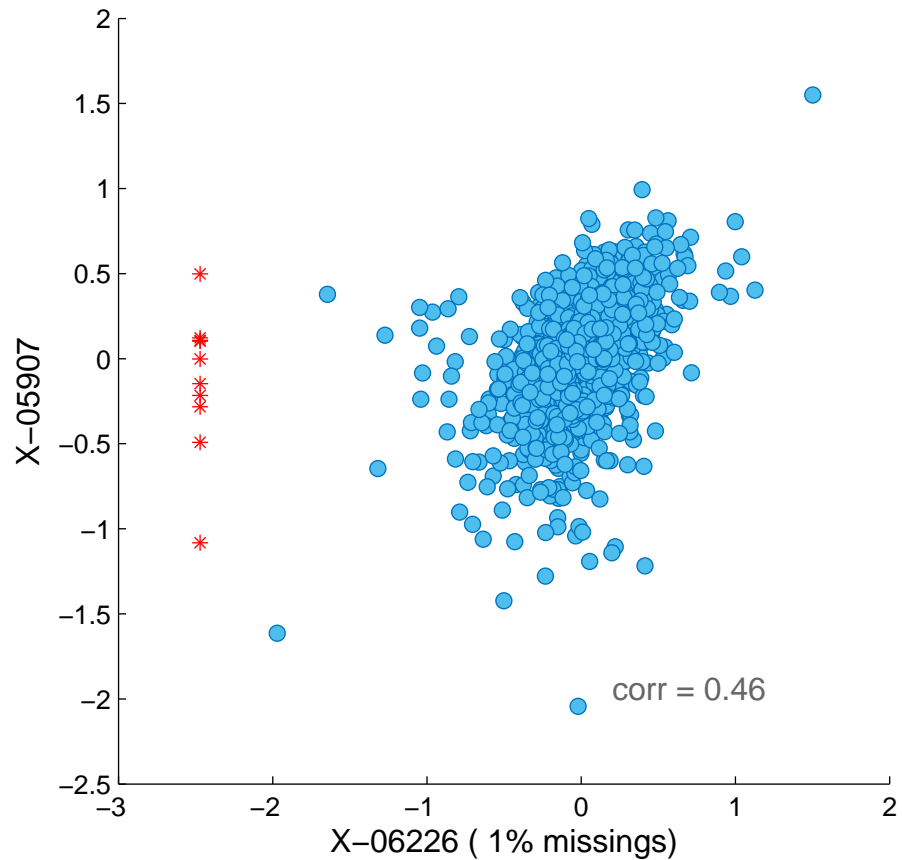
Missing values of 1–arachidonoylglycerophosphoinositol
in 1–stearoylglycerophosphoinositol



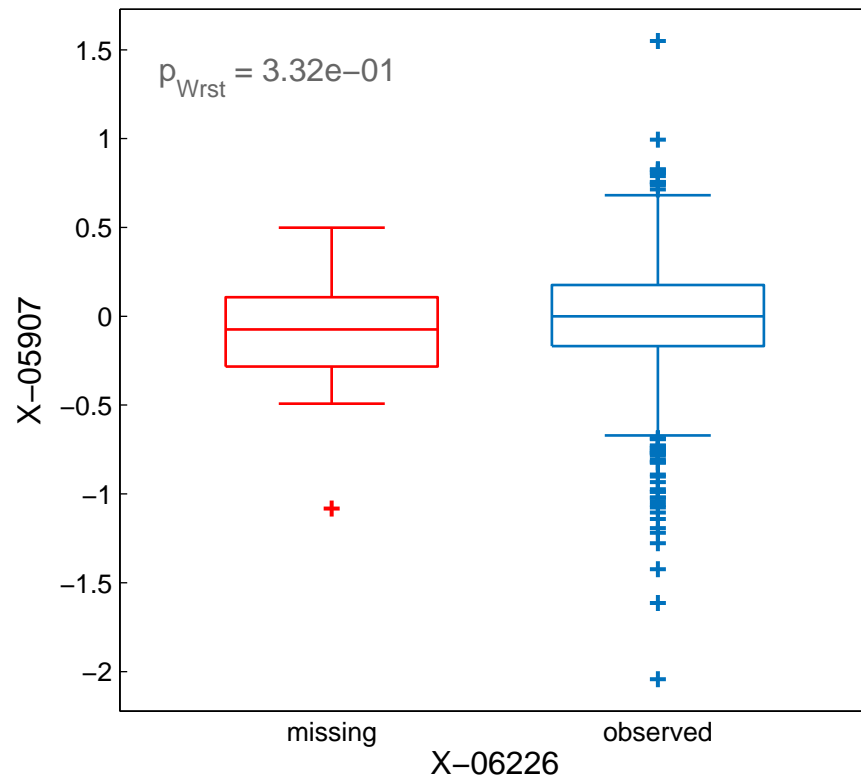
Concentrations of 1–stearoylglycerophosphoinositol in
missing and observed 1–arachidonoylglycerophosphoinositol



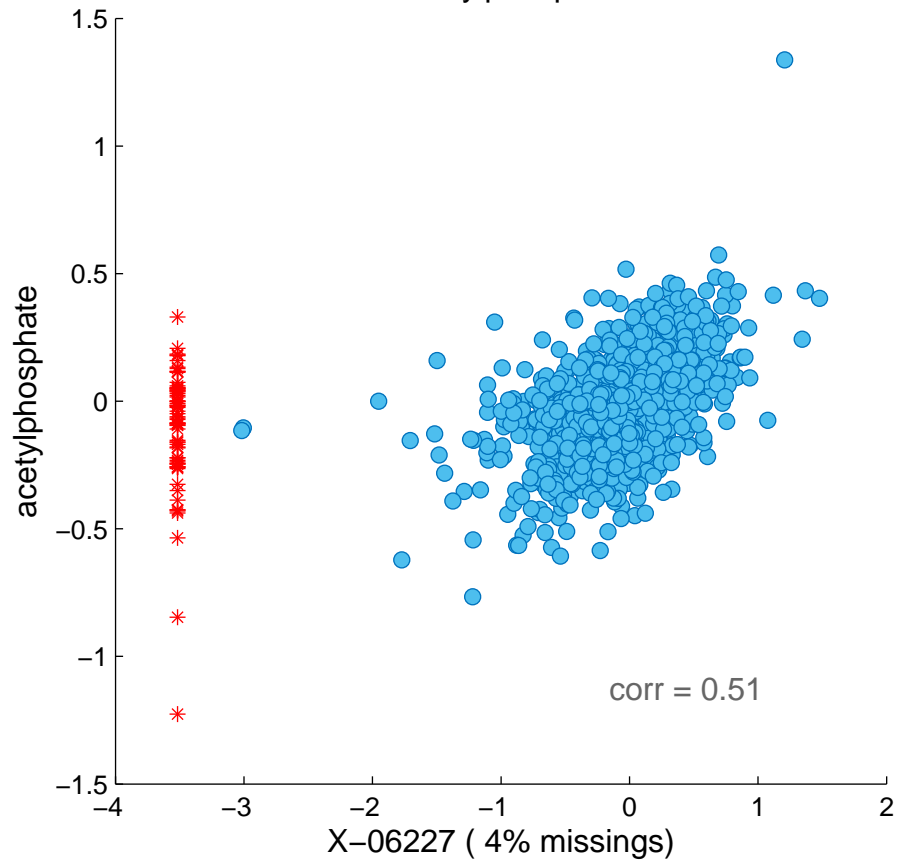
Missing values of X-06226
in X-05907



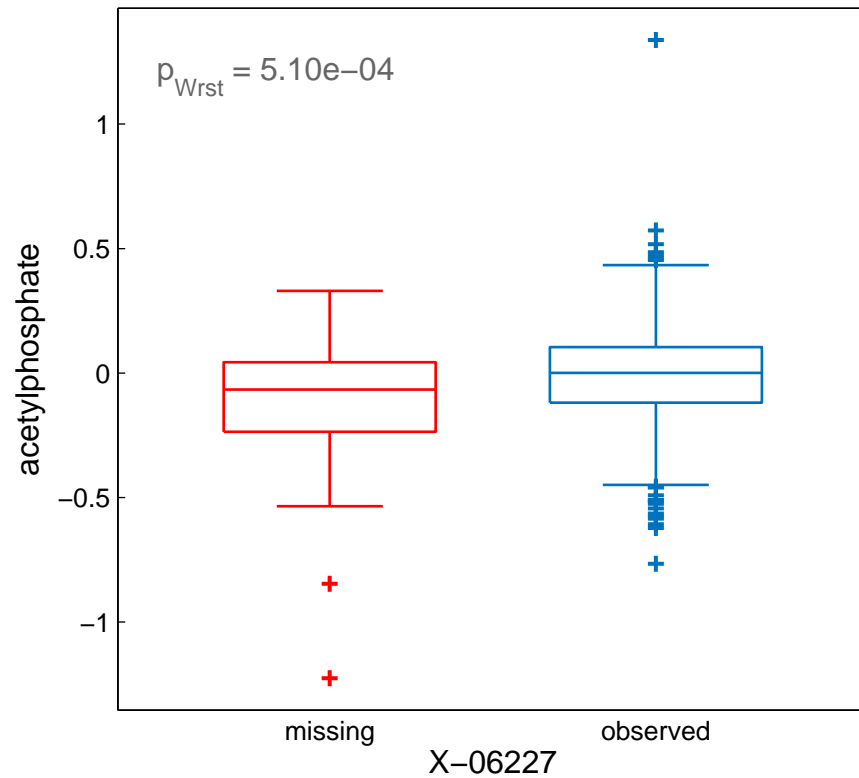
Concentrations of X-05907 in
missing and observed X-06226



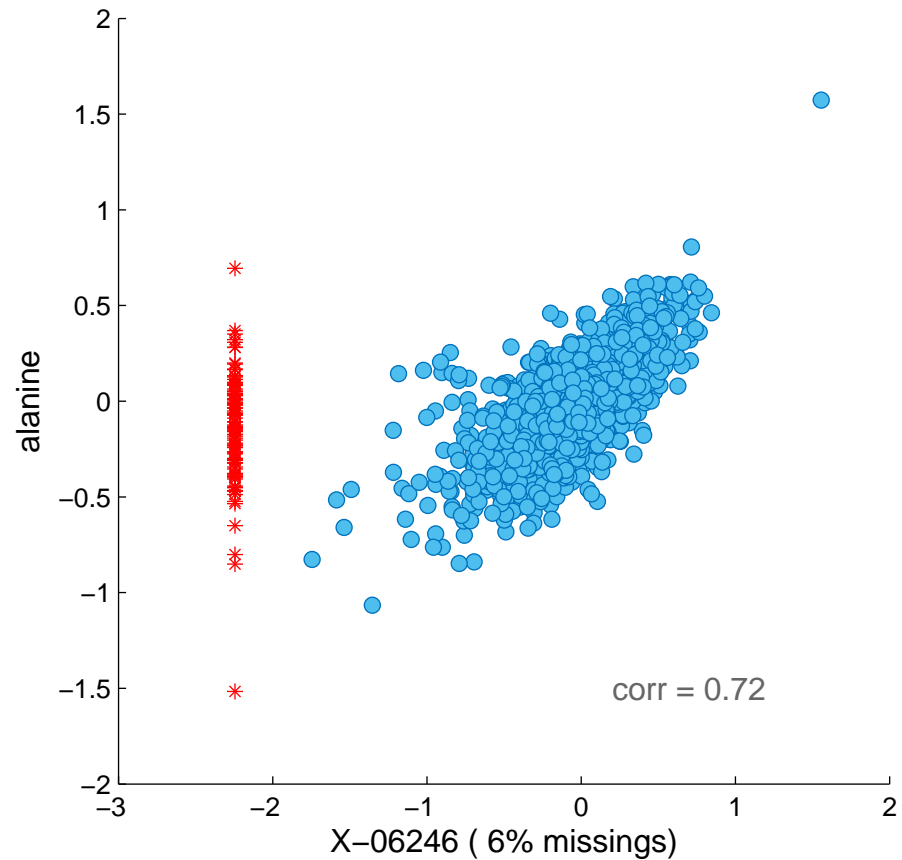
Missing values of X-06227
in acetylphosphate



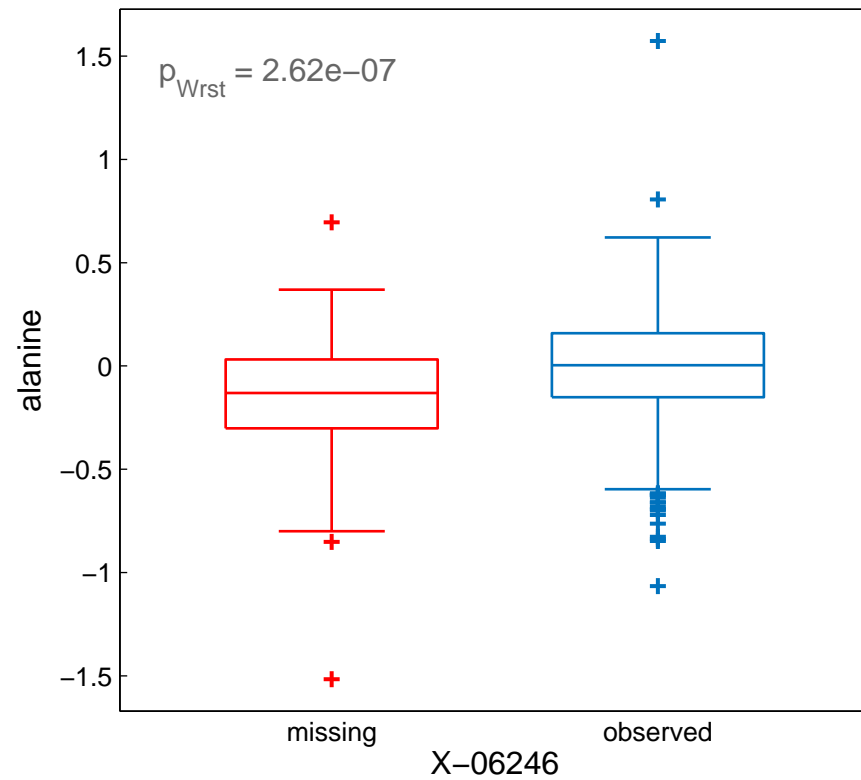
Concentrations of acetylphosphate in
missing and observed X-06227



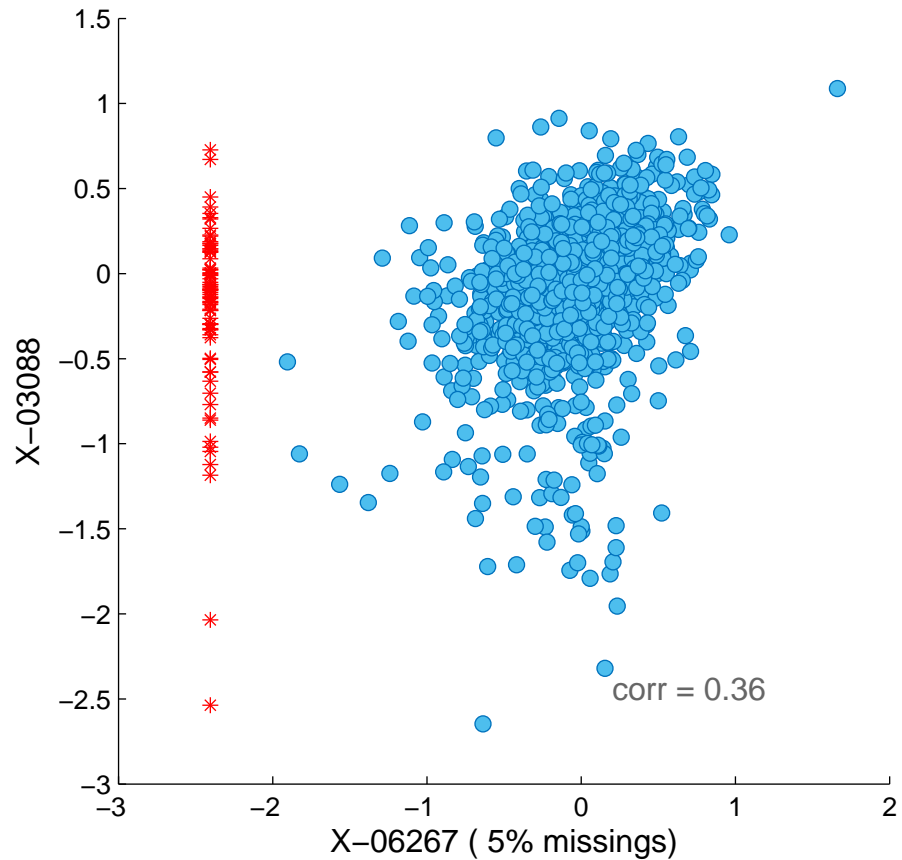
Missing values of X-06246
in alanine



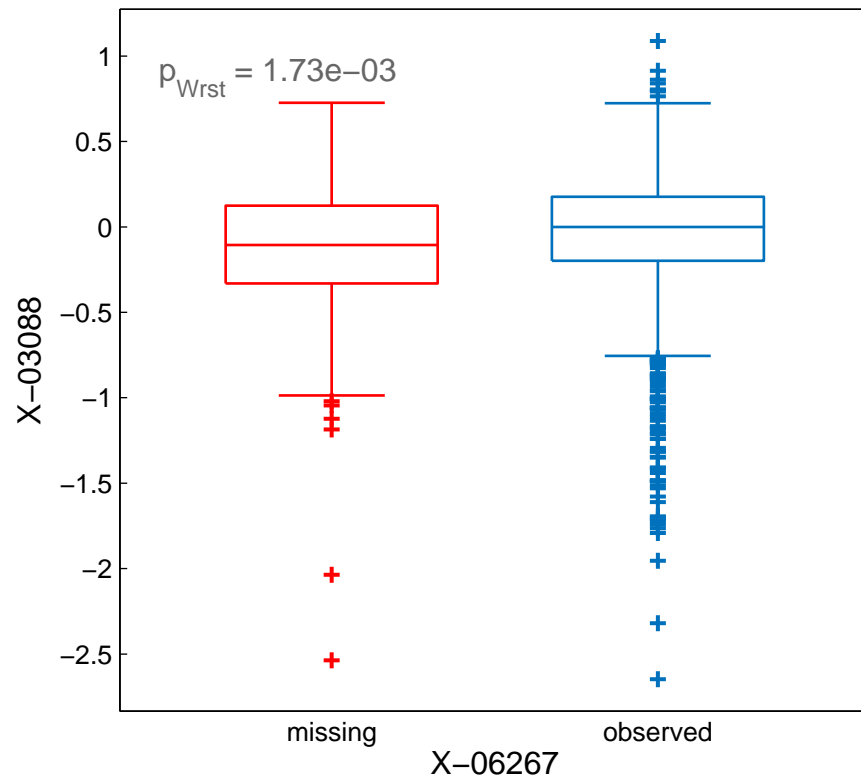
Concentrations of alanine in
missing and observed X-06246



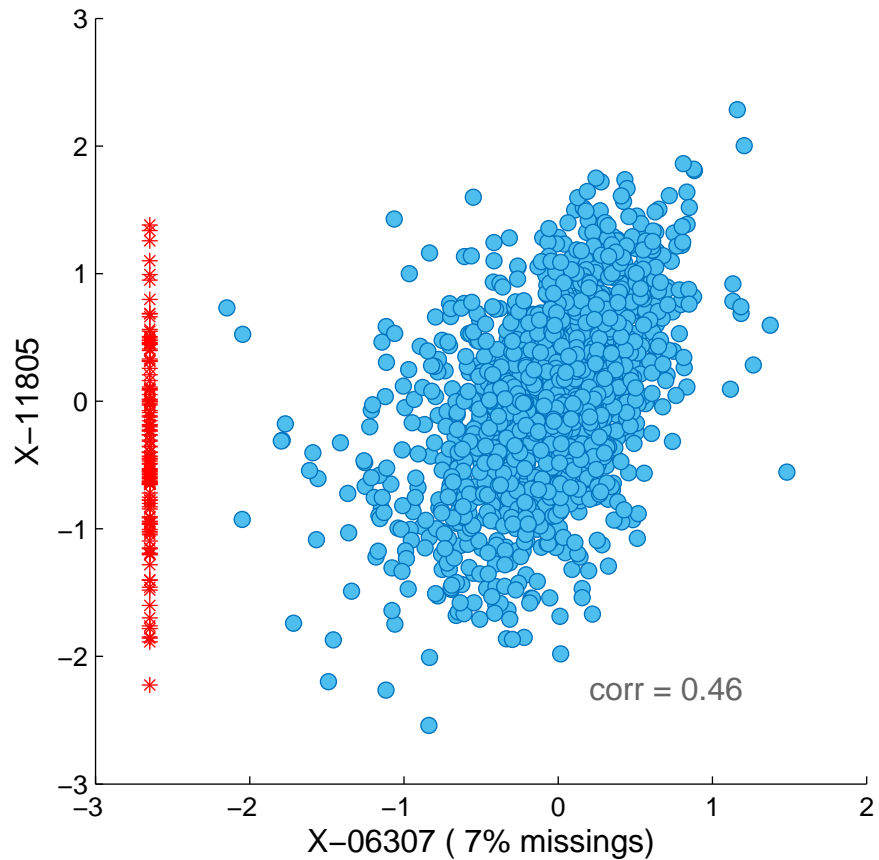
Missing values of X-06267
in X-03088



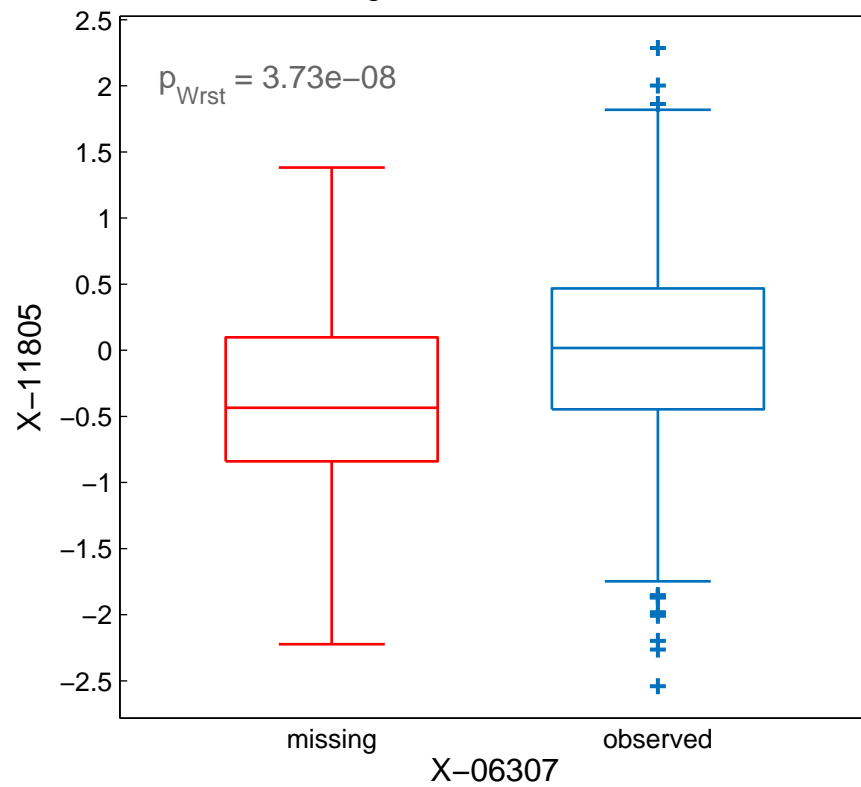
Concentrations of X-03088 in
missing and observed X-06267



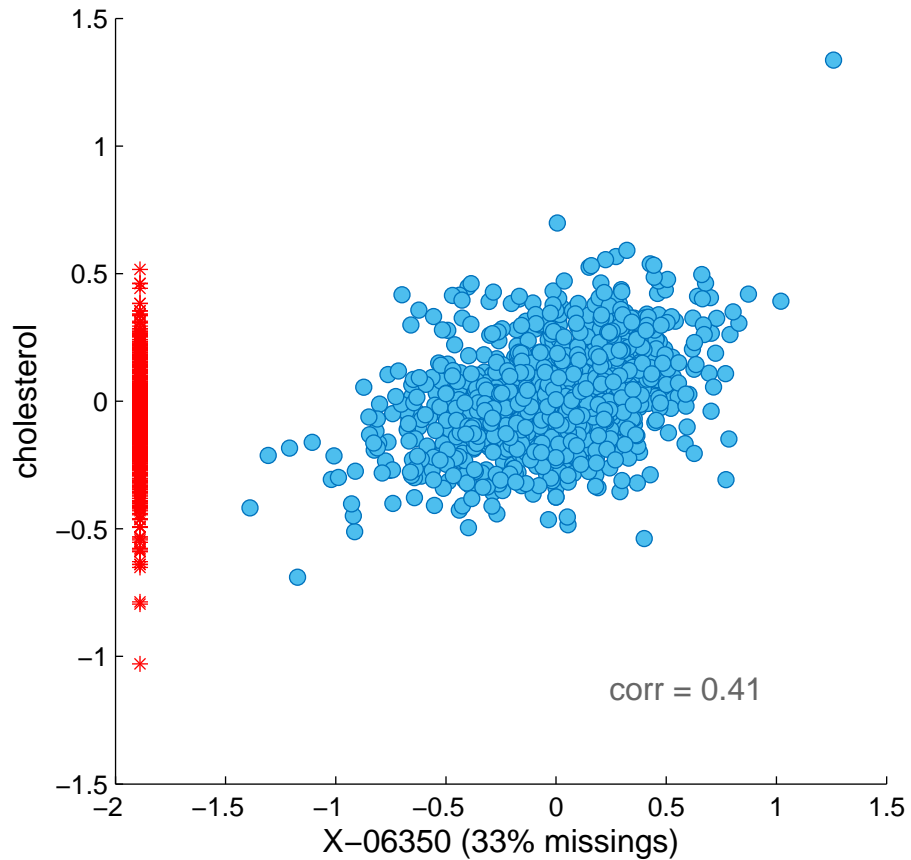
Missing values of X-06307
in X-11805



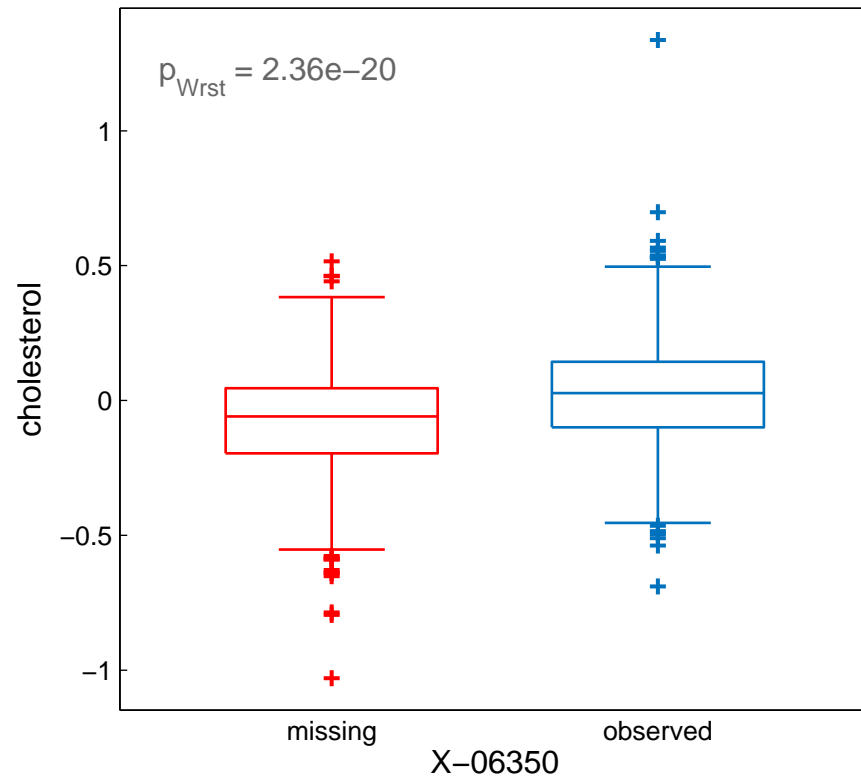
Concentrations of X-11805 in
missing and observed X-06307



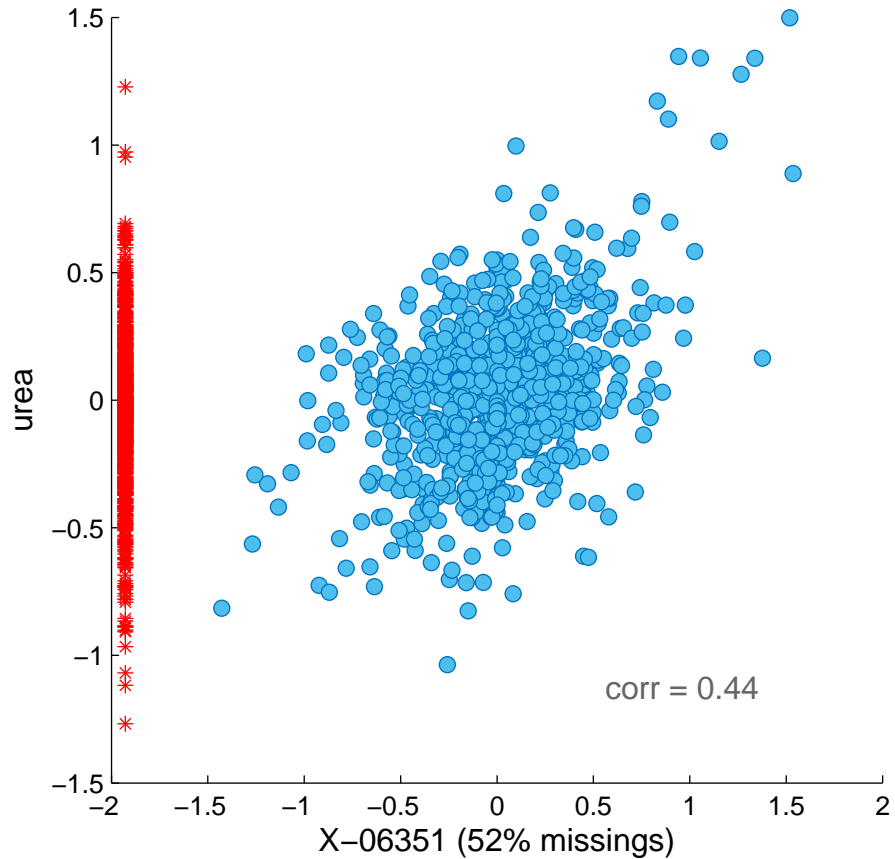
Missing values of X-06350
in cholesterol



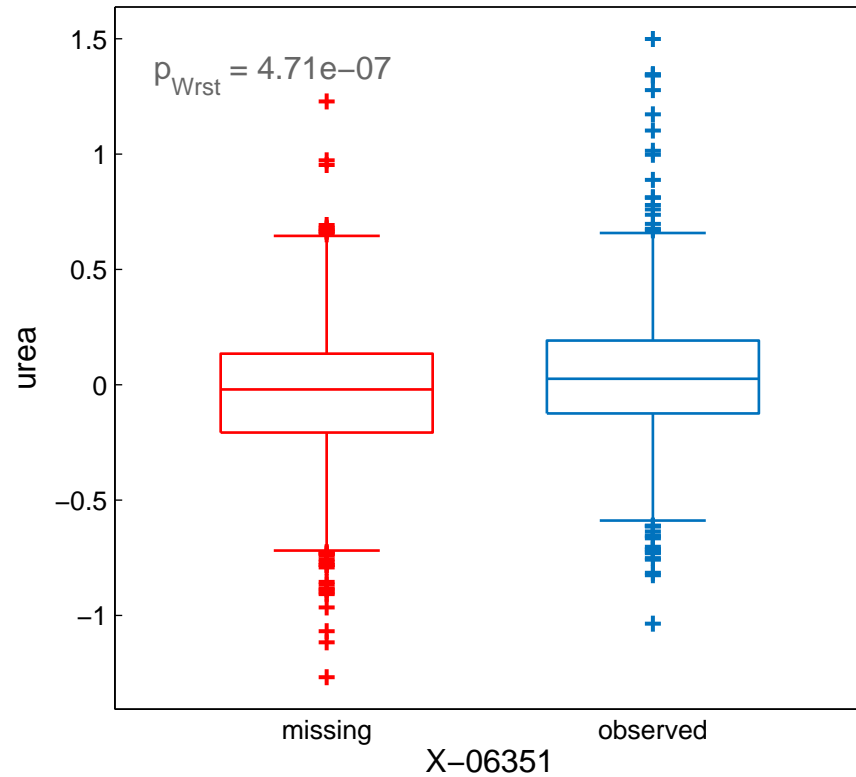
Concentrations of cholesterol in
missing and observed X-06350



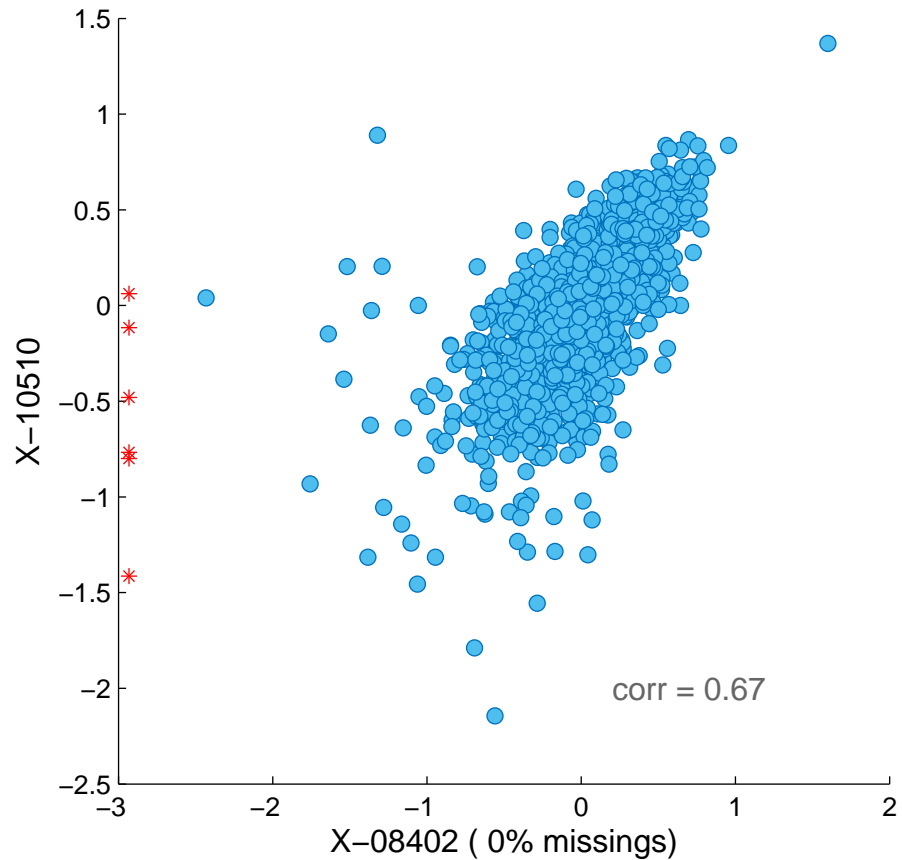
Missing values of X-06351
in urea



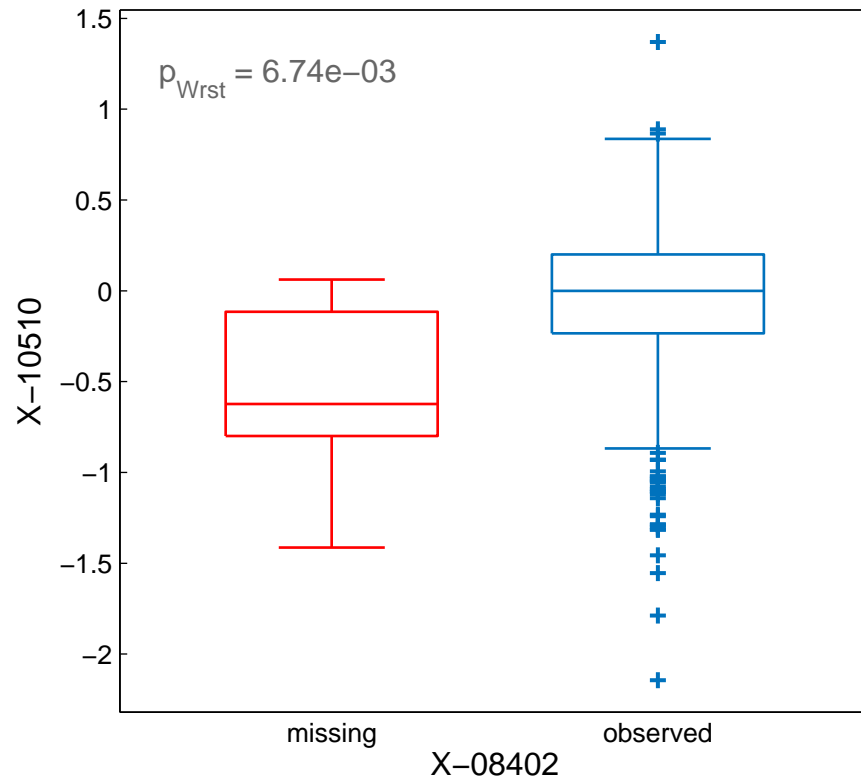
Concentrations of urea in
missing and observed X-06351



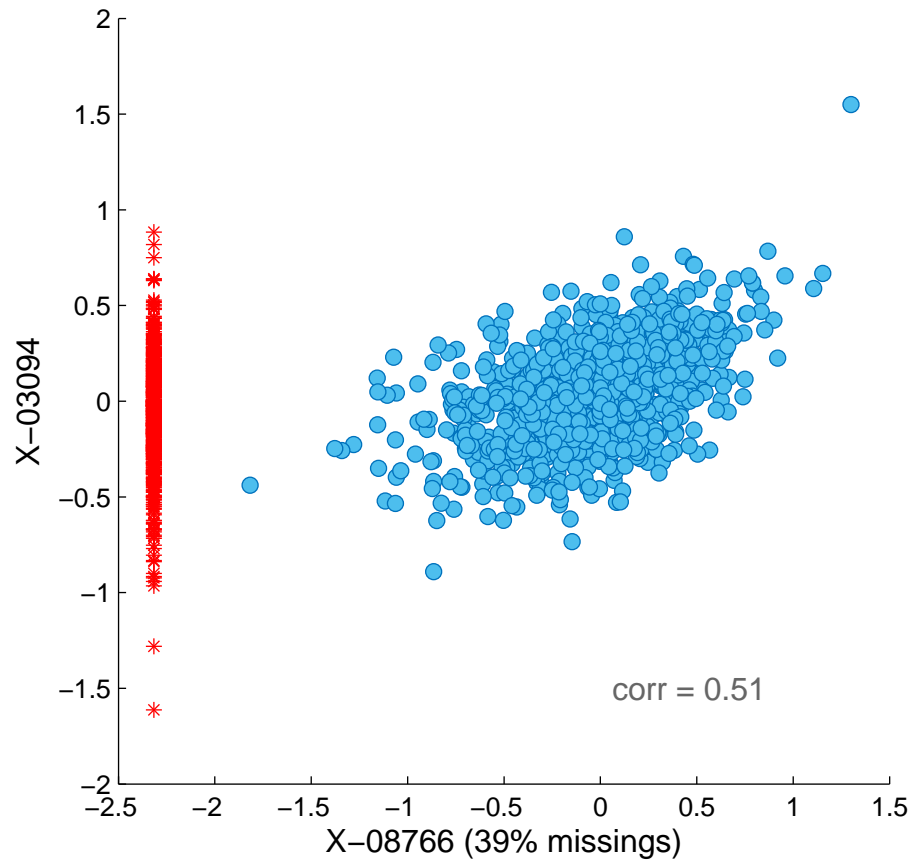
Missing values of X-08402
in X-10510



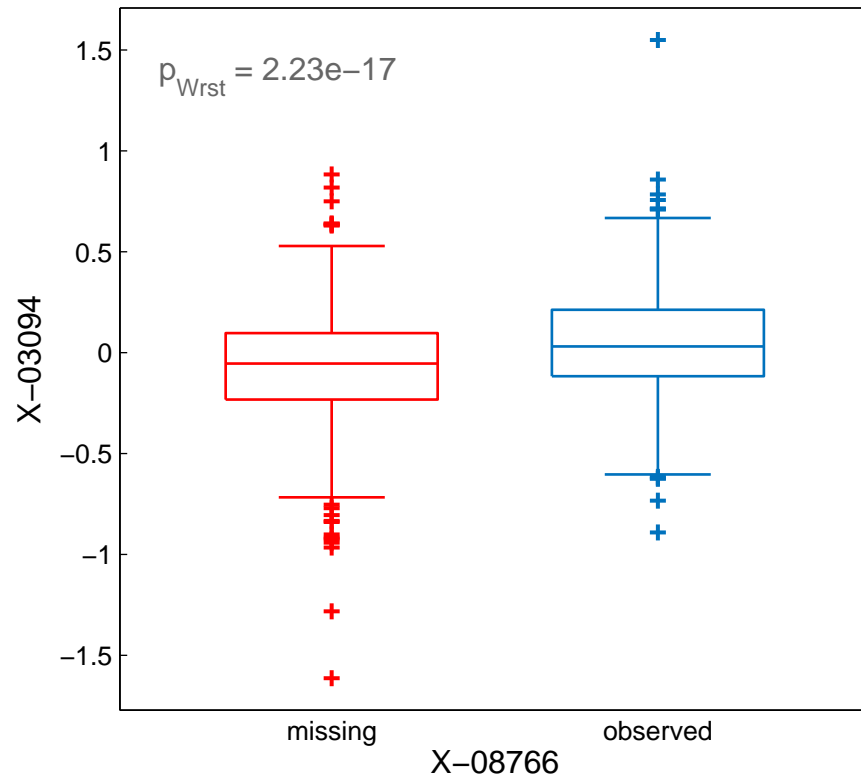
Concentrations of X-10510 in
missing and observed X-08402



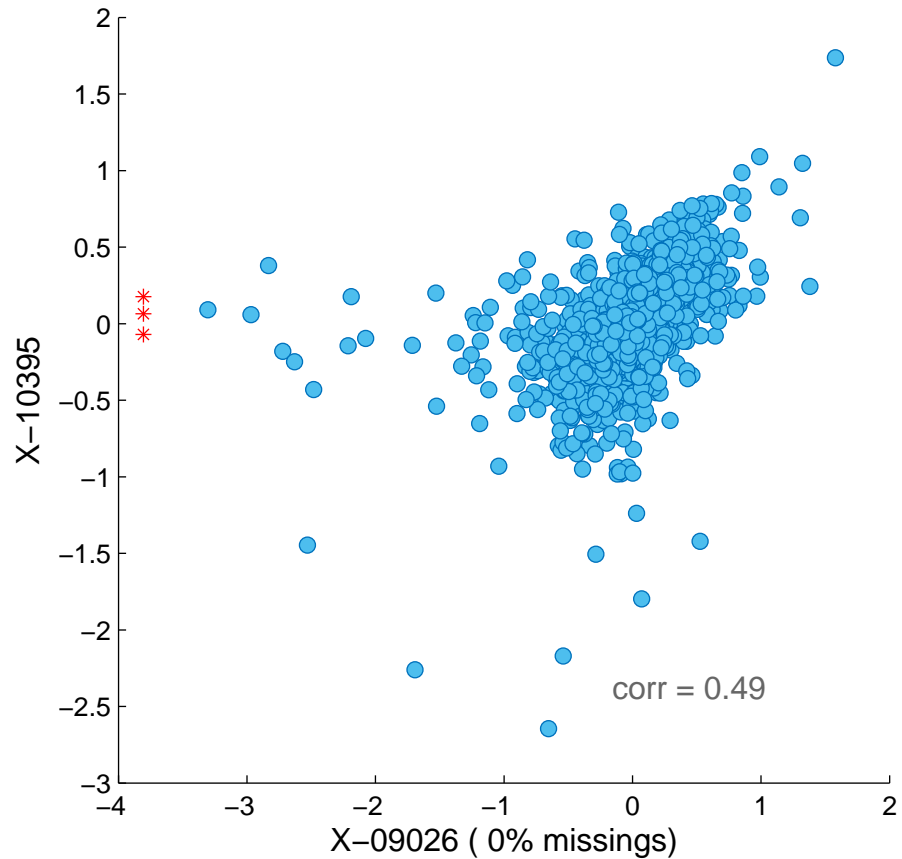
Missing values of X-08766
in X-03094



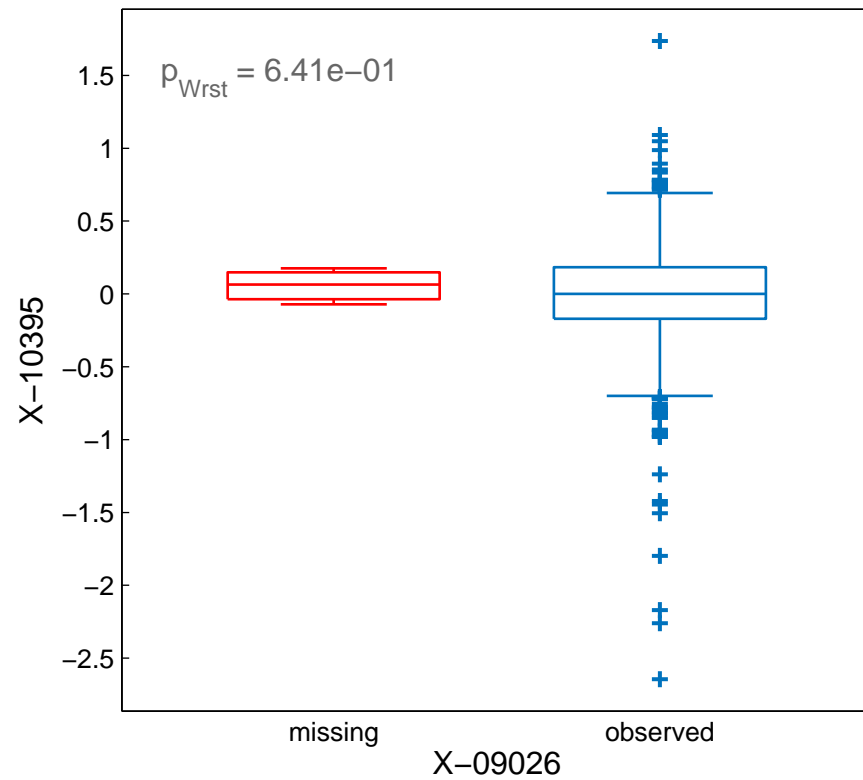
Concentrations of X-03094 in
missing and observed X-08766



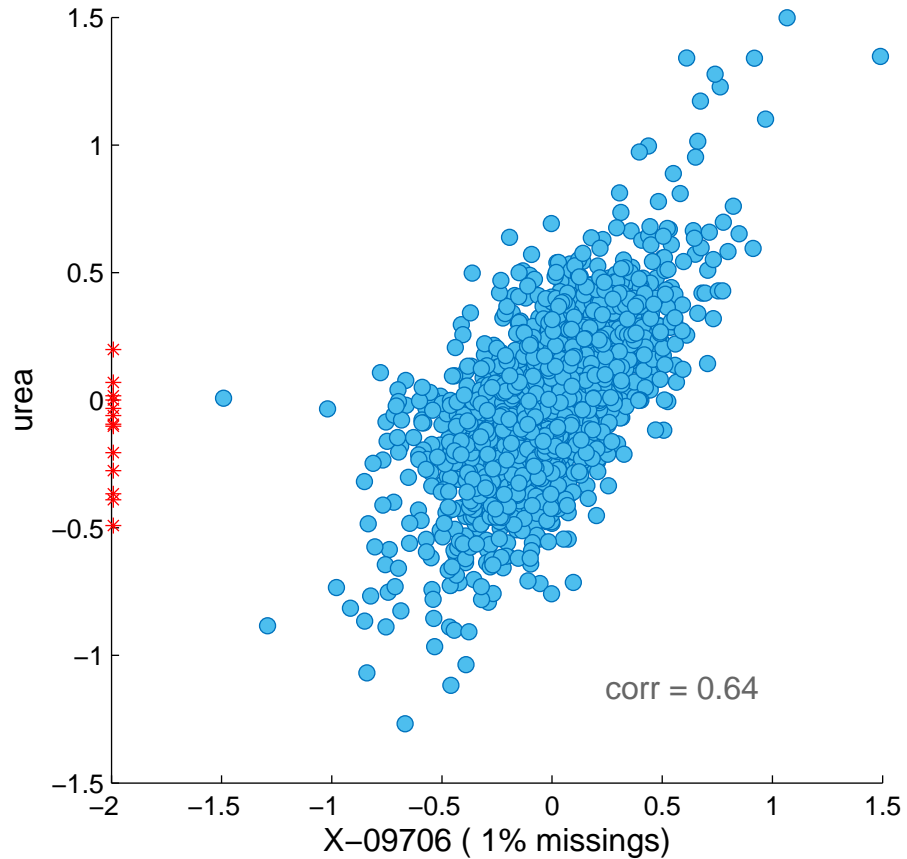
Missing values of X-09026
in X-10395



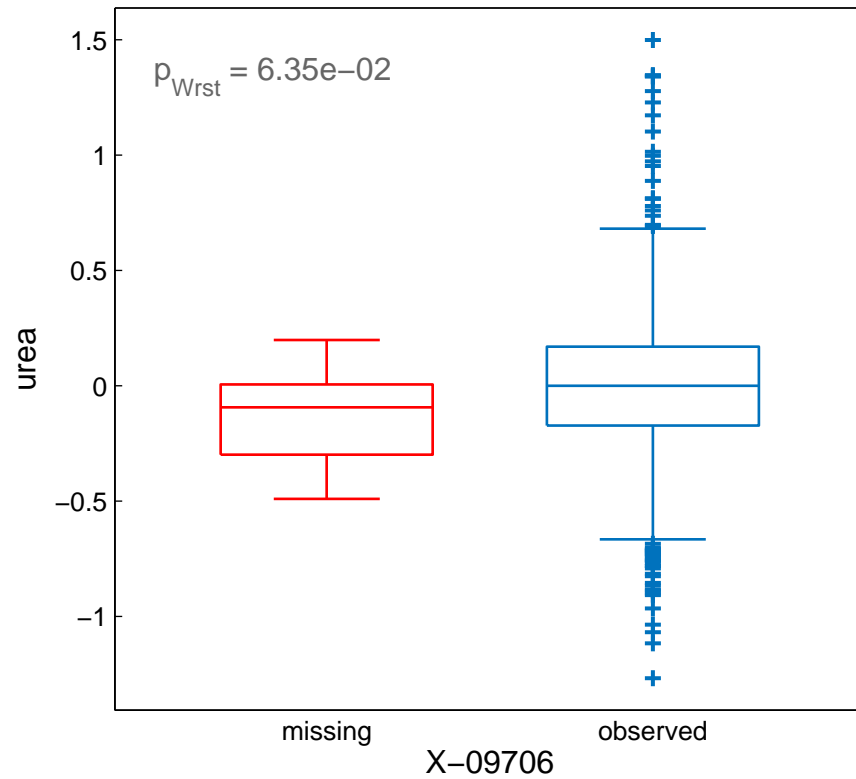
Concentrations of X-10395 in
missing and observed X-09026



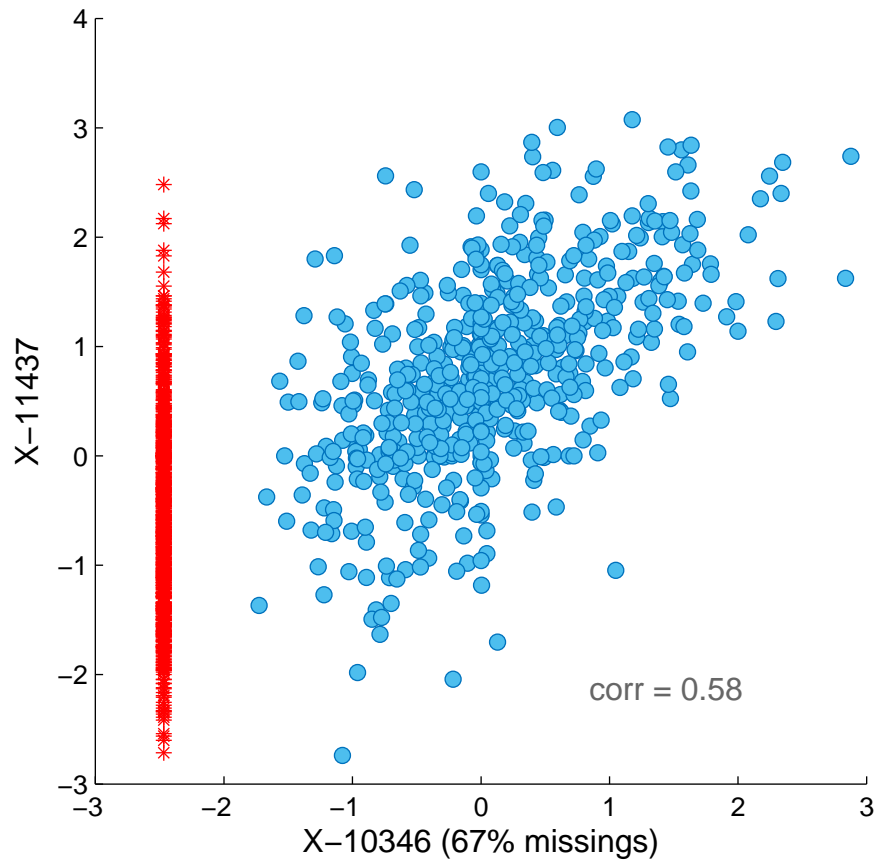
Missing values of X-09706
in urea



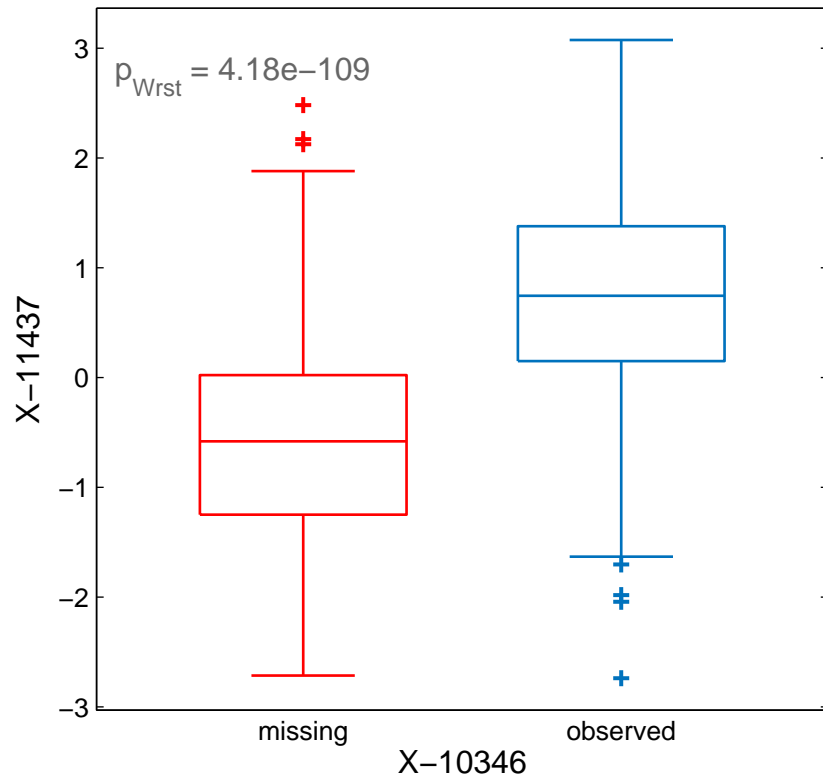
Concentrations of urea in
missing and observed X-09706



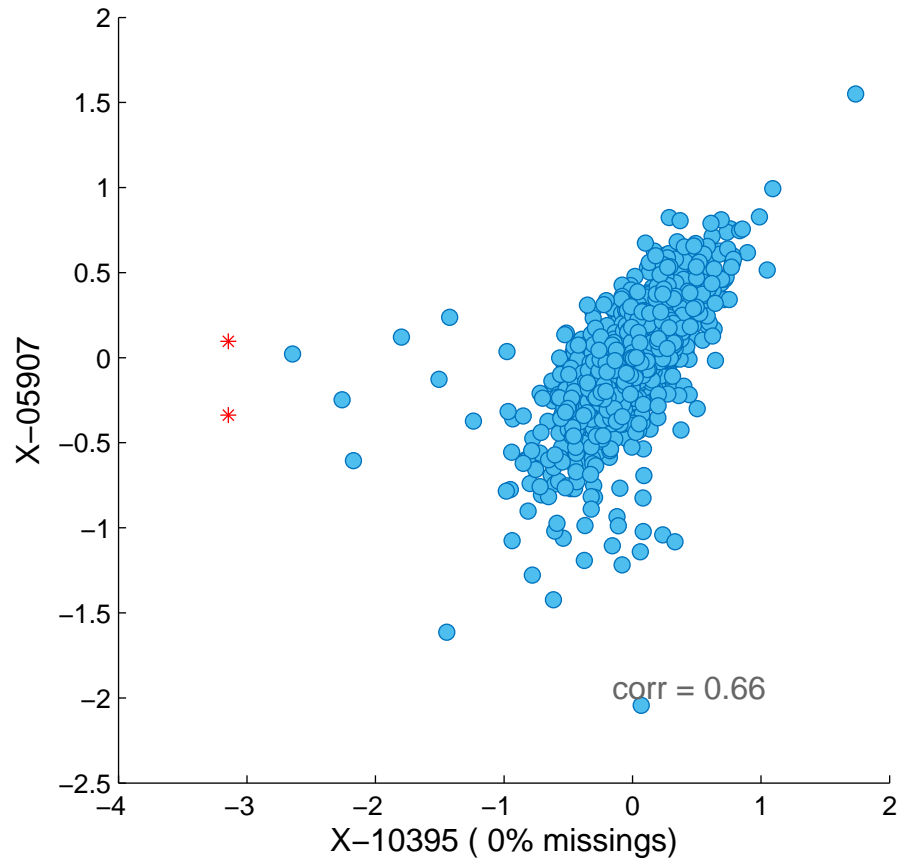
Missing values of X-10346
in X-11437



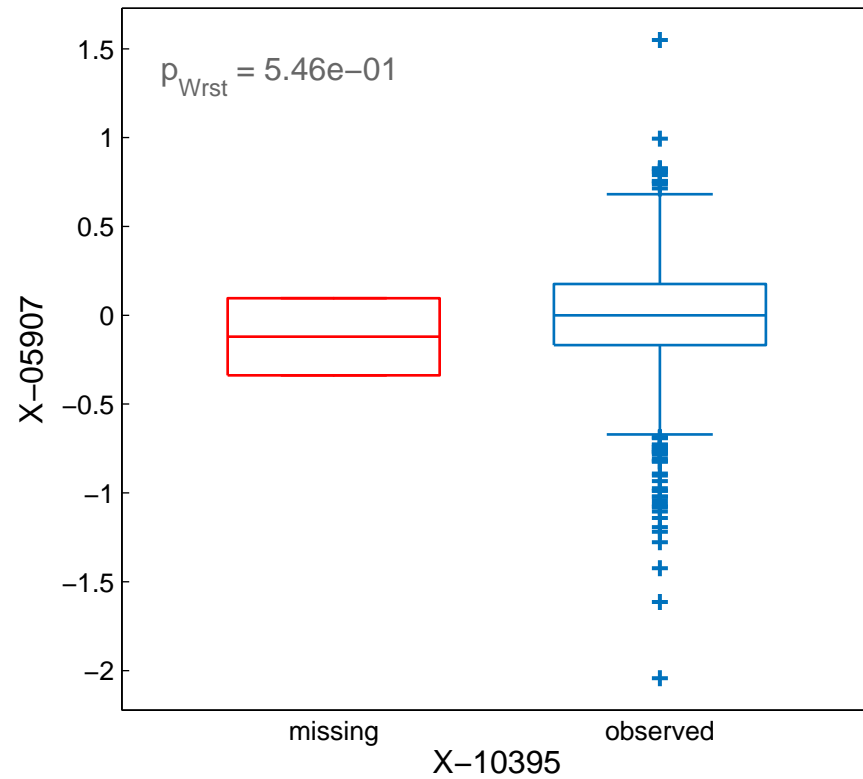
Concentrations of X-11437 in
missing and observed X-10346



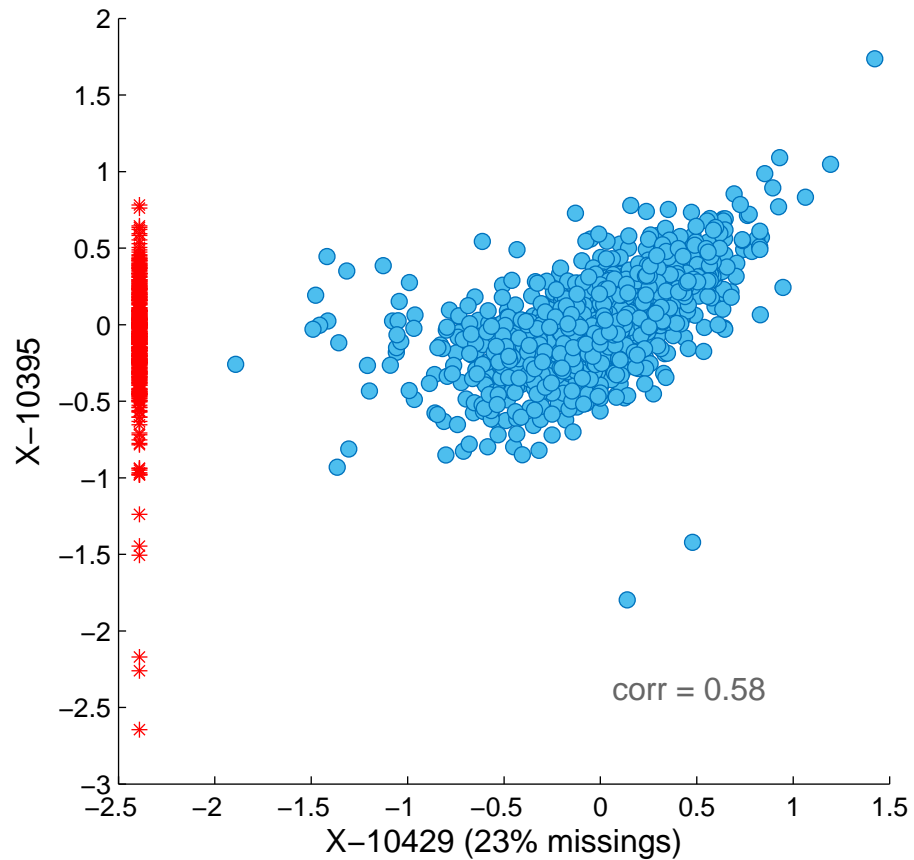
Missing values of X-10395
in X-05907



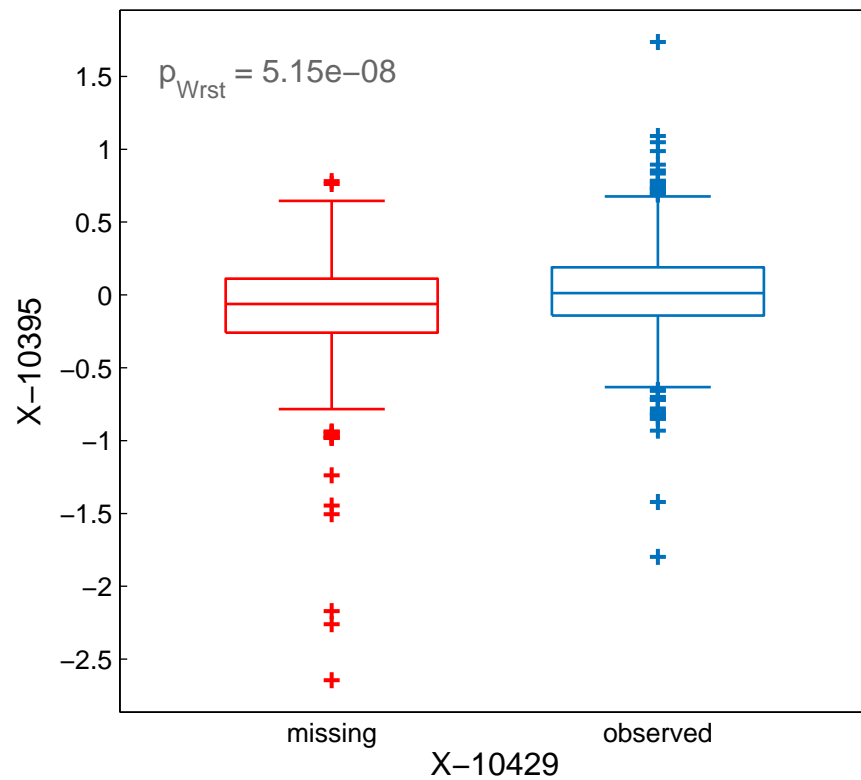
Concentrations of X-05907 in
missing and observed X-10395



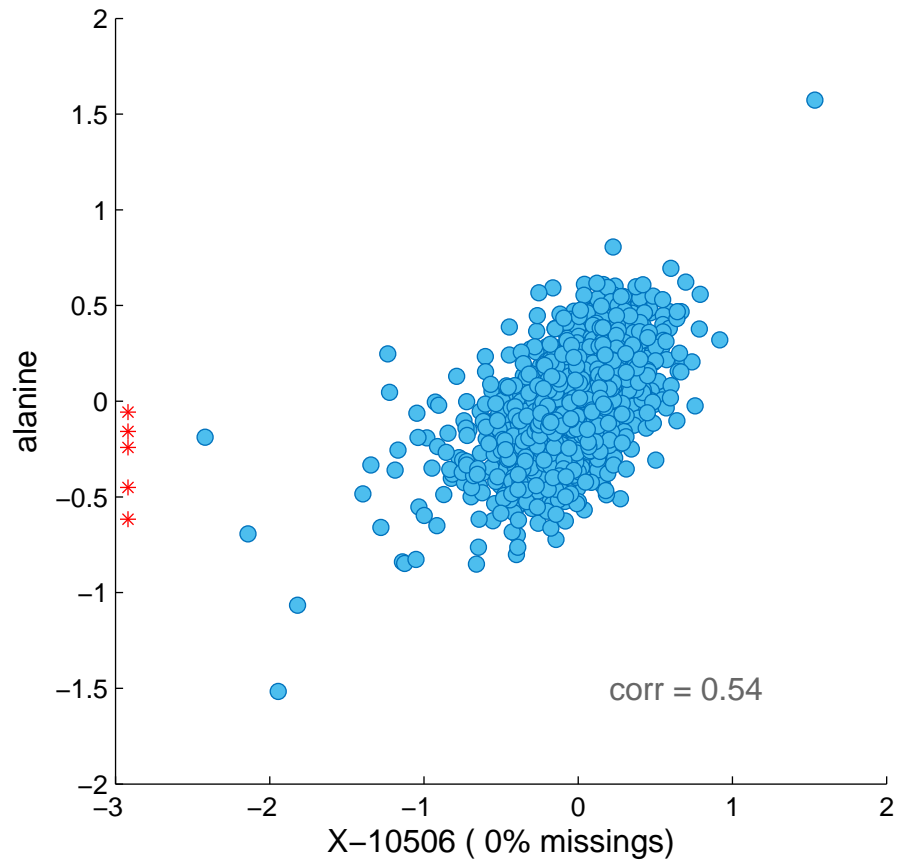
Missing values of X-10429
in X-10395



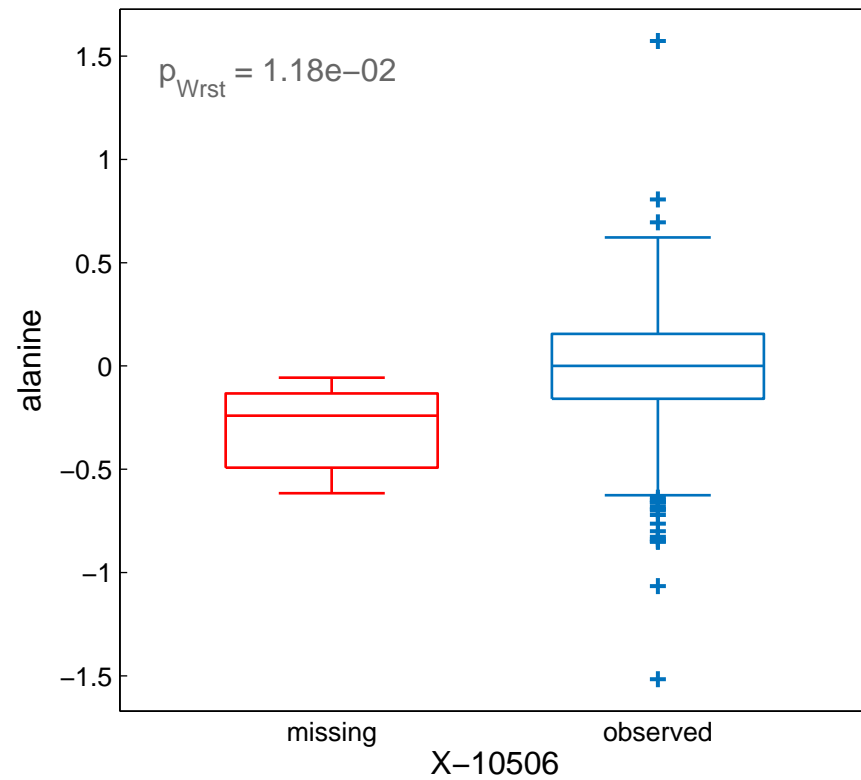
Concentrations of X-10395 in
missing and observed X-10429



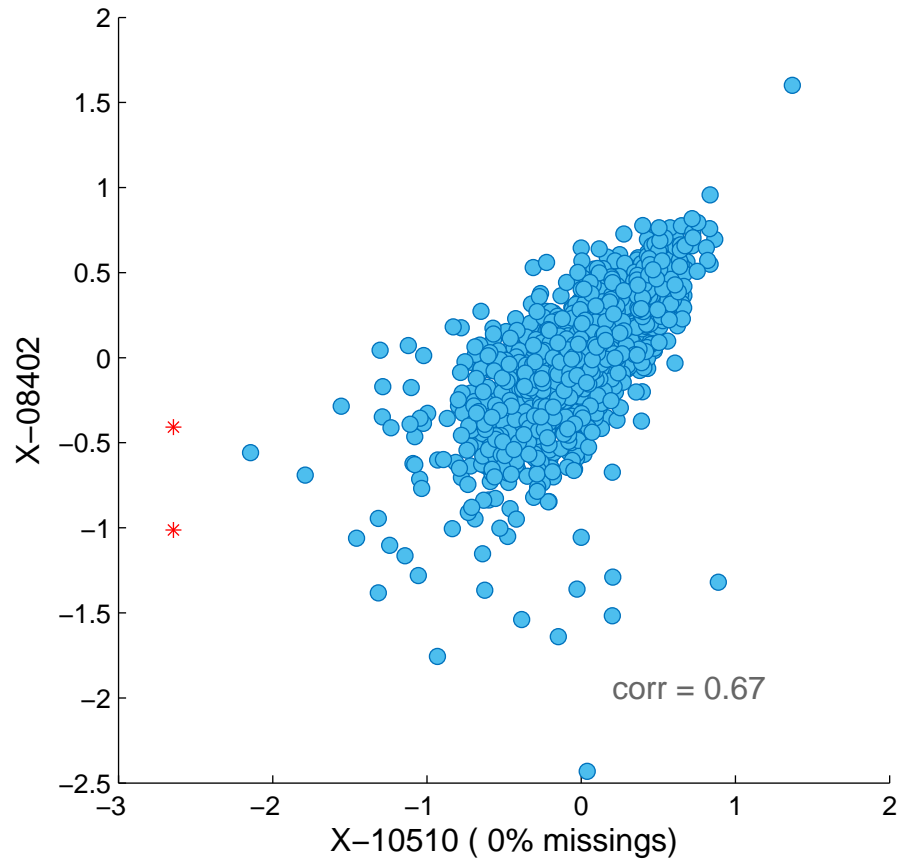
Missing values of X-10506
in alanine



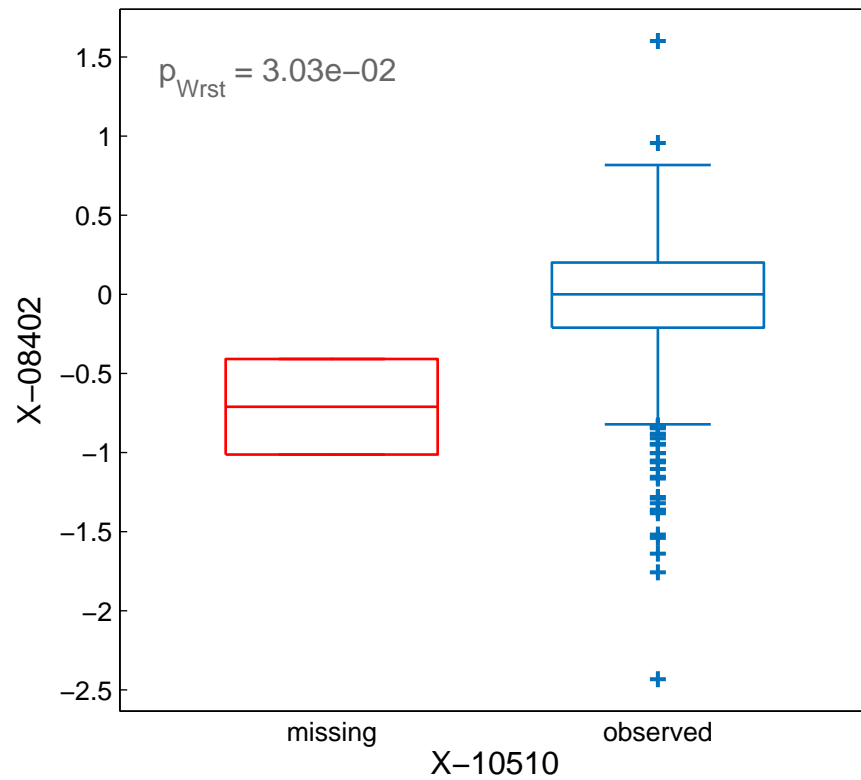
Concentrations of alanine in
missing and observed X-10506



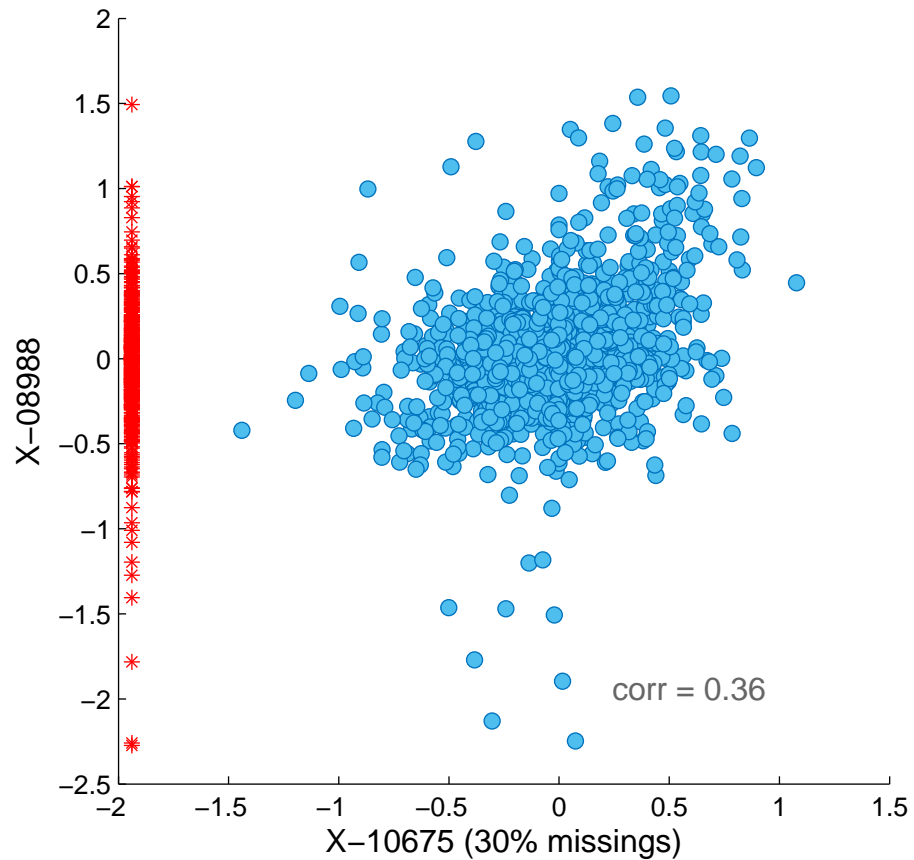
Missing values of X-10510
in X-08402



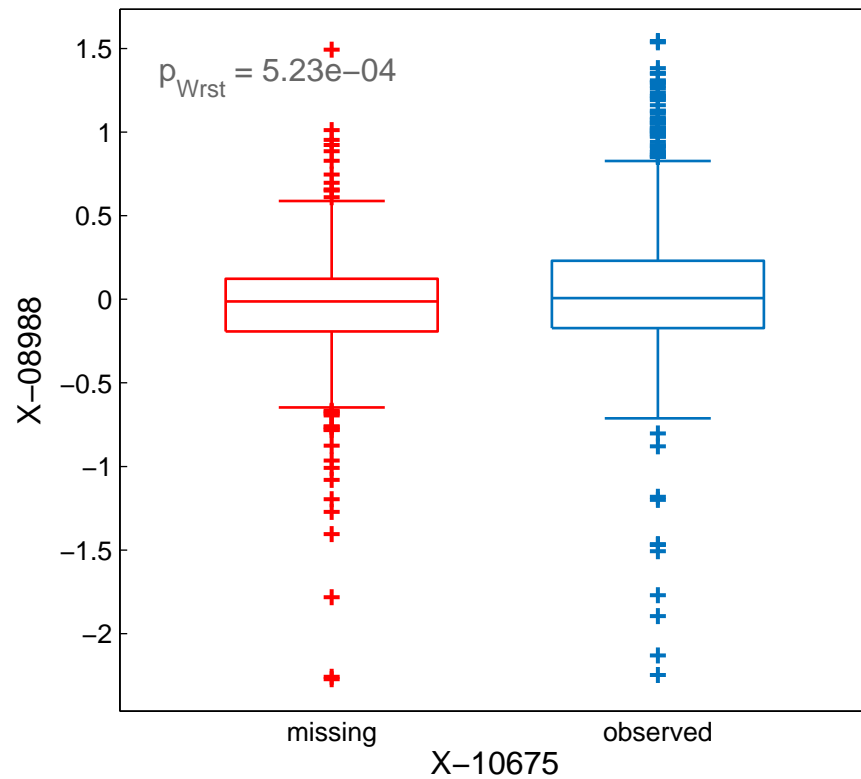
Concentrations of X-08402 in
missing and observed X-10510



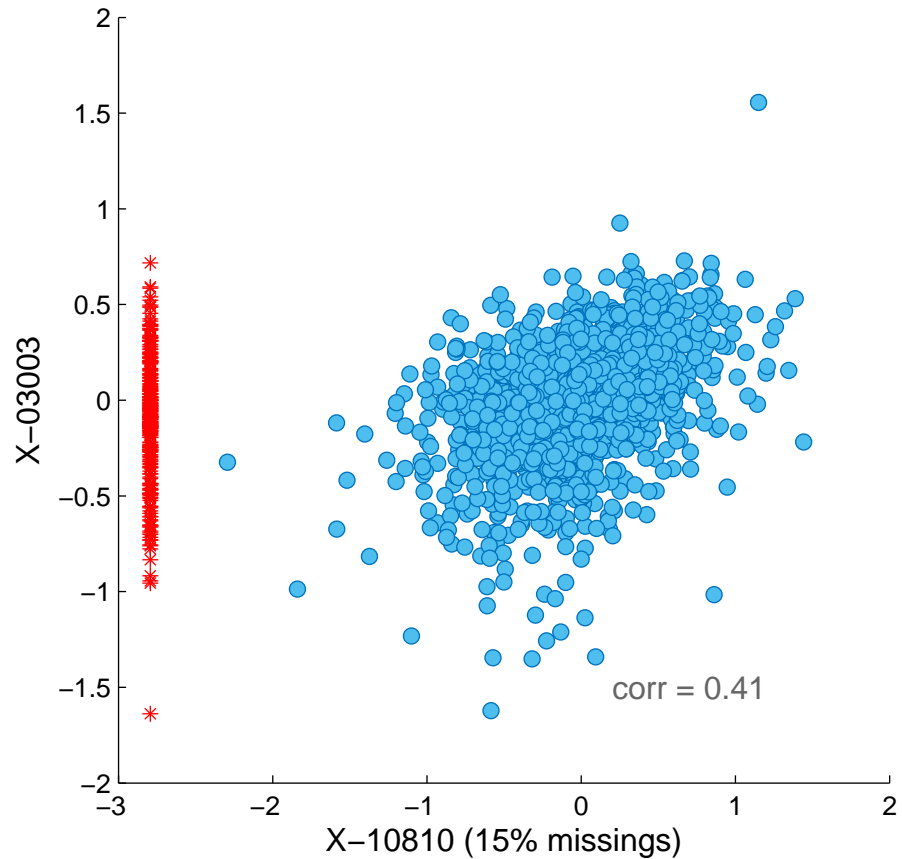
Missing values of X-10675
in X-08988



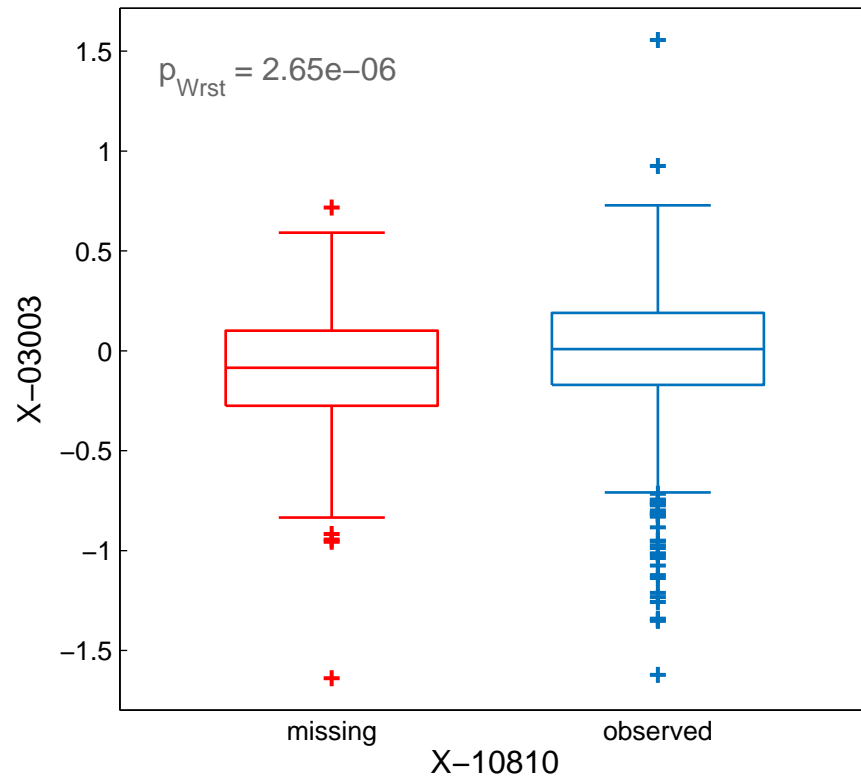
Concentrations of X-08988 in
missing and observed X-10675



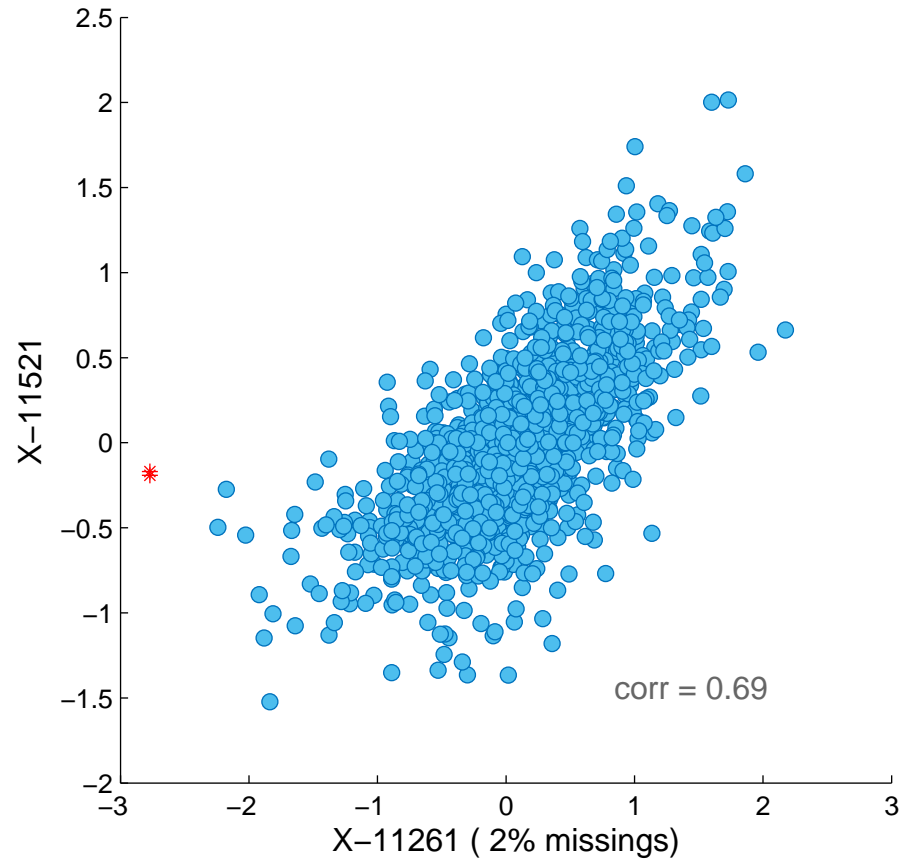
Missing values of X-10810
in X-03003



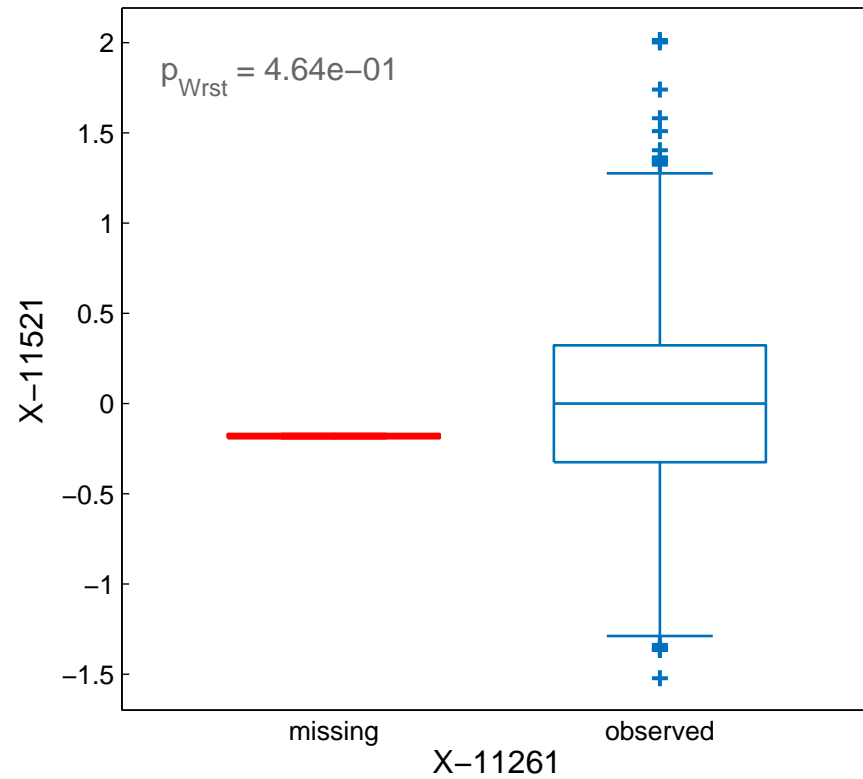
Concentrations of X-03003 in
missing and observed X-10810



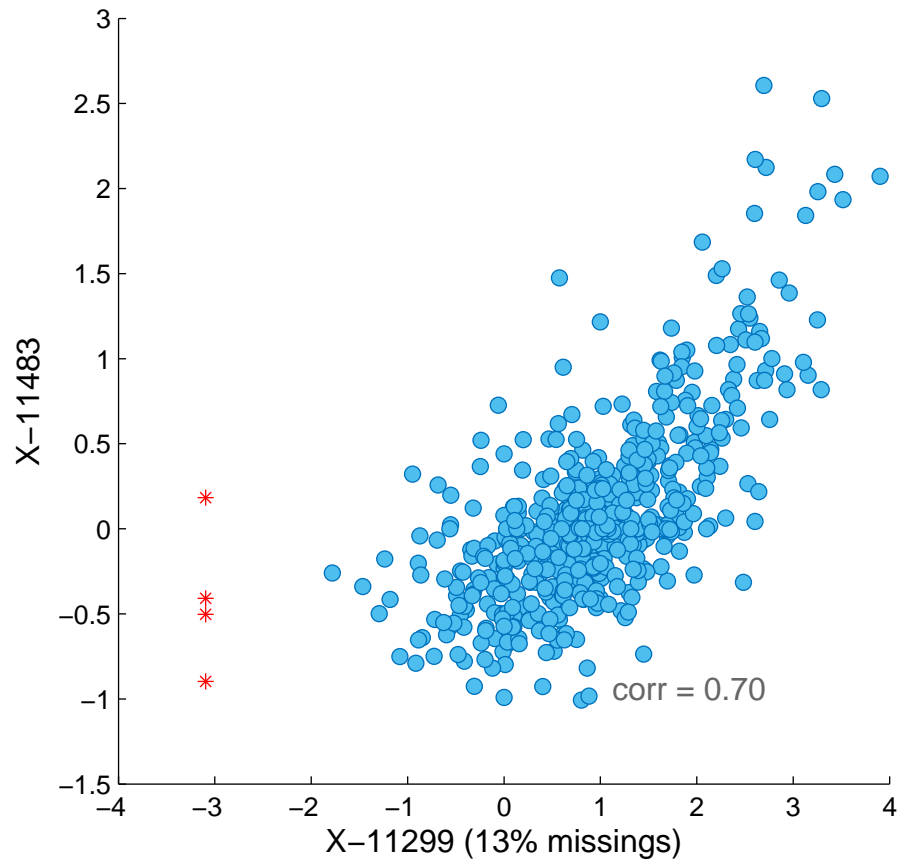
Missing values of X-11261
in X-11521



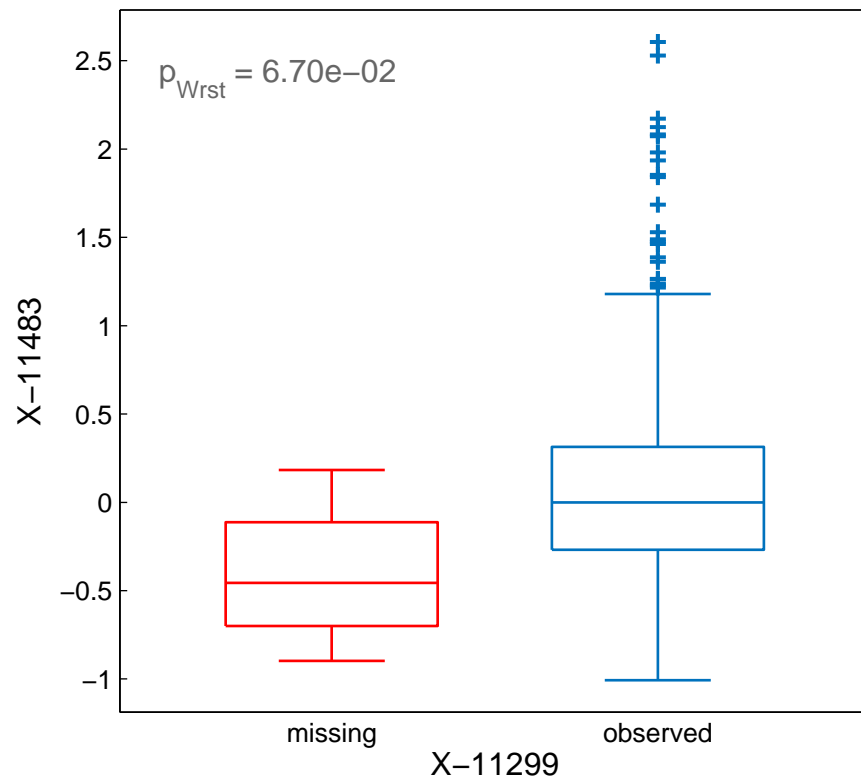
Concentrations of X-11521 in
missing and observed X-11261



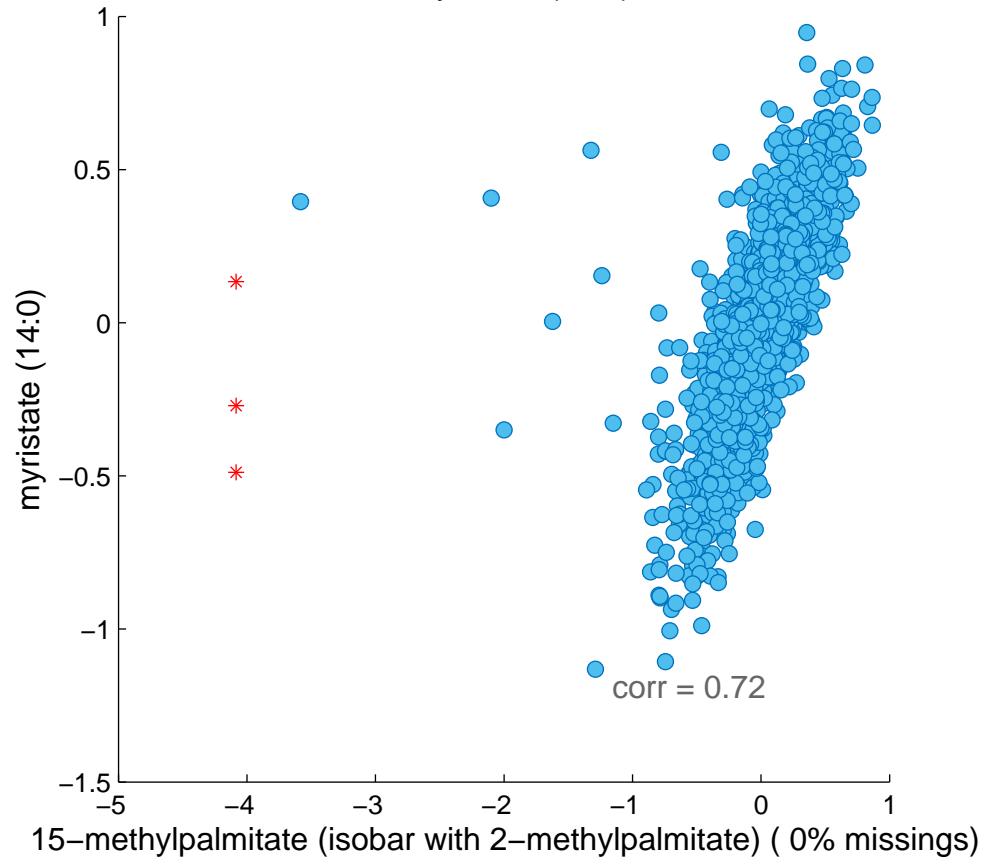
Missing values of X-11299
in X-11483



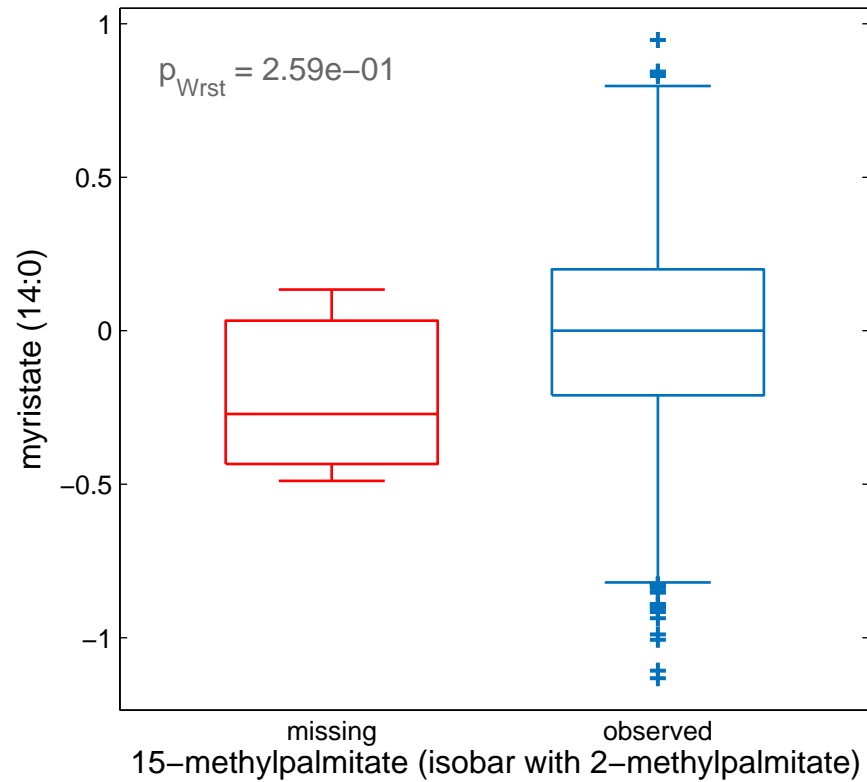
Concentrations of X-11483 in
missing and observed X-11299



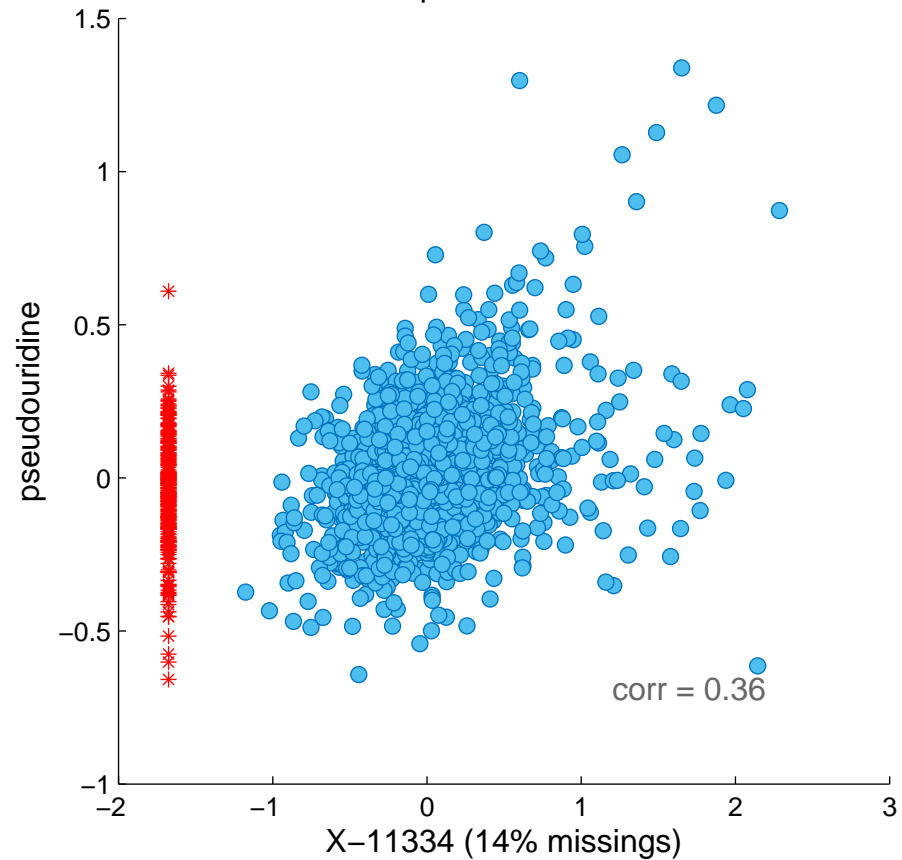
Missing values of 15-methylpalmitate (isobar with 2-methylpalmitate) in myristate (14:0)



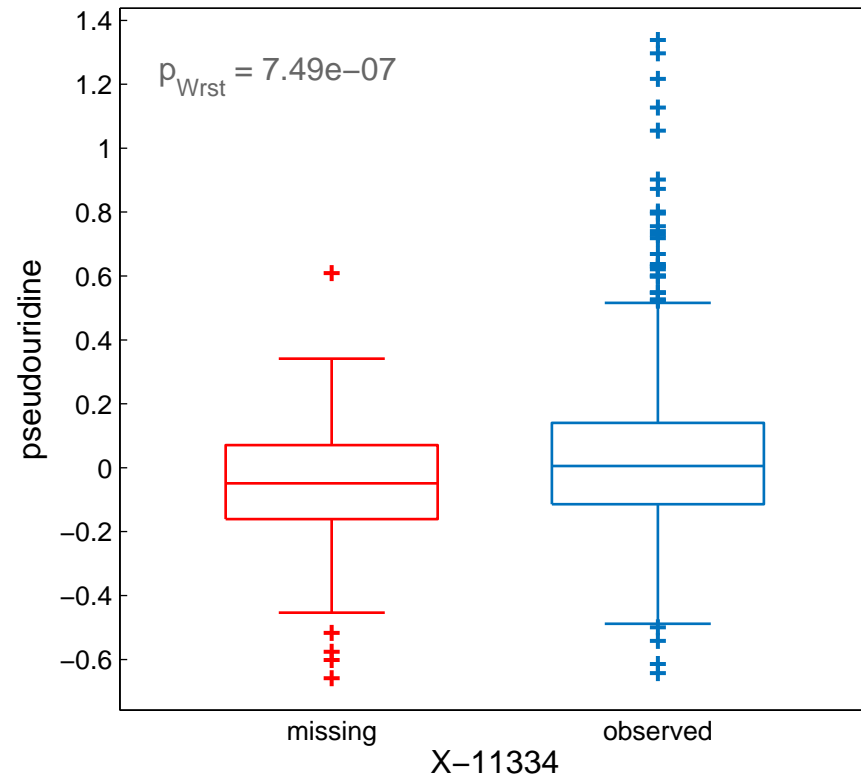
Concentrations of myristate (14:0) in missing and observed 15-methylpalmitate (isobar with 2-methylpalmitate)



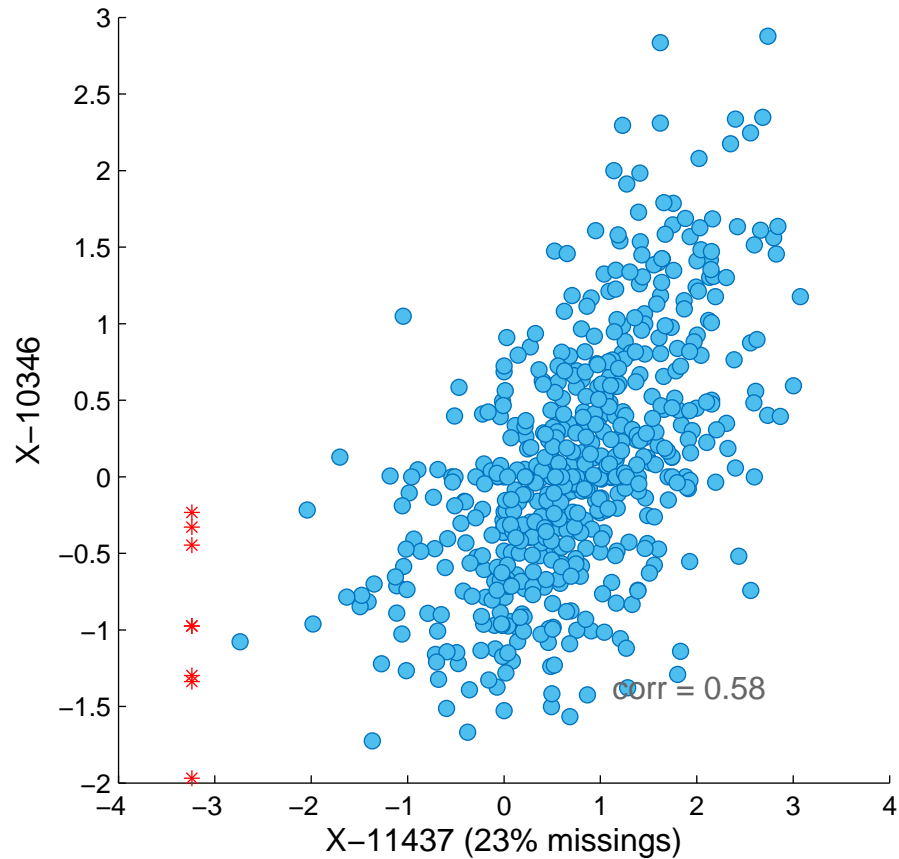
Missing values of X-11334
in pseudouridine



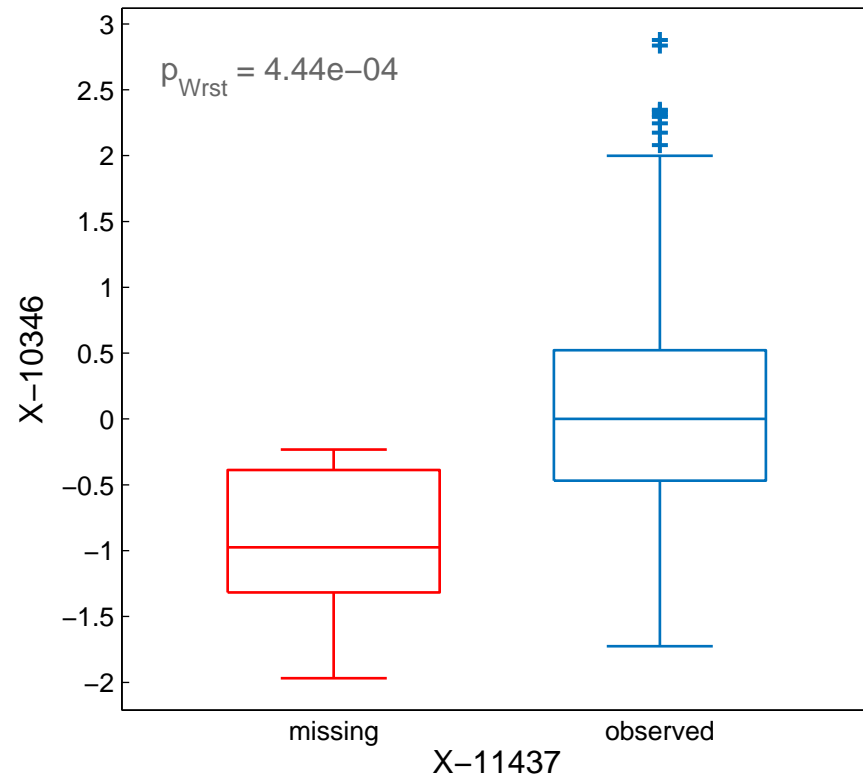
Concentrations of pseudouridine in
missing and observed X-11334



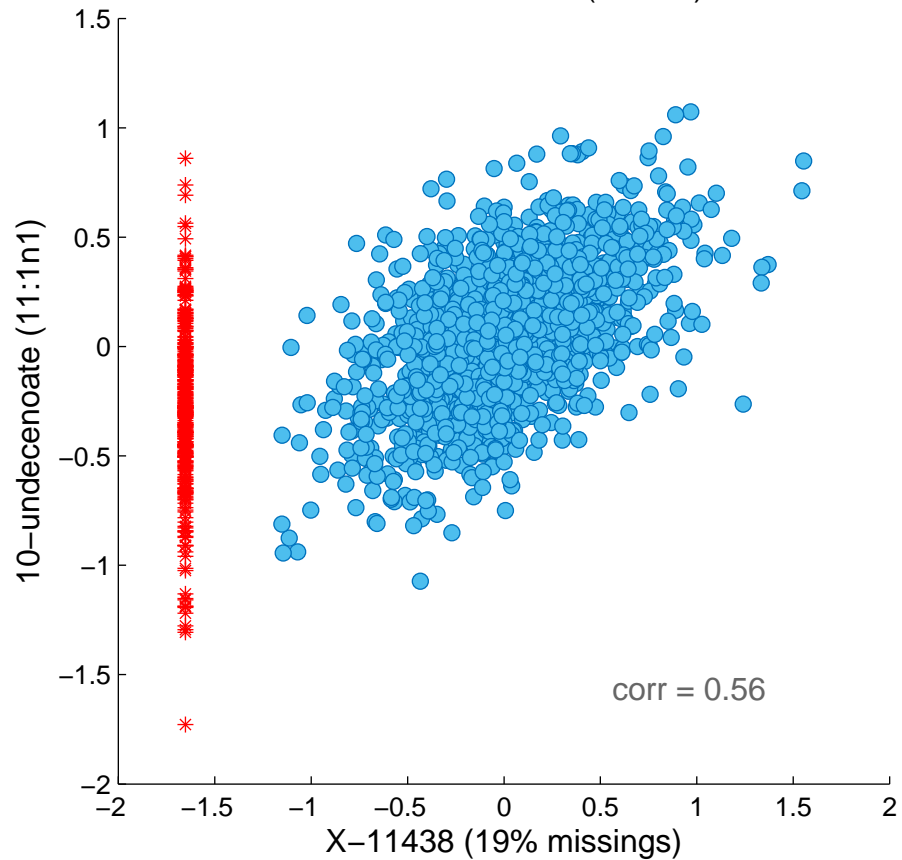
Missing values of X-11437
in X-10346



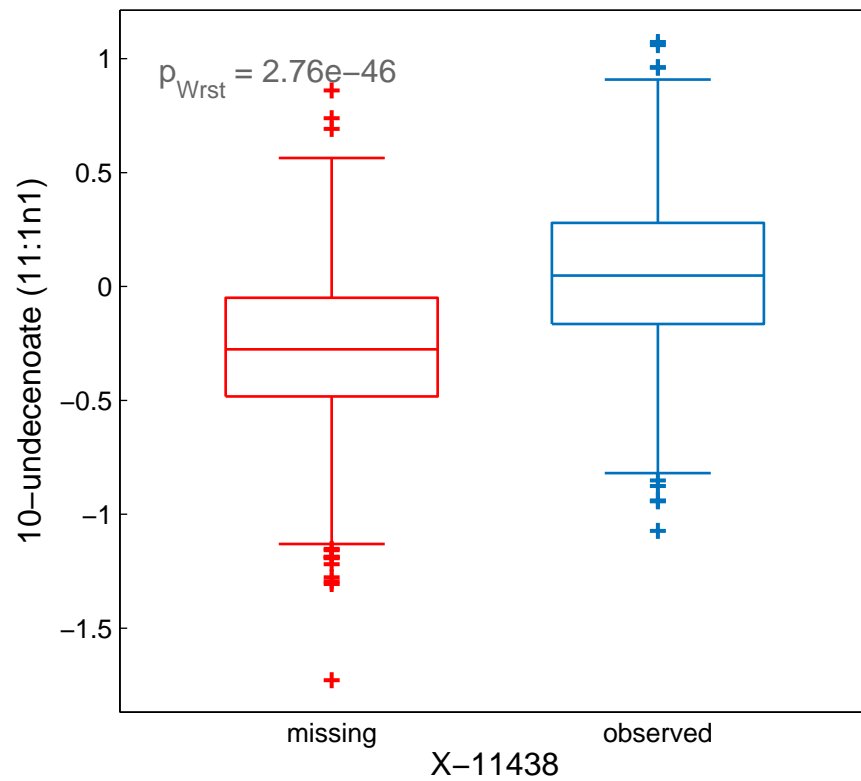
Concentrations of X-10346 in
missing and observed X-11437



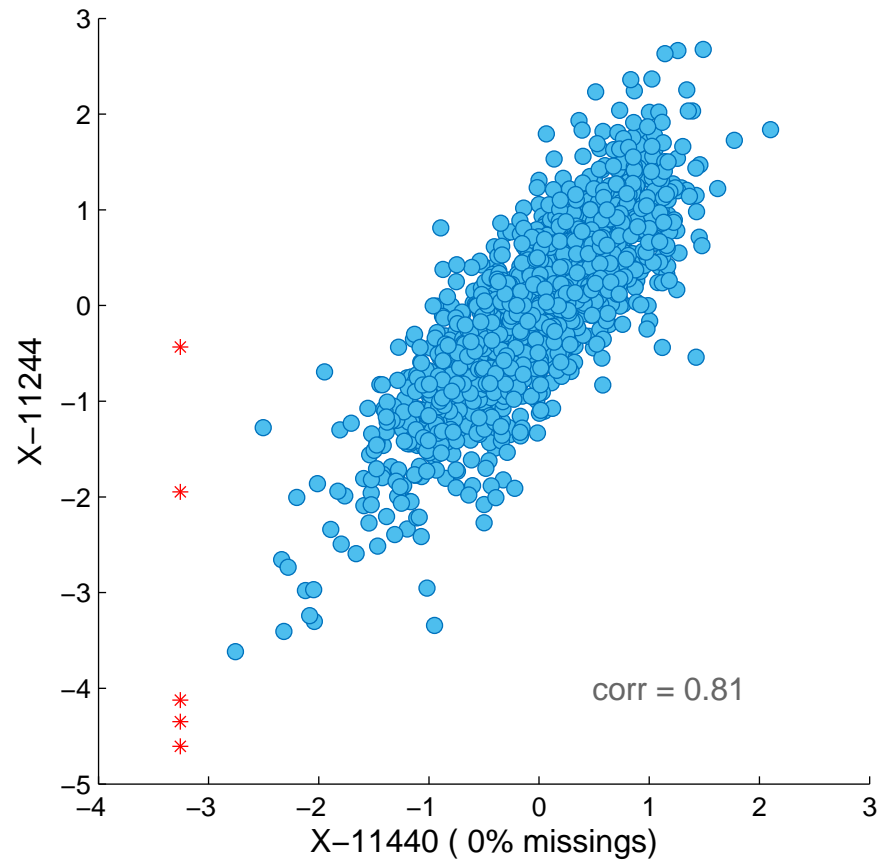
Missing values of X-11438
in 10-undecenoate (11:1n1)



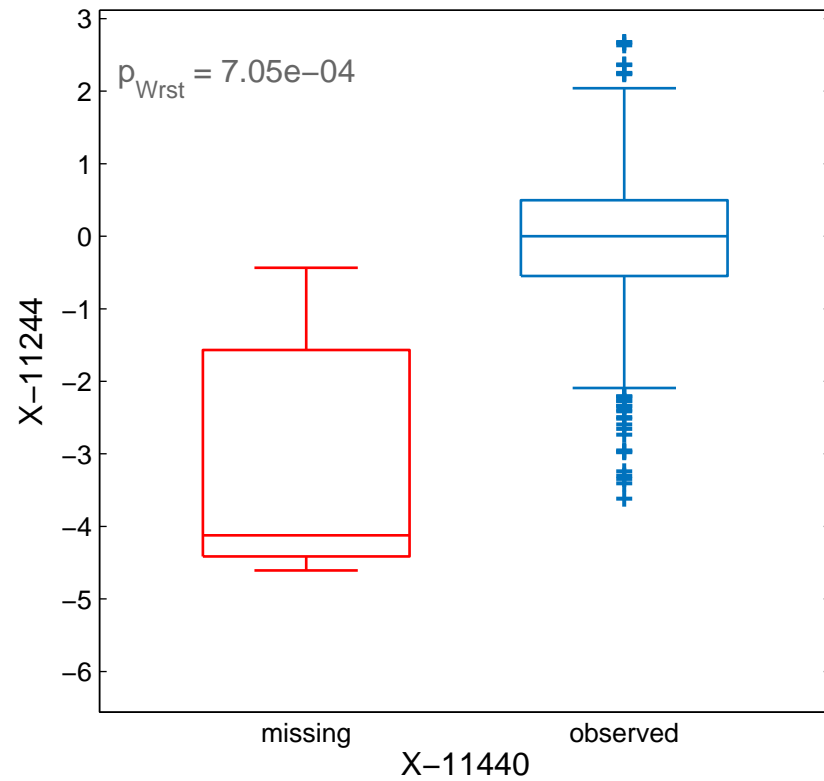
Concentrations of 10-undecenoate (11:1n1) in
missing and observed X-11438



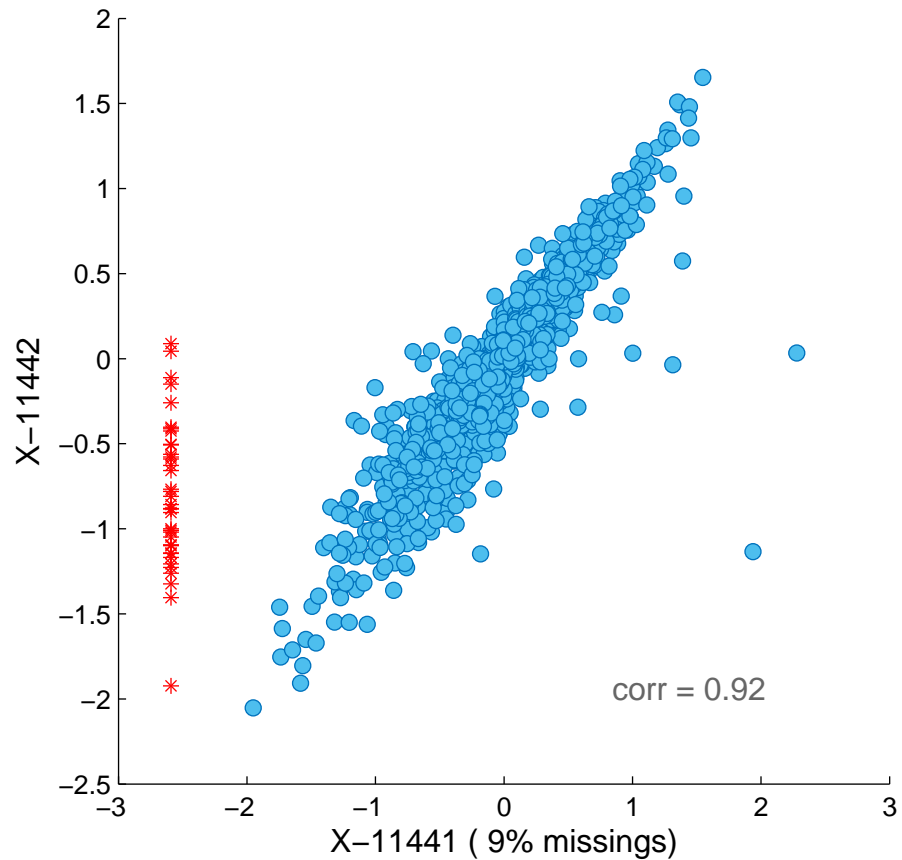
Missing values of X-11440
in X-11244



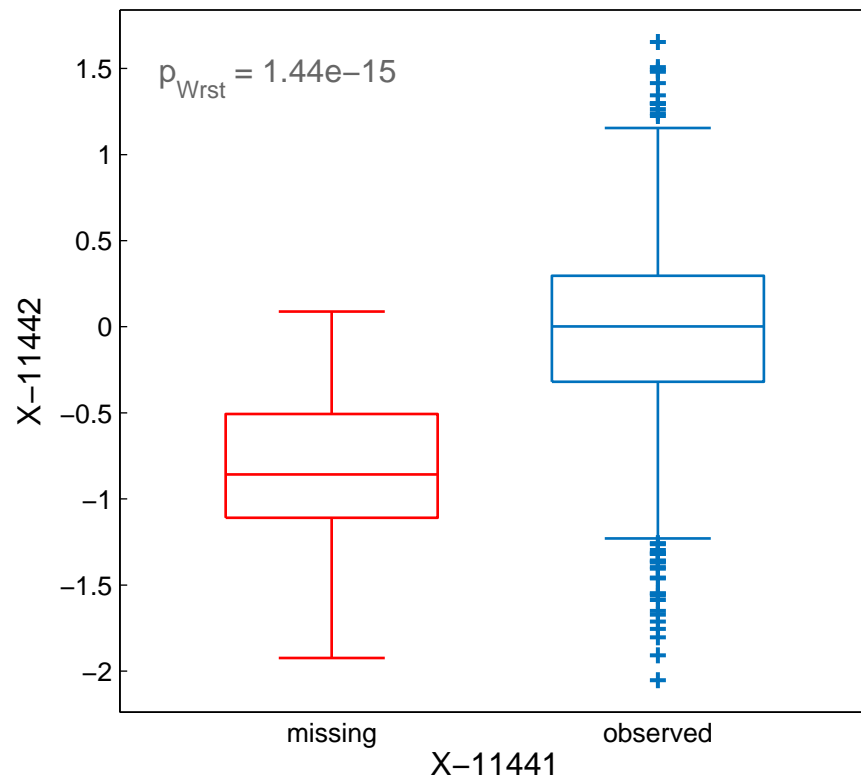
Concentrations of X-11244 in
missing and observed X-11440



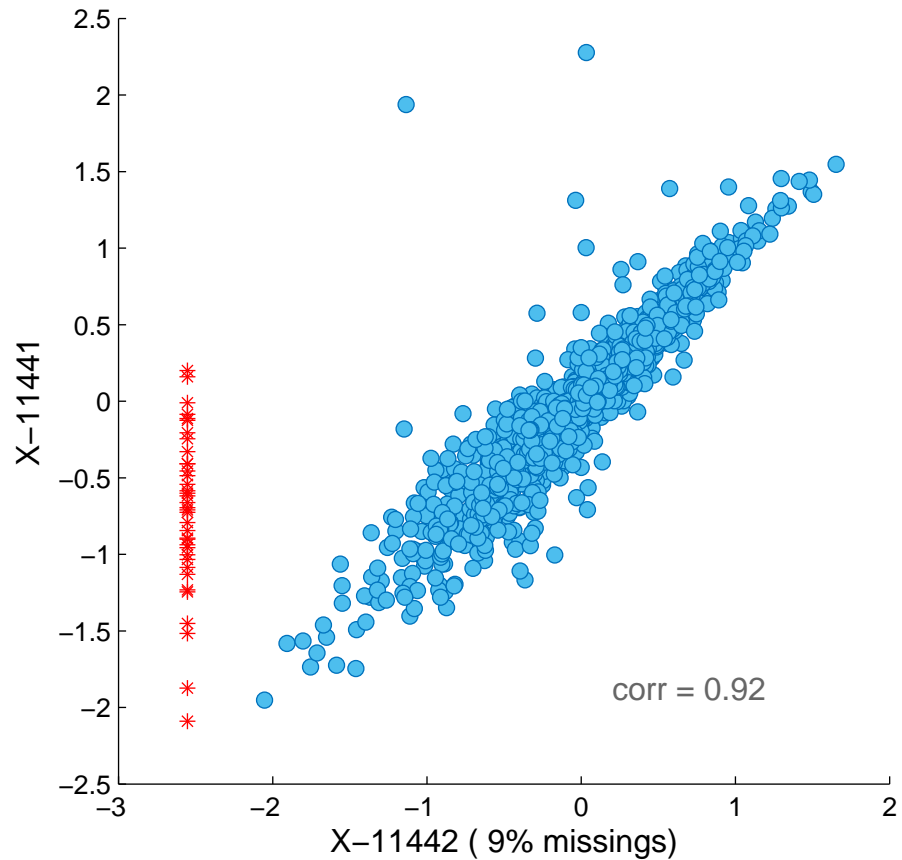
Missing values of X-11441
in X-11442



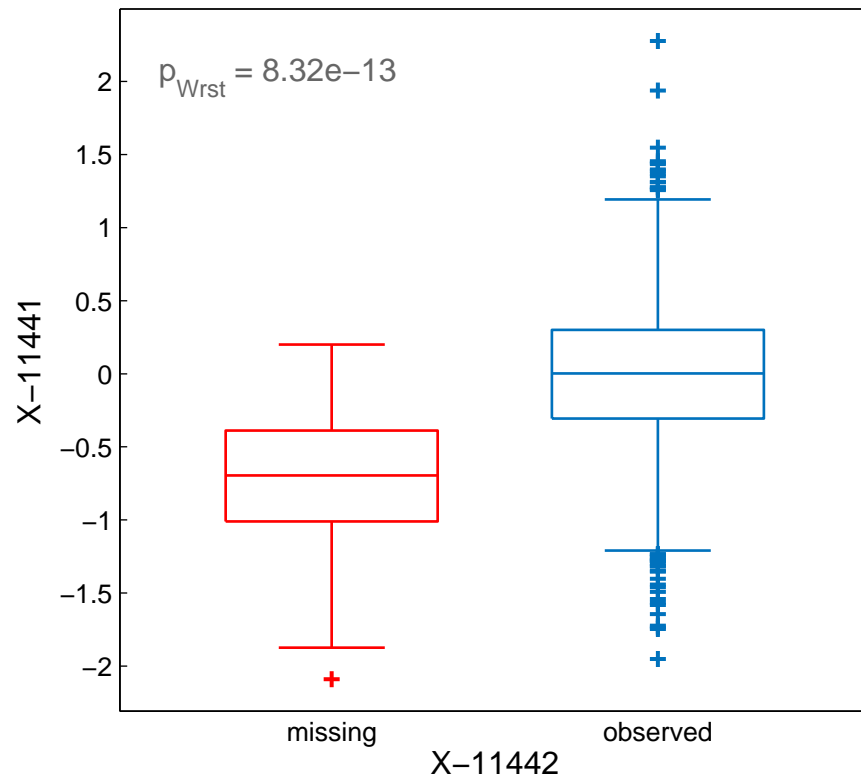
Concentrations of X-11442 in
missing and observed X-11441



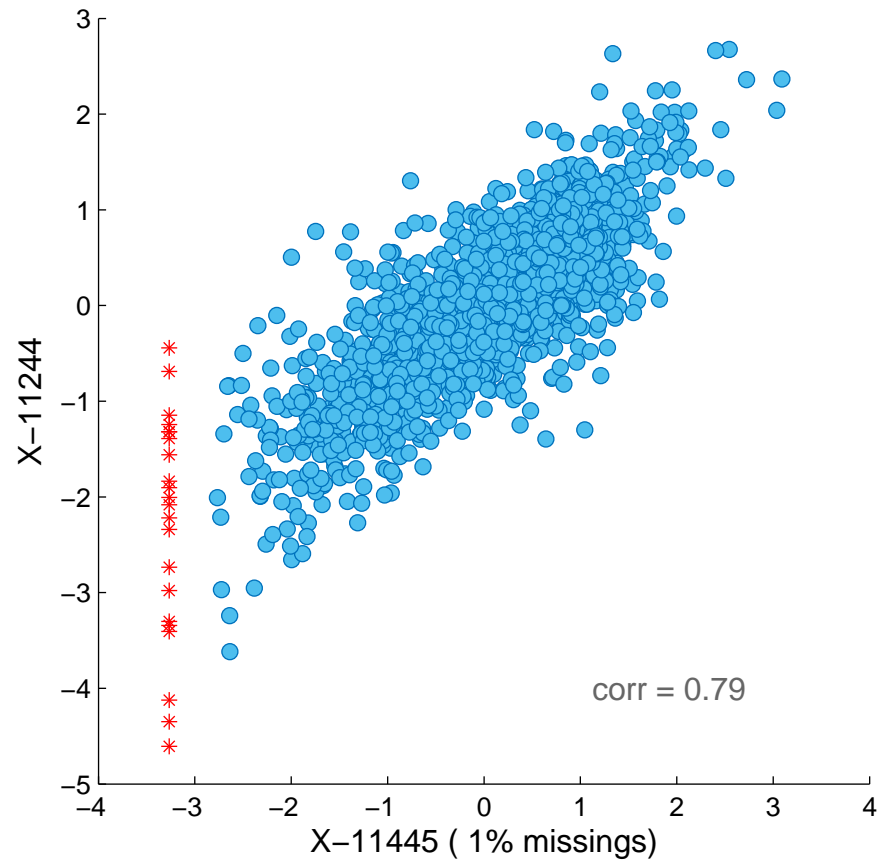
Missing values of X-11442
in X-11441



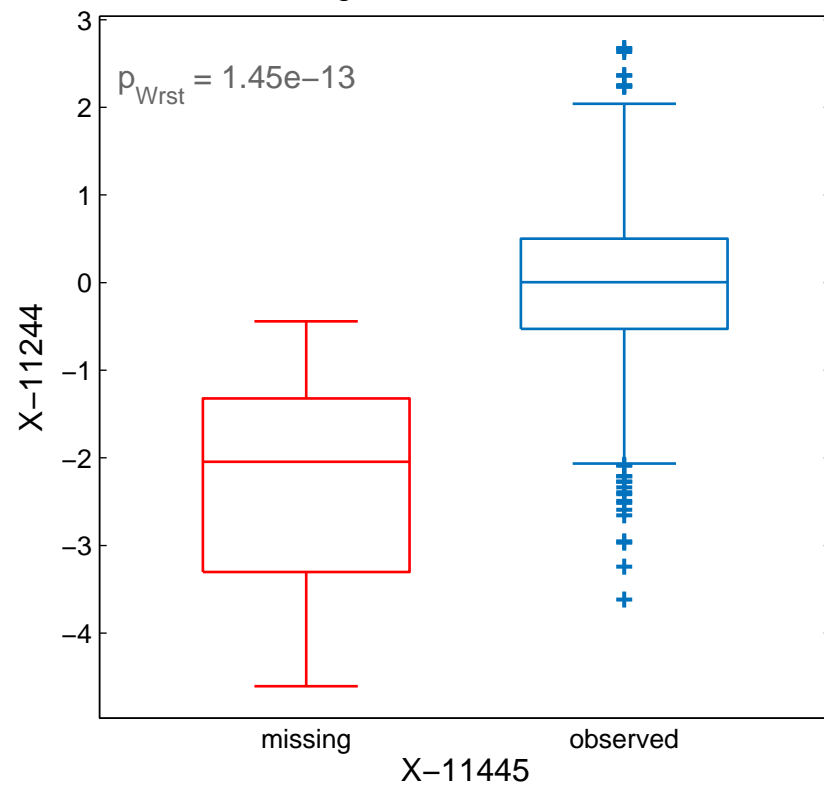
Concentrations of X-11441 in
missing and observed X-11442



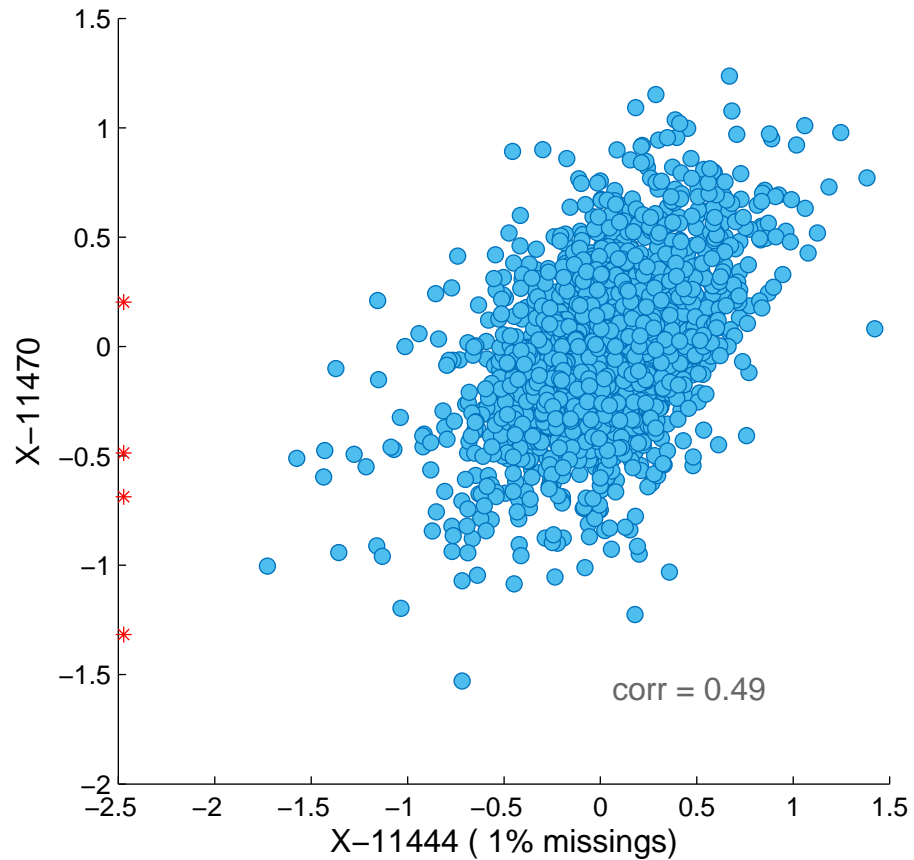
Missing values of X-11445
in X-11244



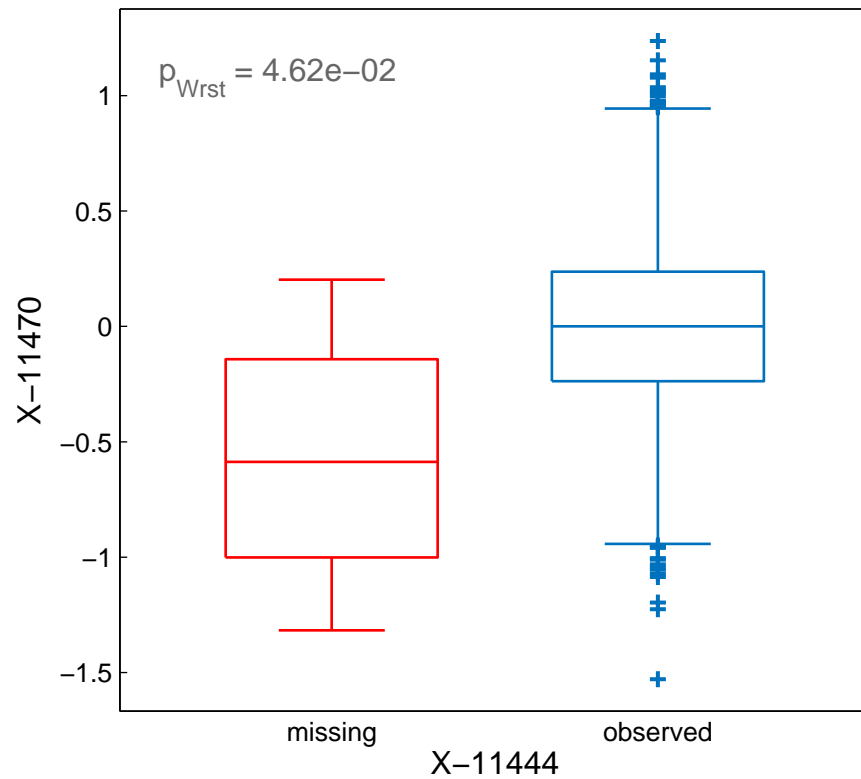
Concentrations of X-11244 in
missing and observed X-11445



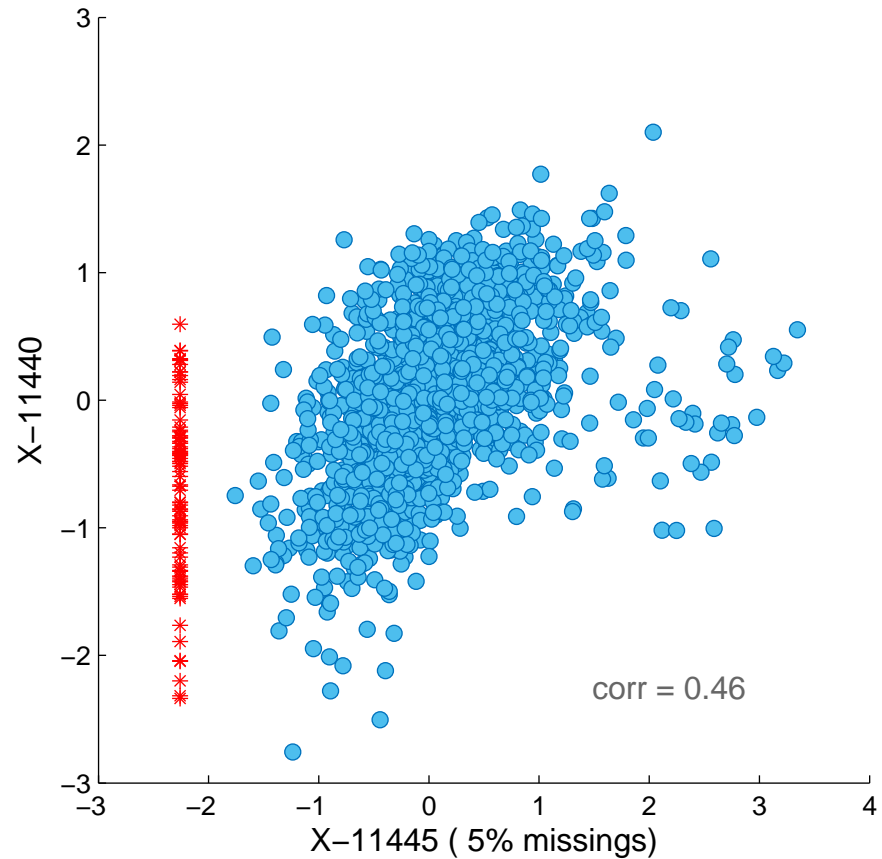
Missing values of X-11444
in X-11470



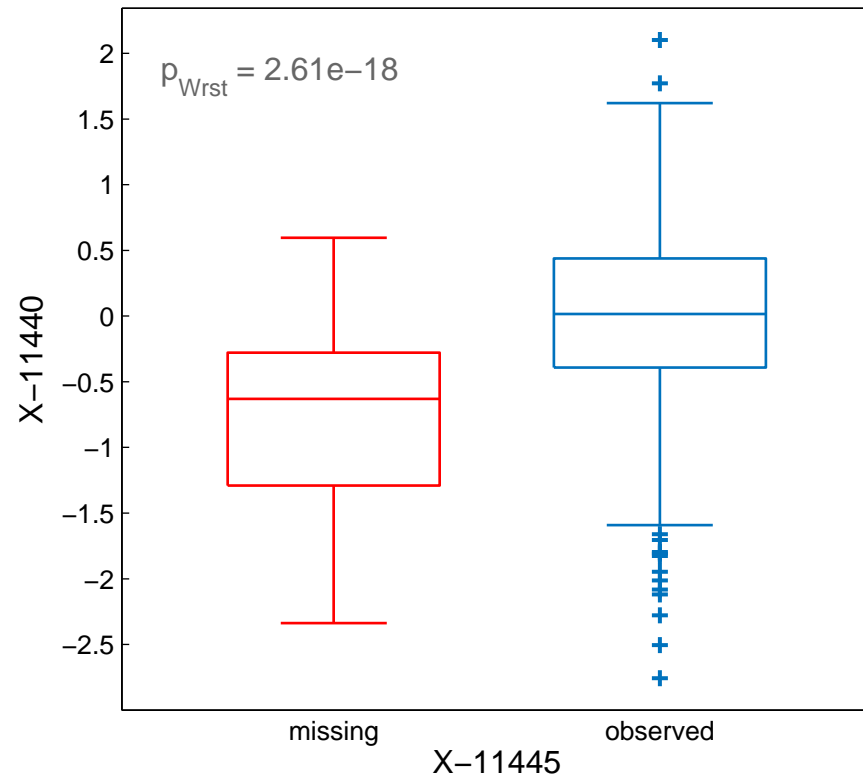
Concentrations of X-11470 in
missing and observed X-11444



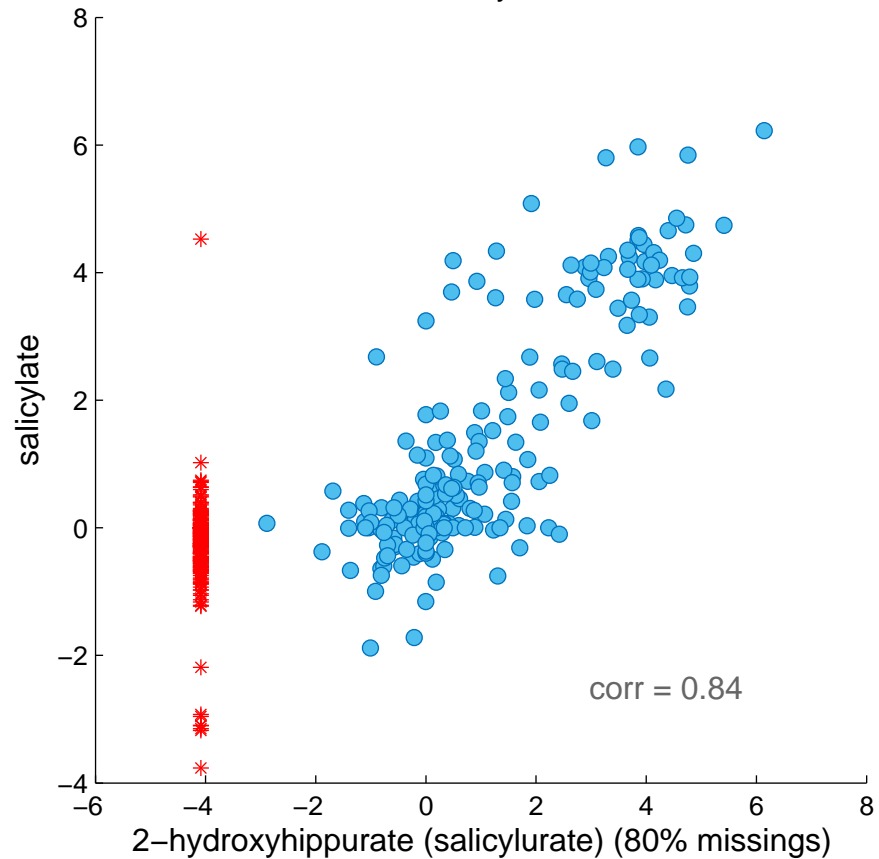
Missing values of X-11445
in X-11440



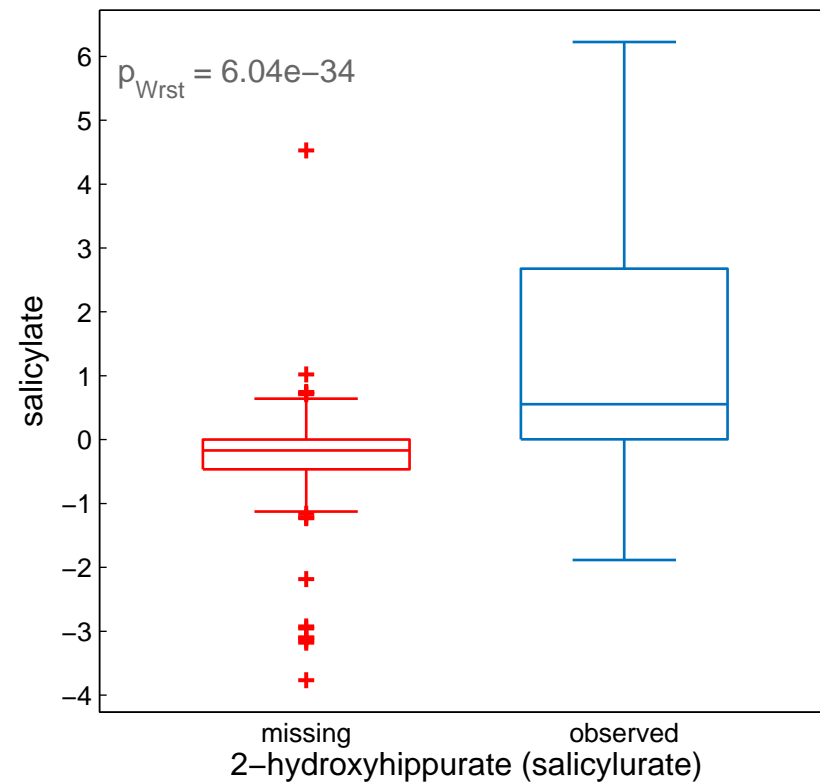
Concentrations of X-11440 in
missing and observed X-11445



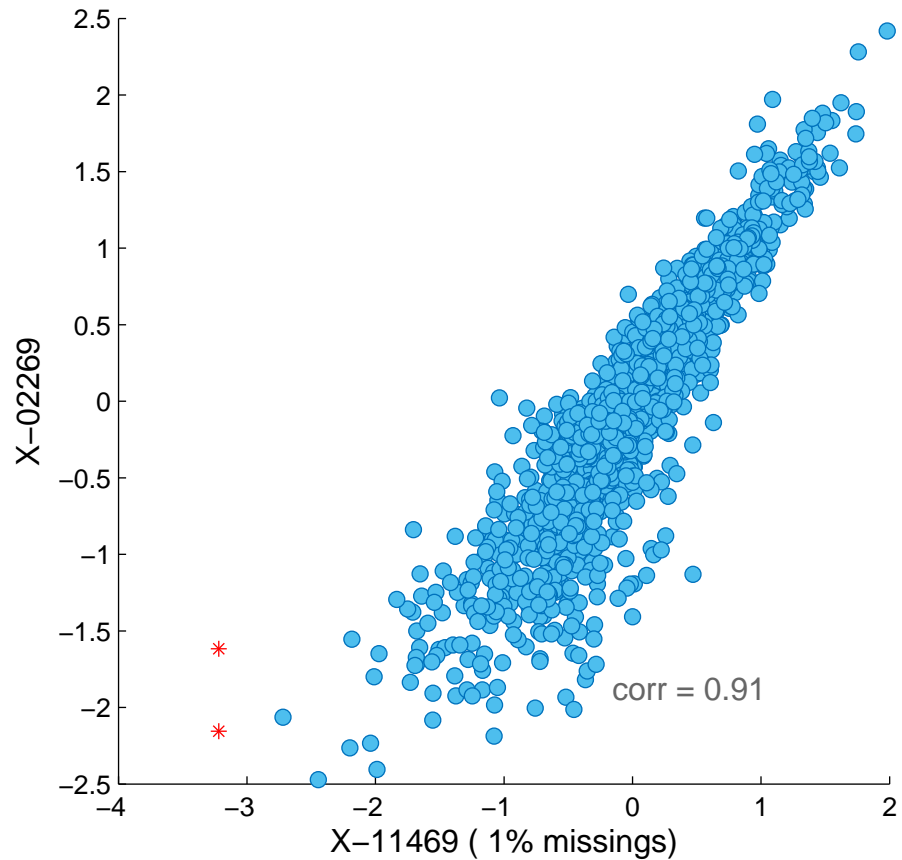
Missing values of 2-hydroxyhippurate (salicylurate) in salicylate



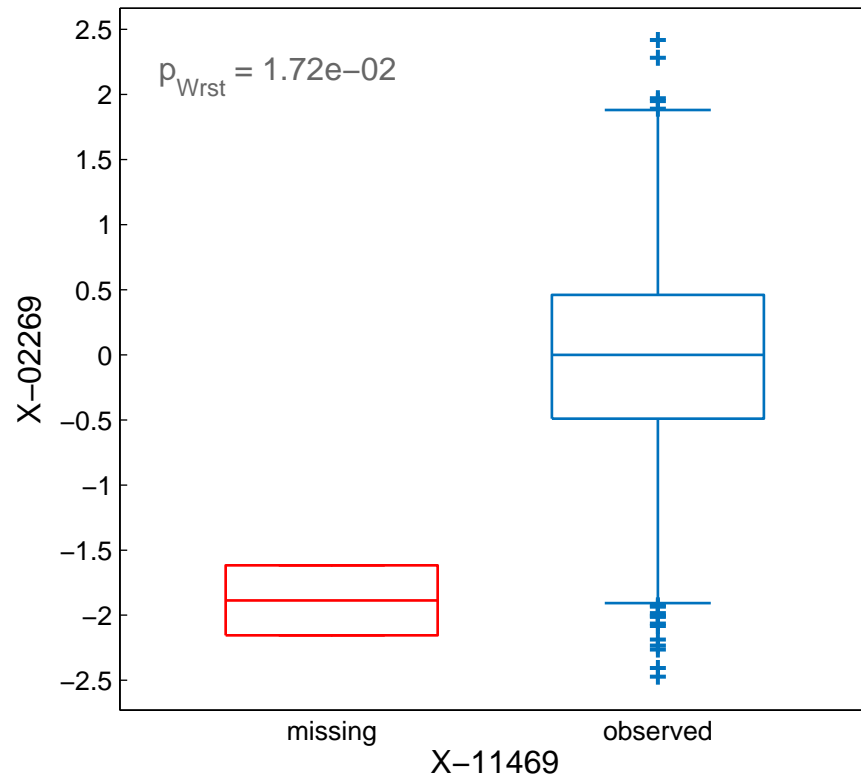
Concentrations of salicylate in missing and observed 2-hydroxyhippurate (salicylurate)



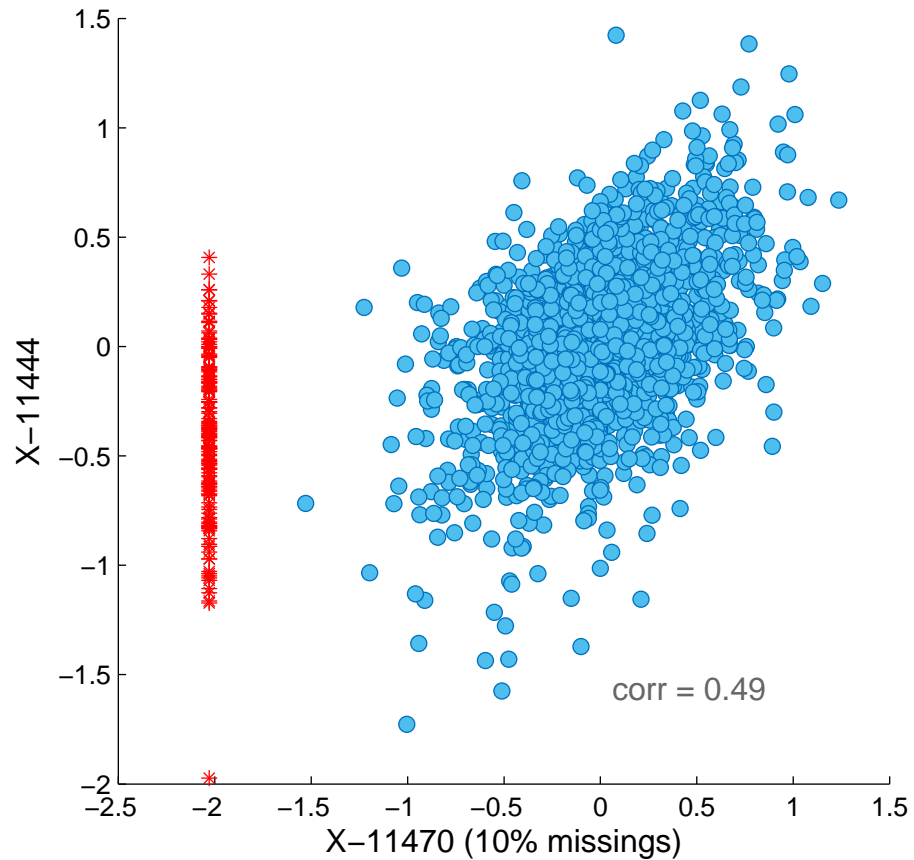
Missing values of X-11469
in X-02269



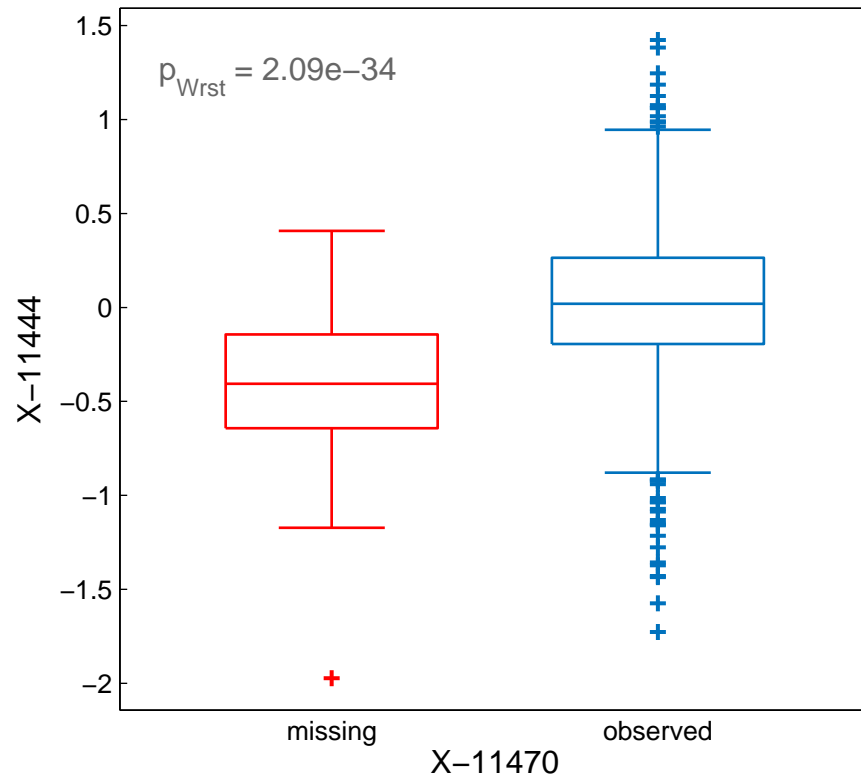
Concentrations of X-02269 in
missing and observed X-11469



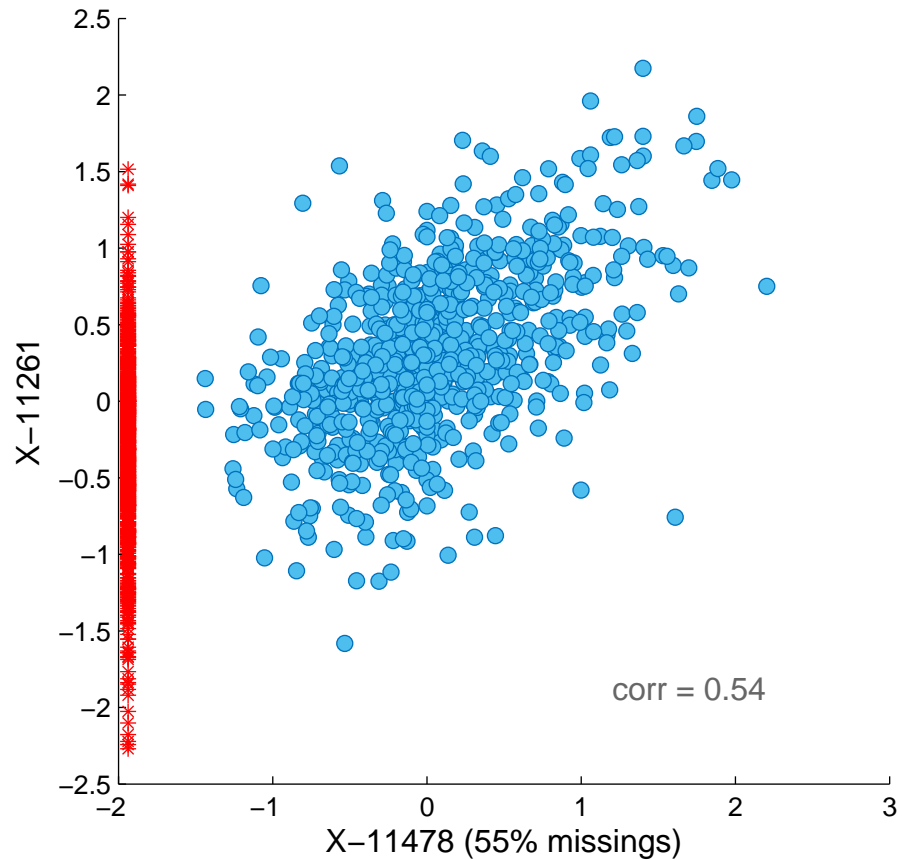
Missing values of X-11470
in X-11444



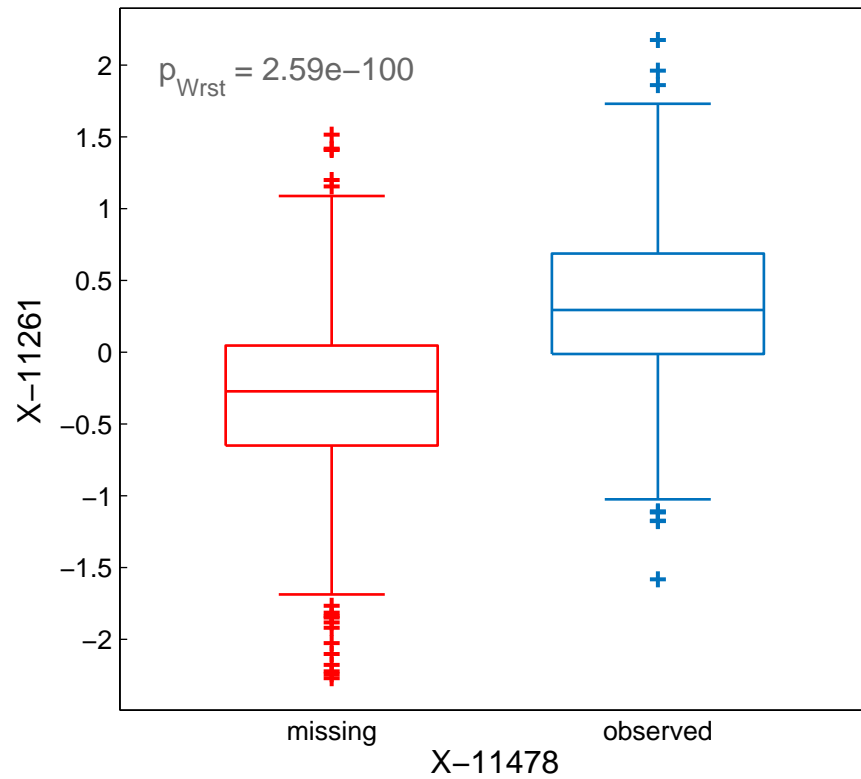
Concentrations of X-11444 in
missing and observed X-11470



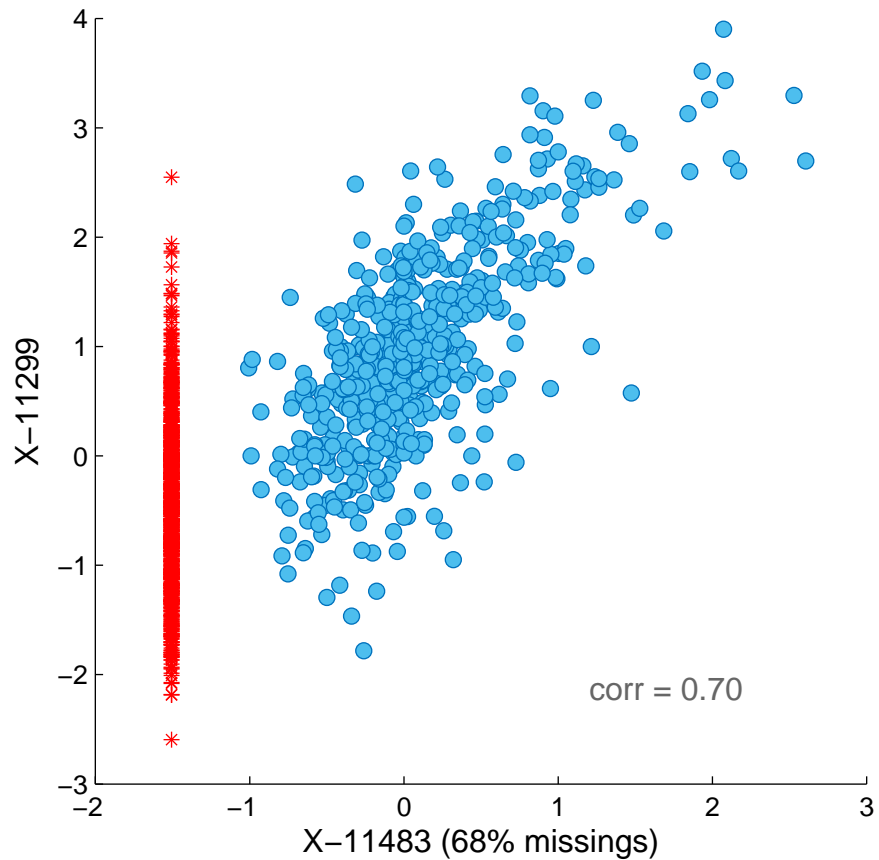
Missing values of X-11478
in X-11261



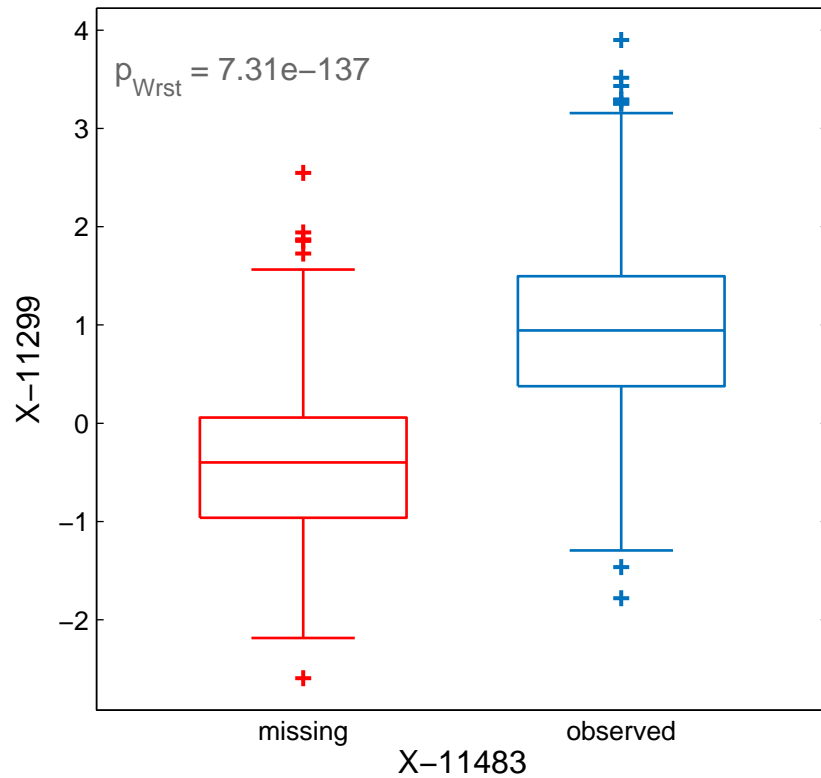
Concentrations of X-11261 in
missing and observed X-11478



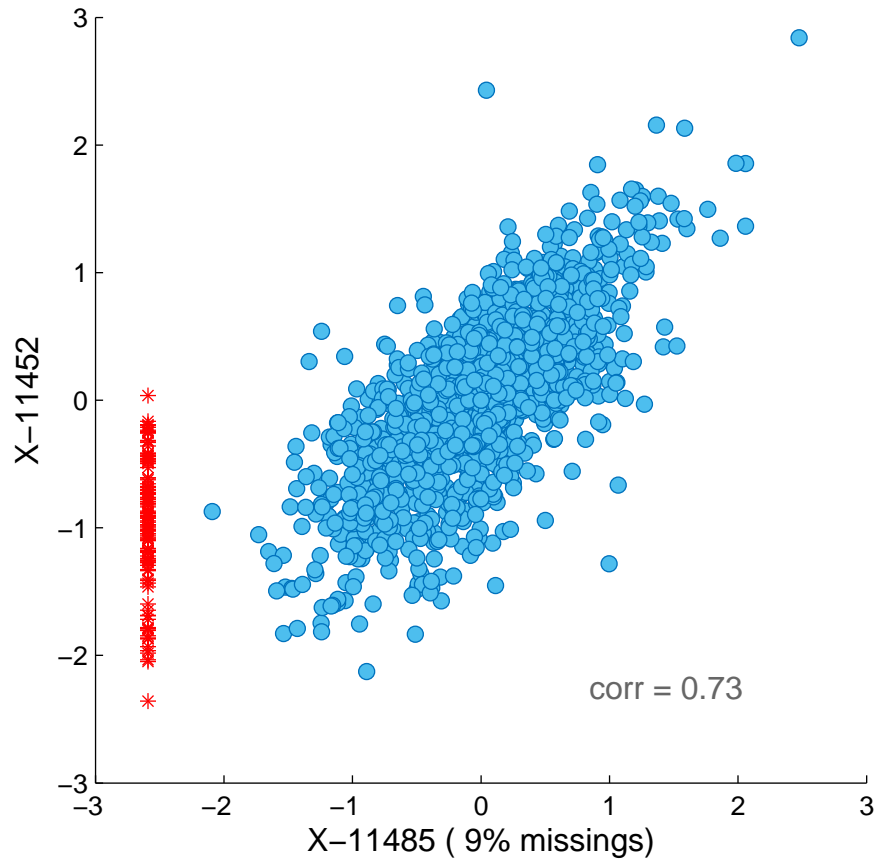
Missing values of X-11483
in X-11299



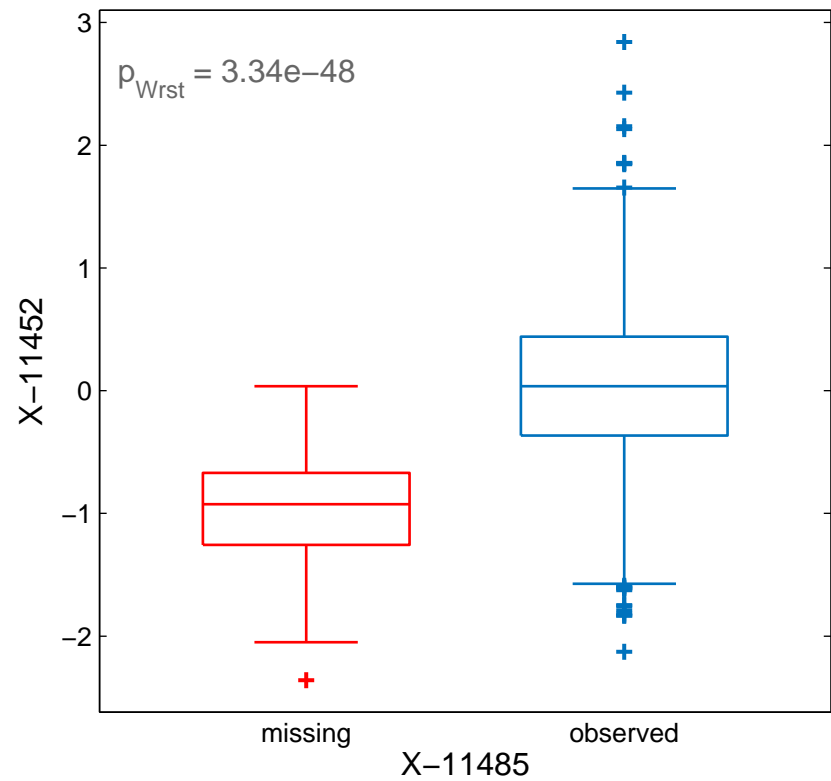
Concentrations of X-11299 in
missing and observed X-11483



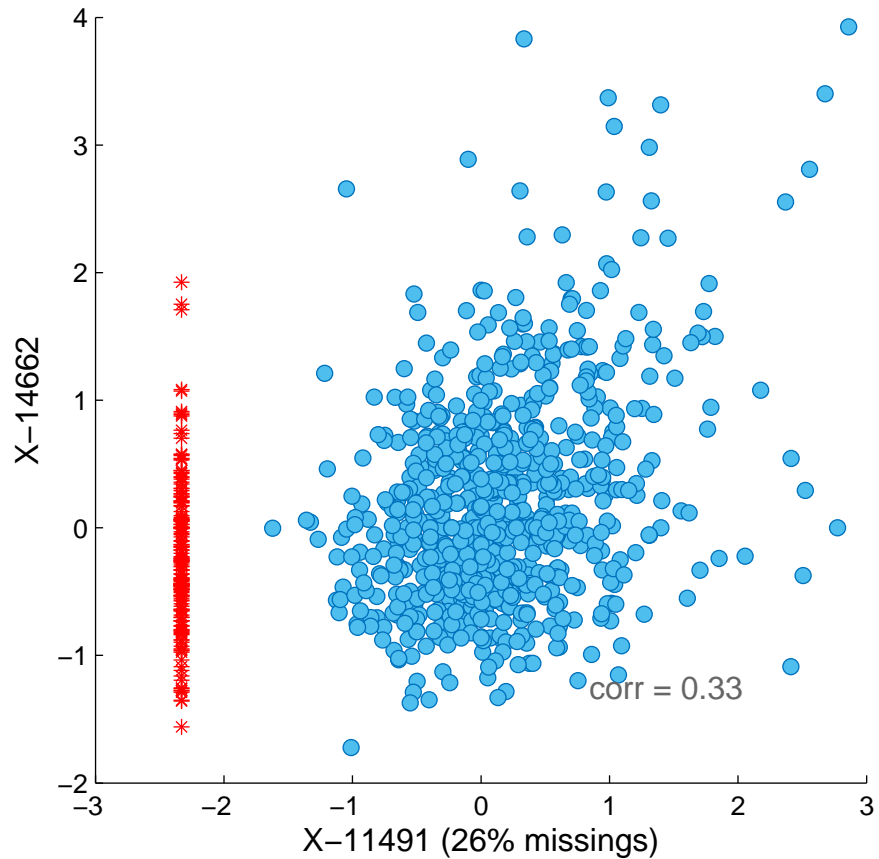
Missing values of X-11485
in X-11452



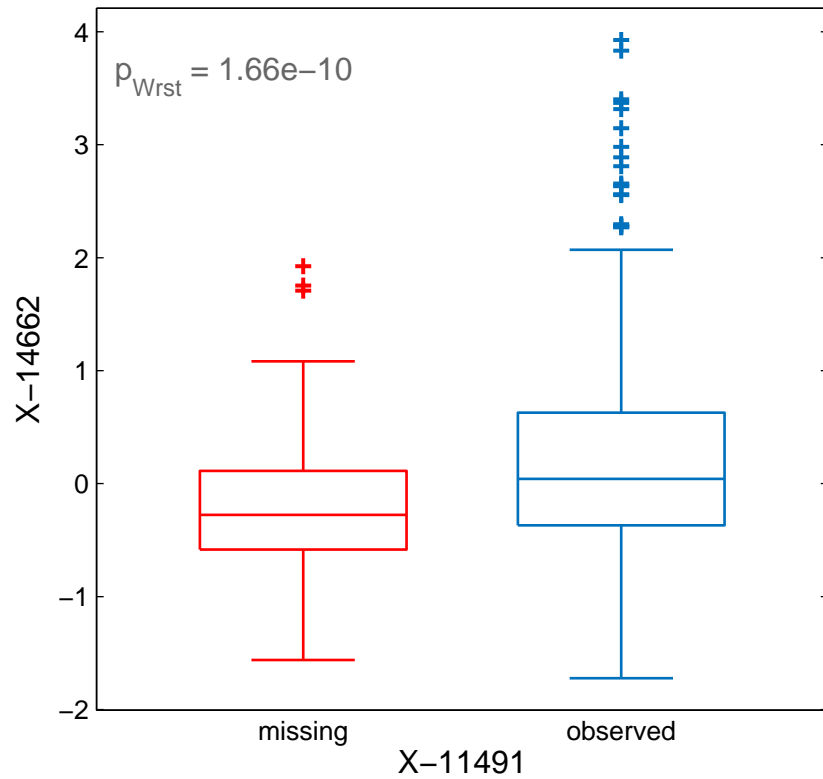
Concentrations of X-11452 in
missing and observed X-11485



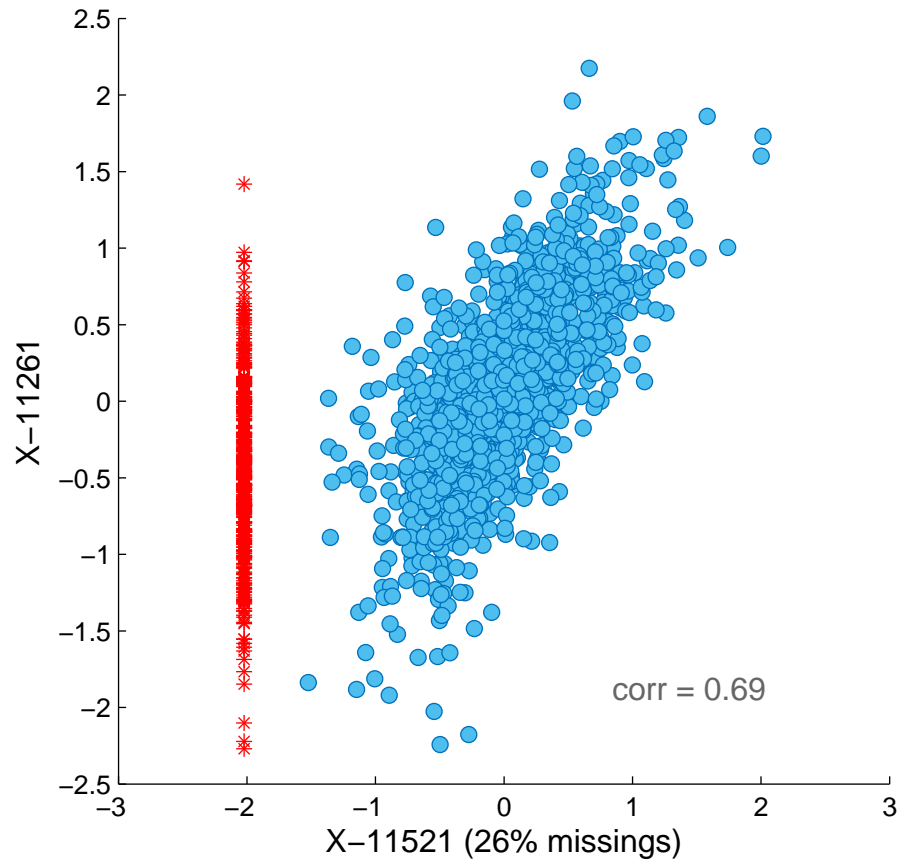
Missing values of X-11491
in X-14662



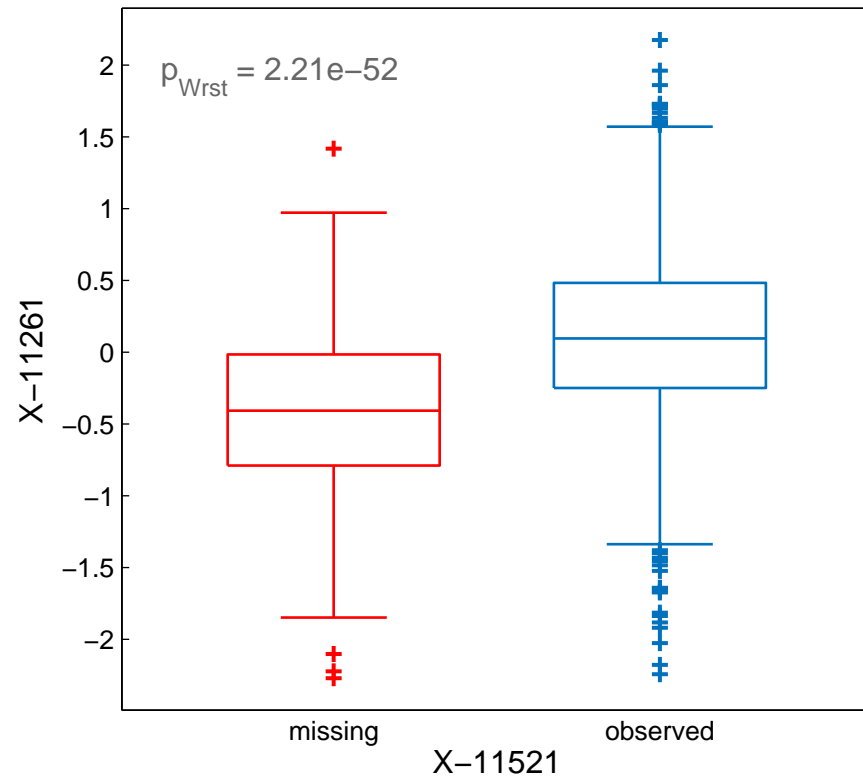
Concentrations of X-14662 in
missing and observed X-11491



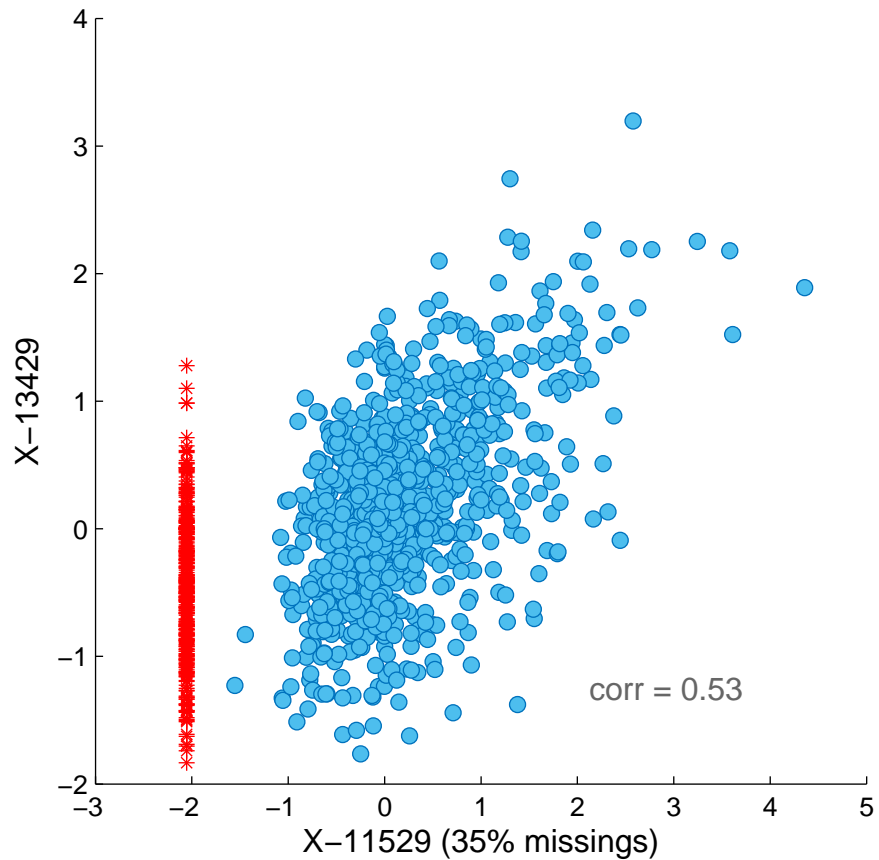
Missing values of X-11521
in X-11261



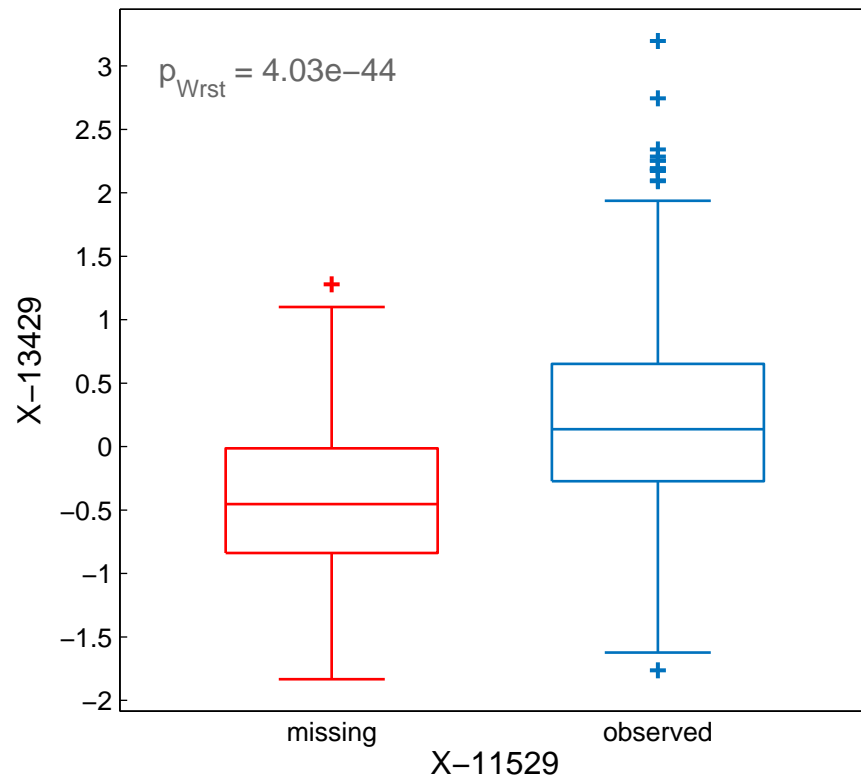
Concentrations of X-11261 in
missing and observed X-11521



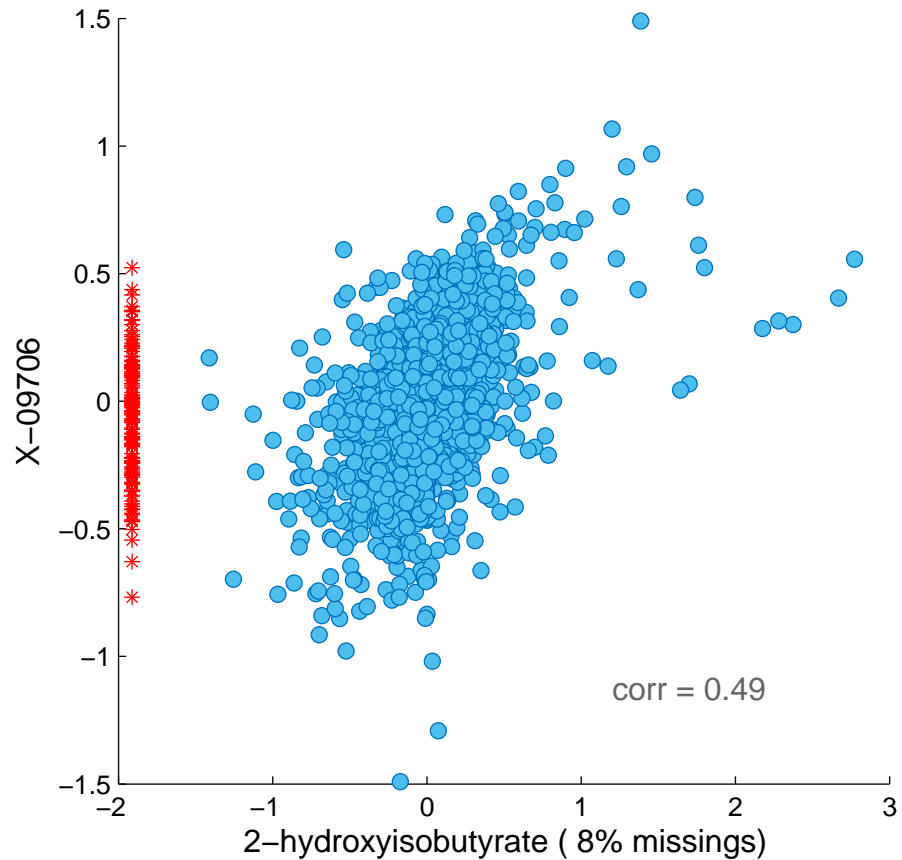
Missing values of X-11529
in X-13429



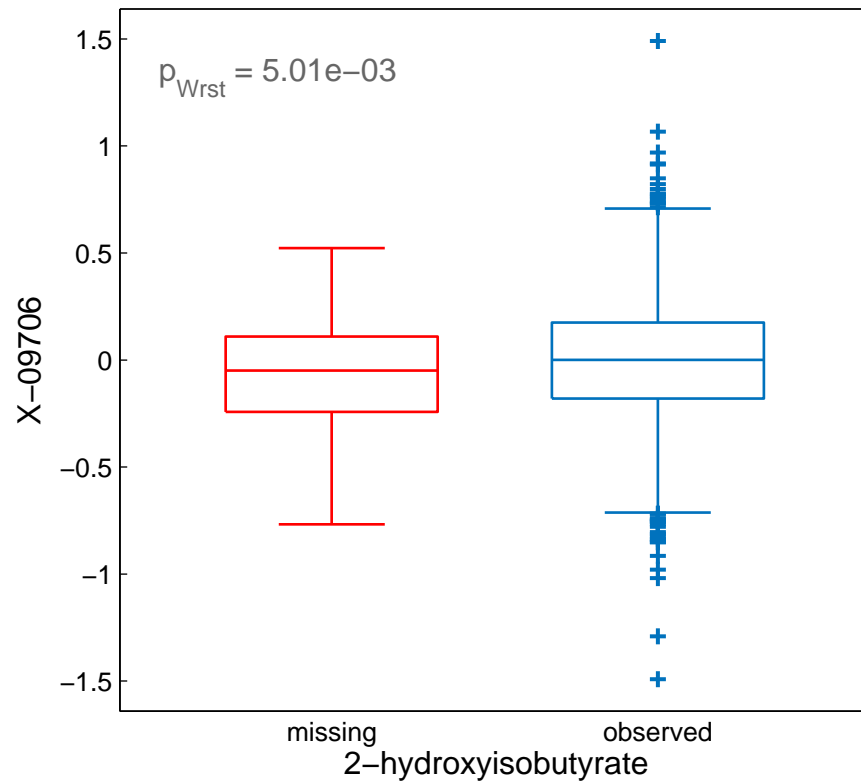
Concentrations of X-13429 in
missing and observed X-11529



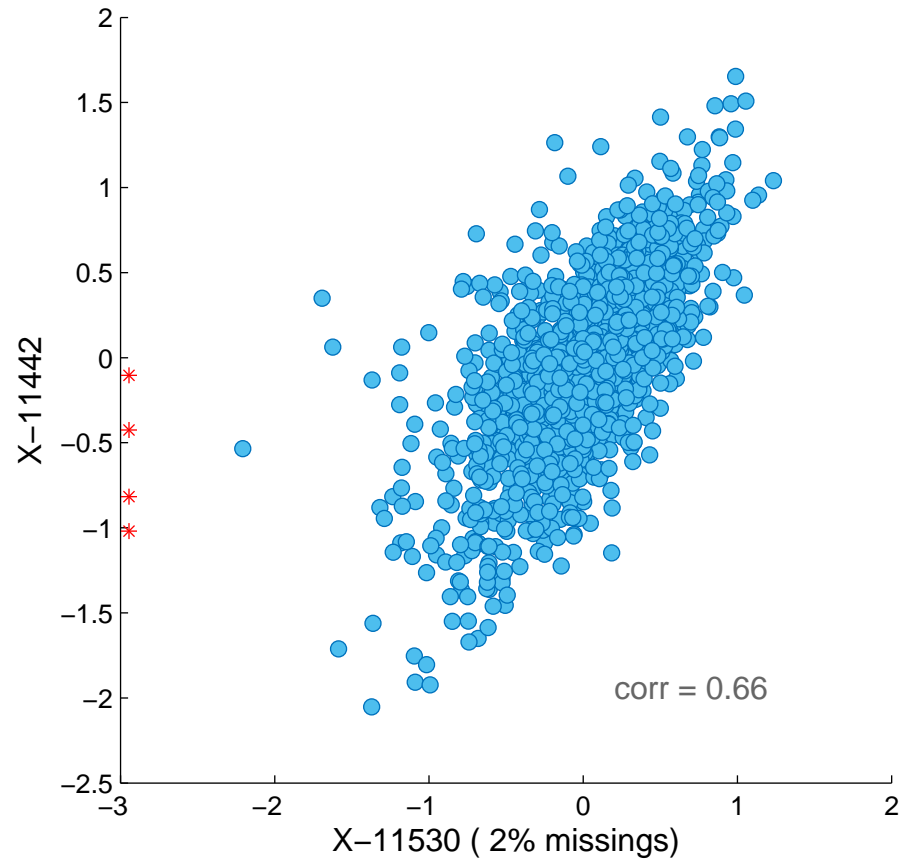
Missing values of 2-hydroxyisobutyrate
in X-09706



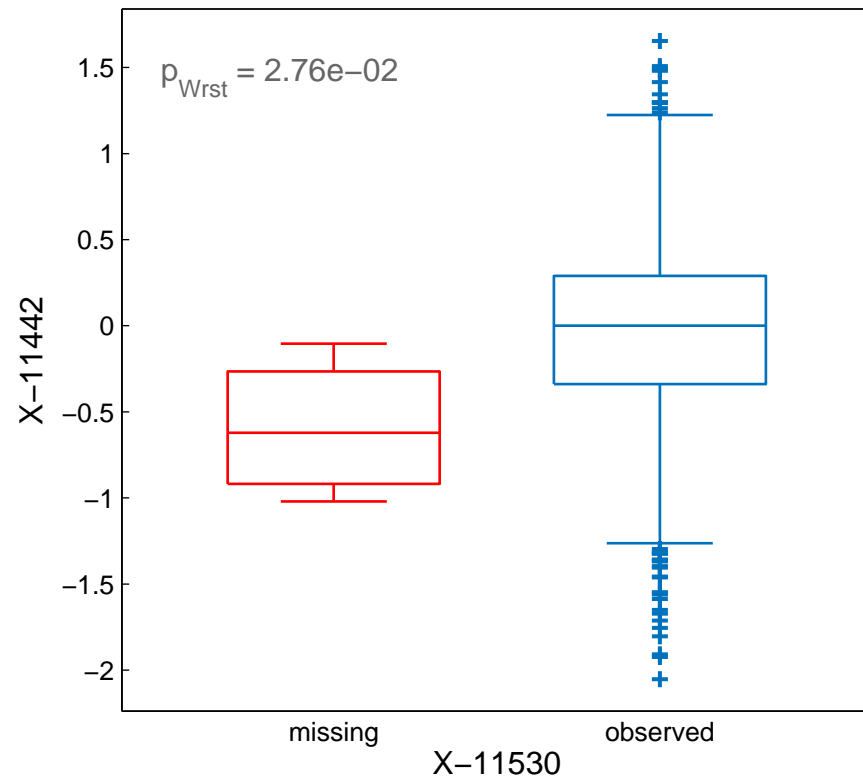
Concentrations of X-09706 in
missing and observed 2-hydroxyisobutyrate



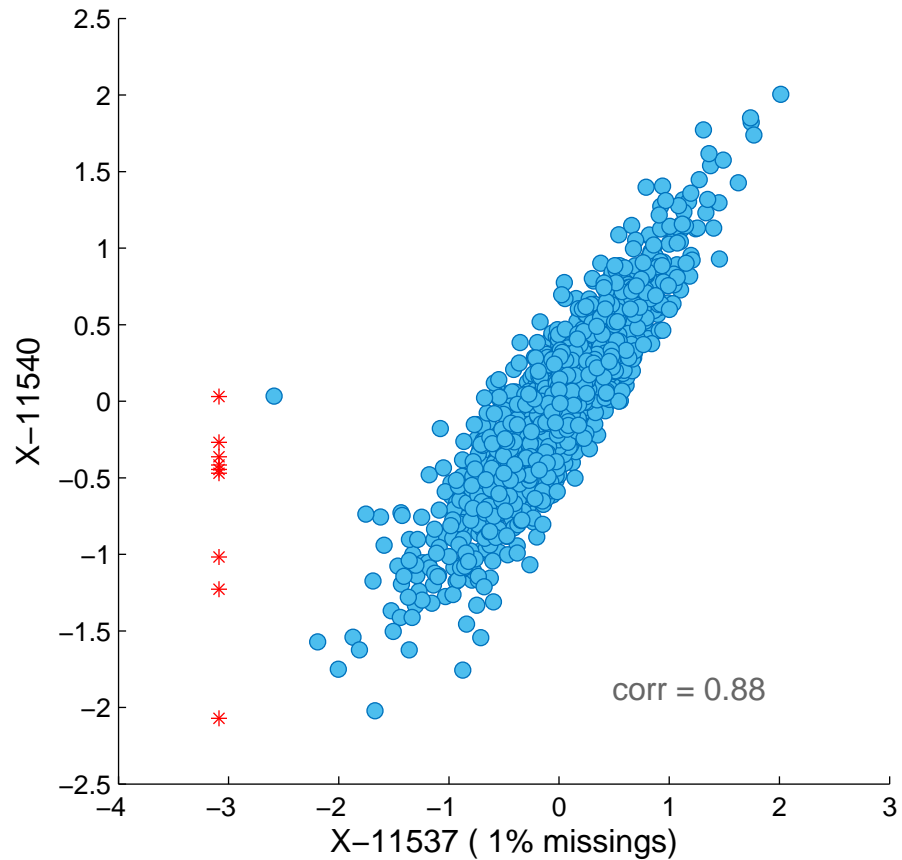
Missing values of X-11530
in X-11442



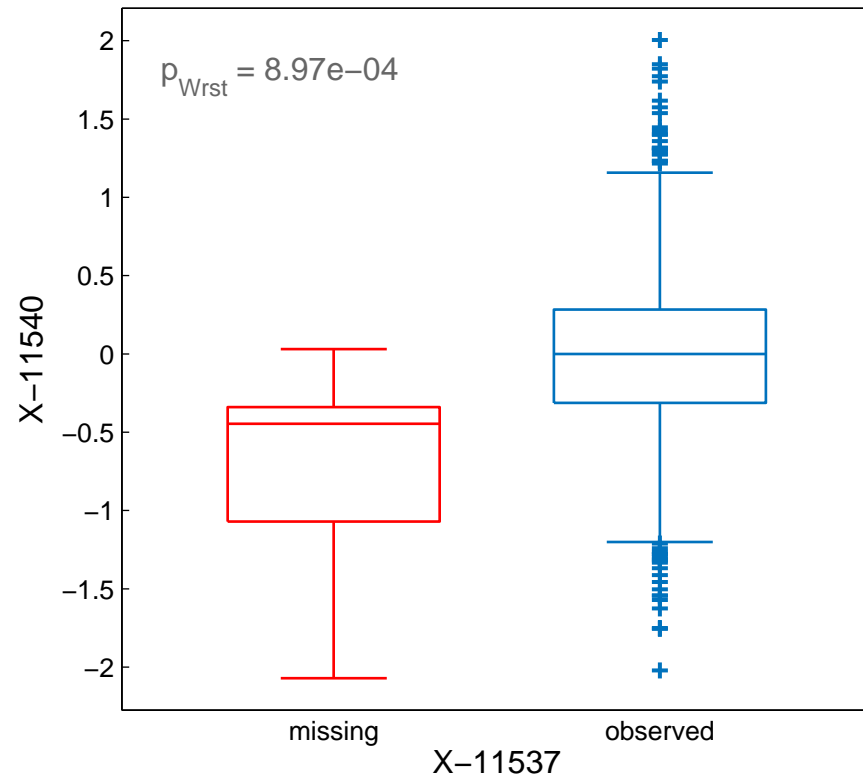
Concentrations of X-11442 in
missing and observed X-11530



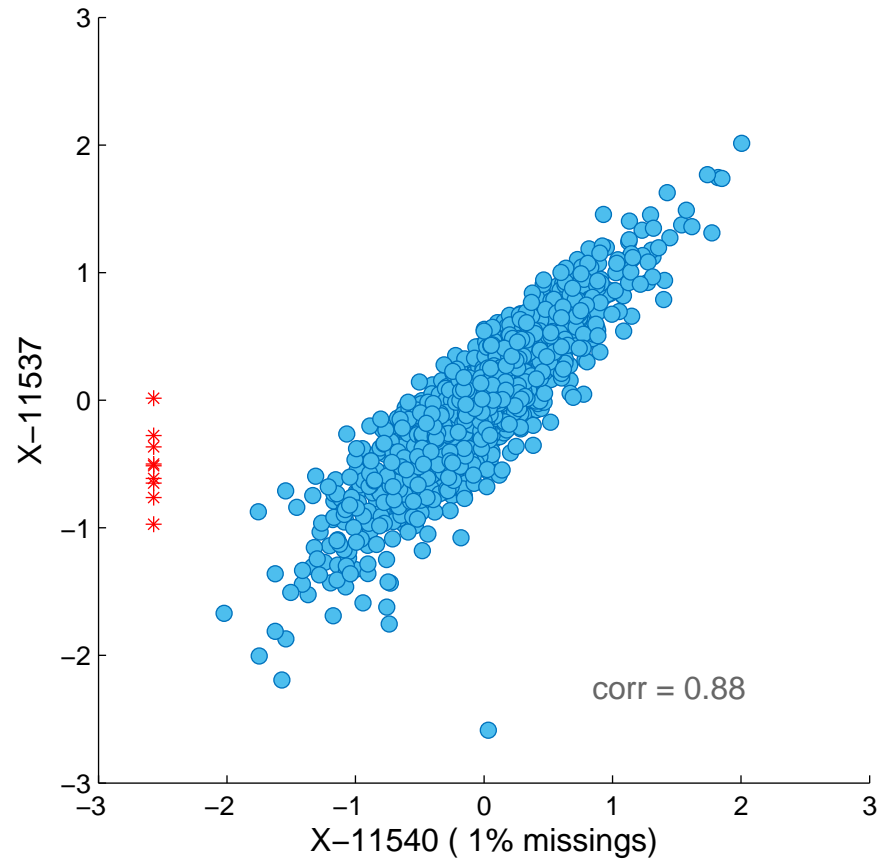
Missing values of X-11537
in X-11540



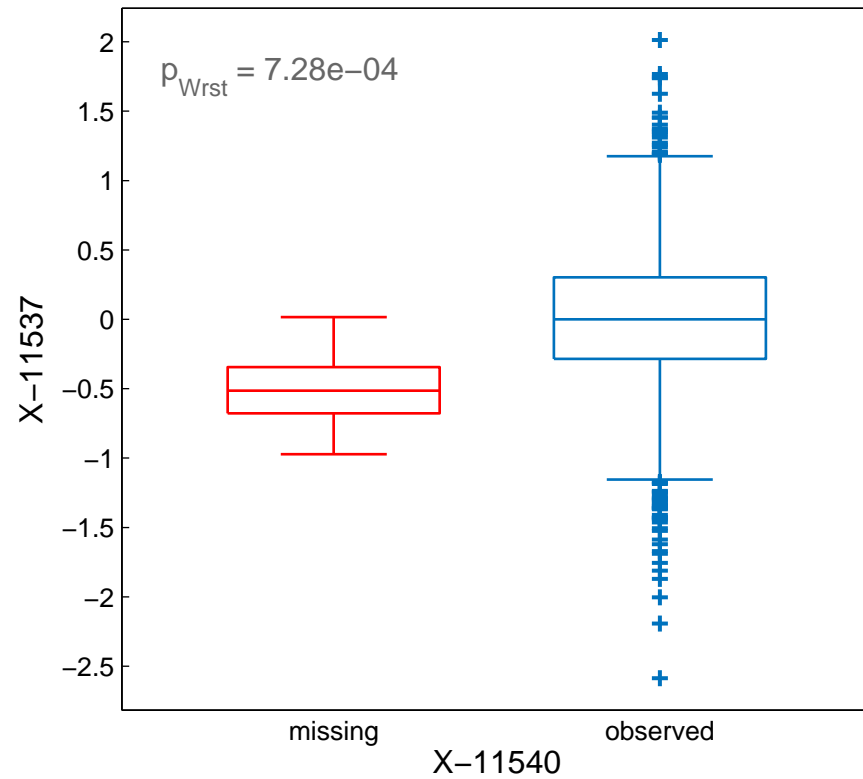
Concentrations of X-11540 in
missing and observed X-11537



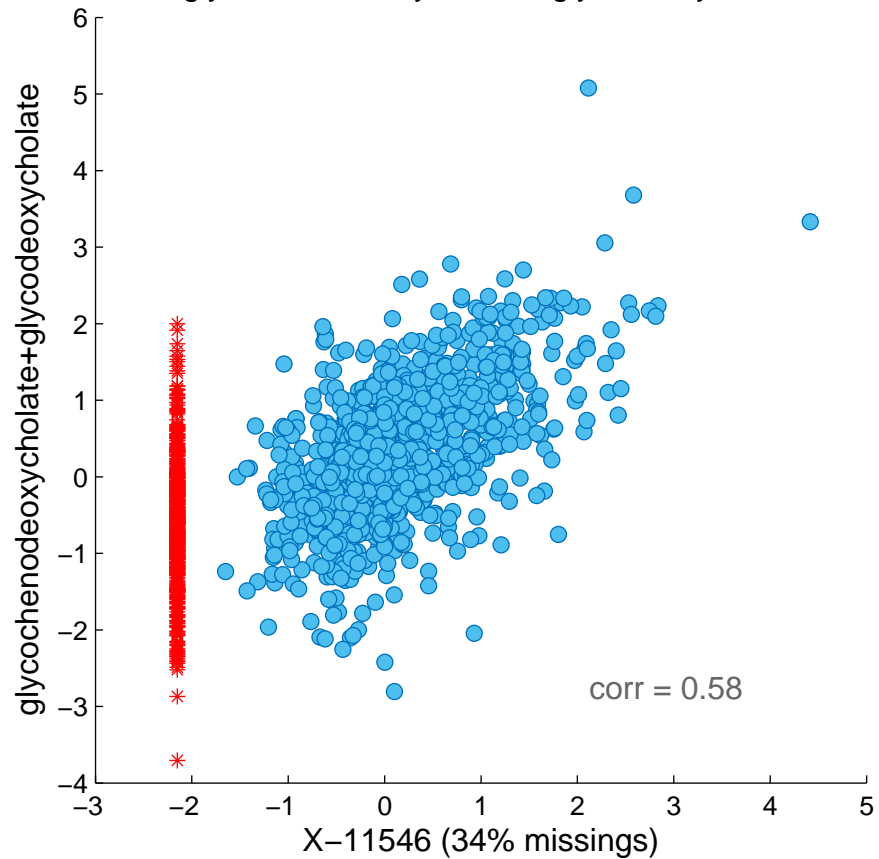
Missing values of X-11540
in X-11537



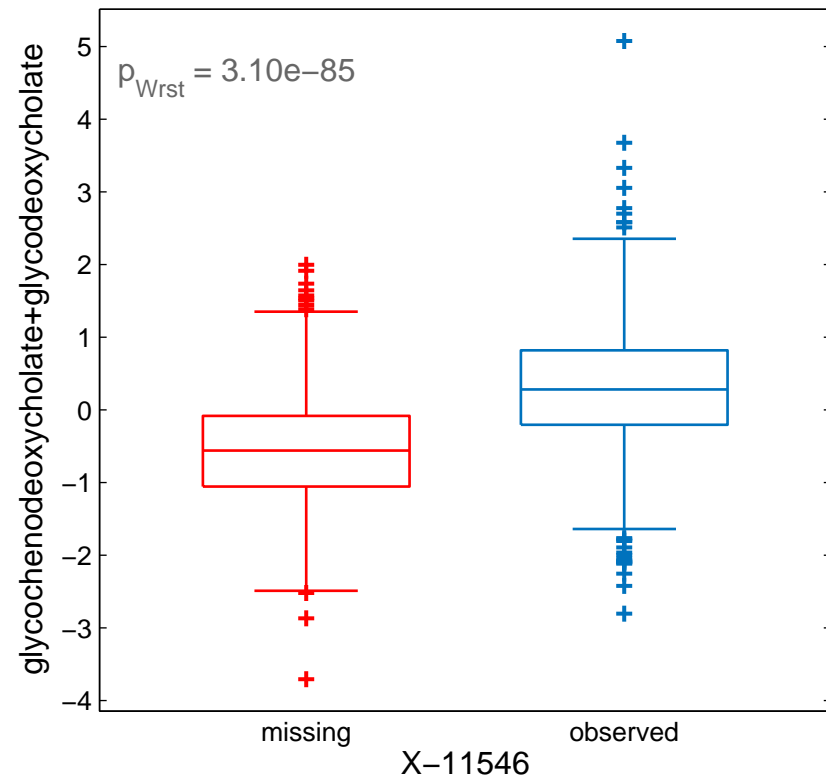
Concentrations of X-11537 in
missing and observed X-11540



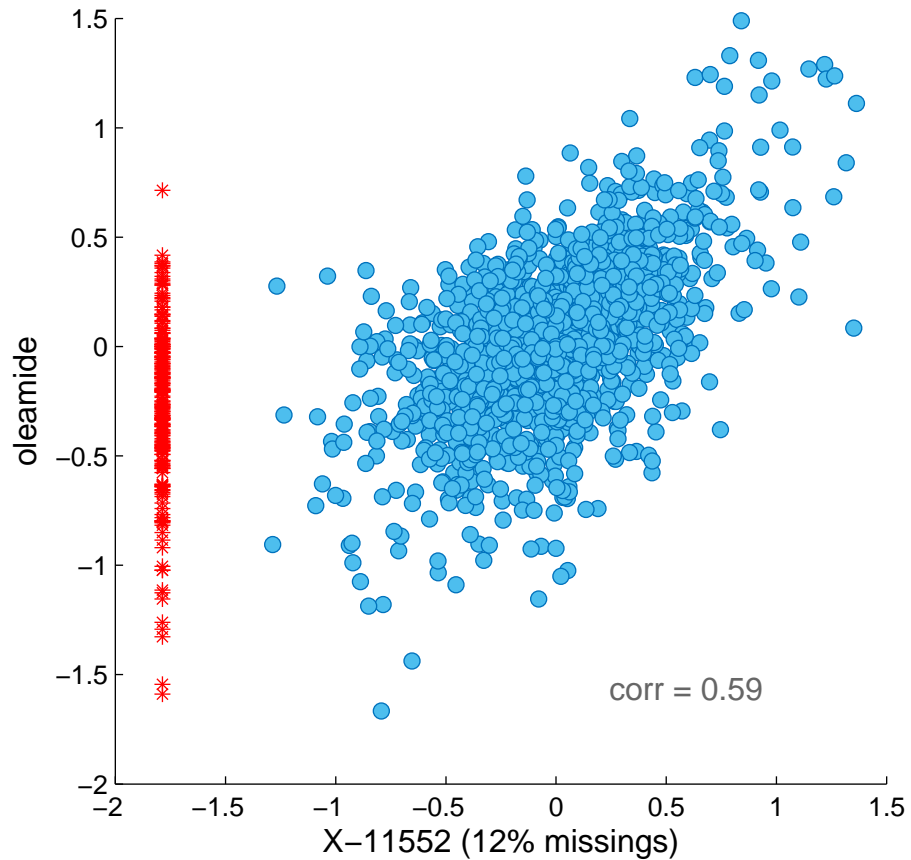
Missing values of X-11546
in glycochenodeoxycholate+glycodeoxycholate



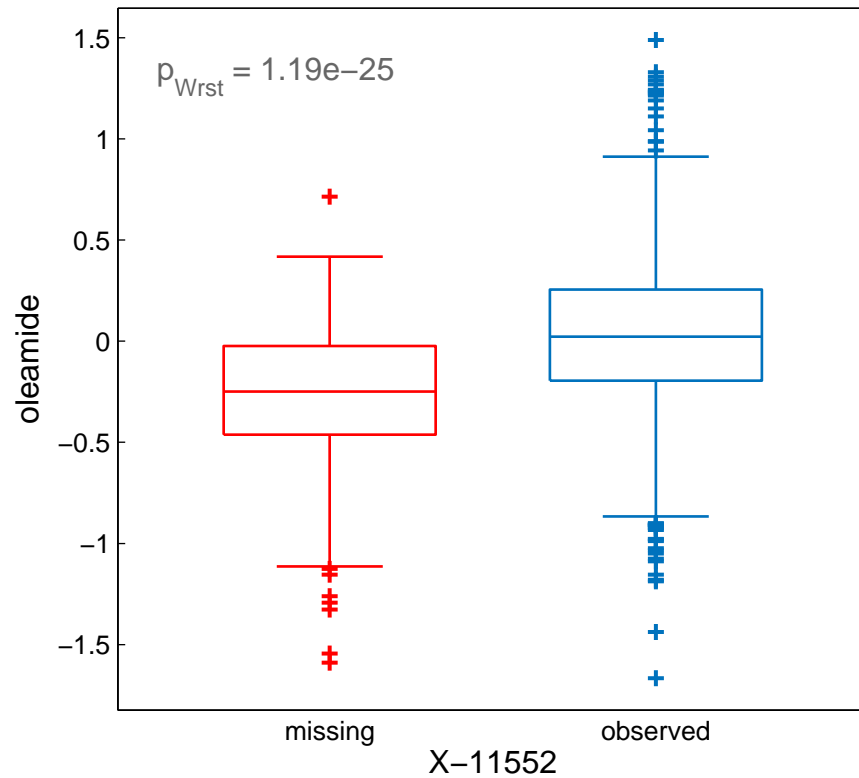
Concentrations of glycochenodeoxycholate+glycodeoxycholate in
missing and observed X-11546



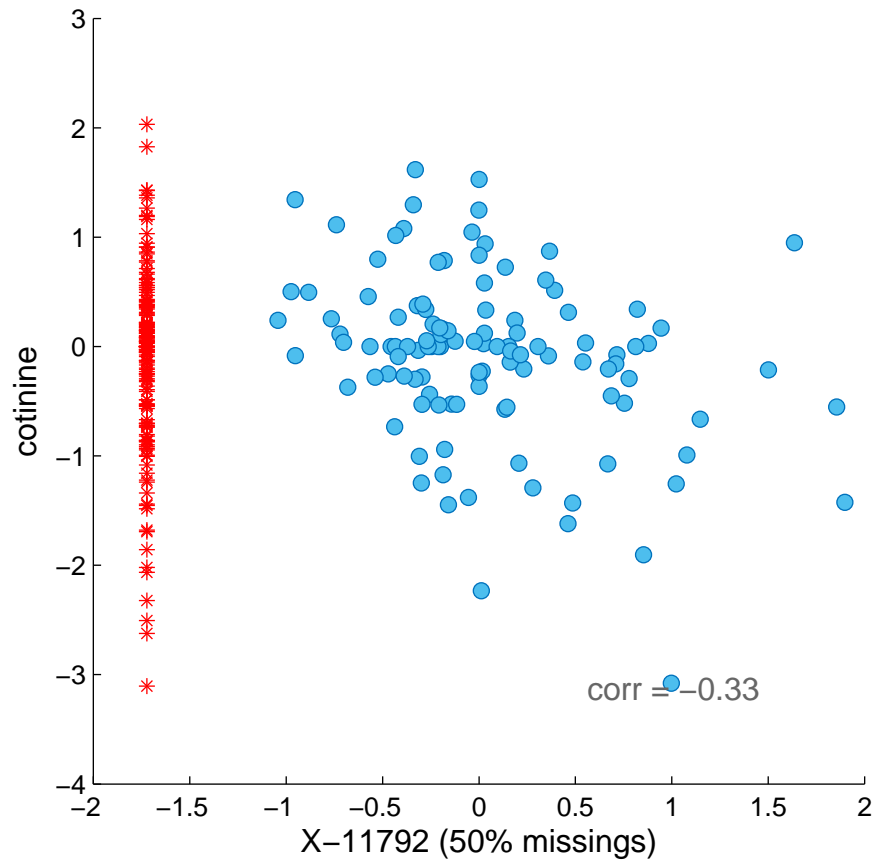
Missing values of X-11552
in oleamide



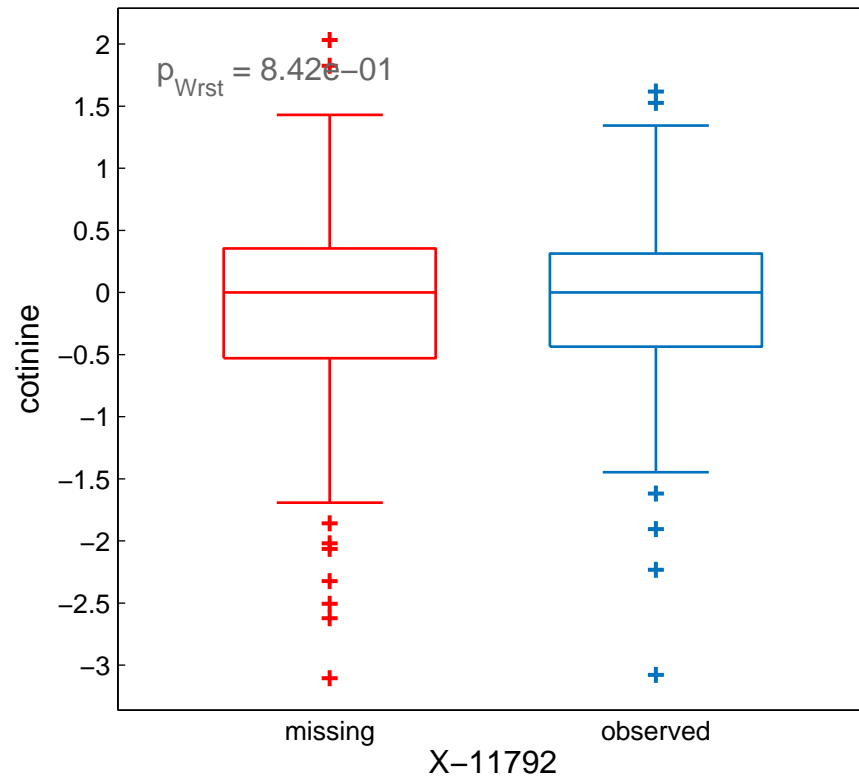
Concentrations of oleamide in
missing and observed X-11552



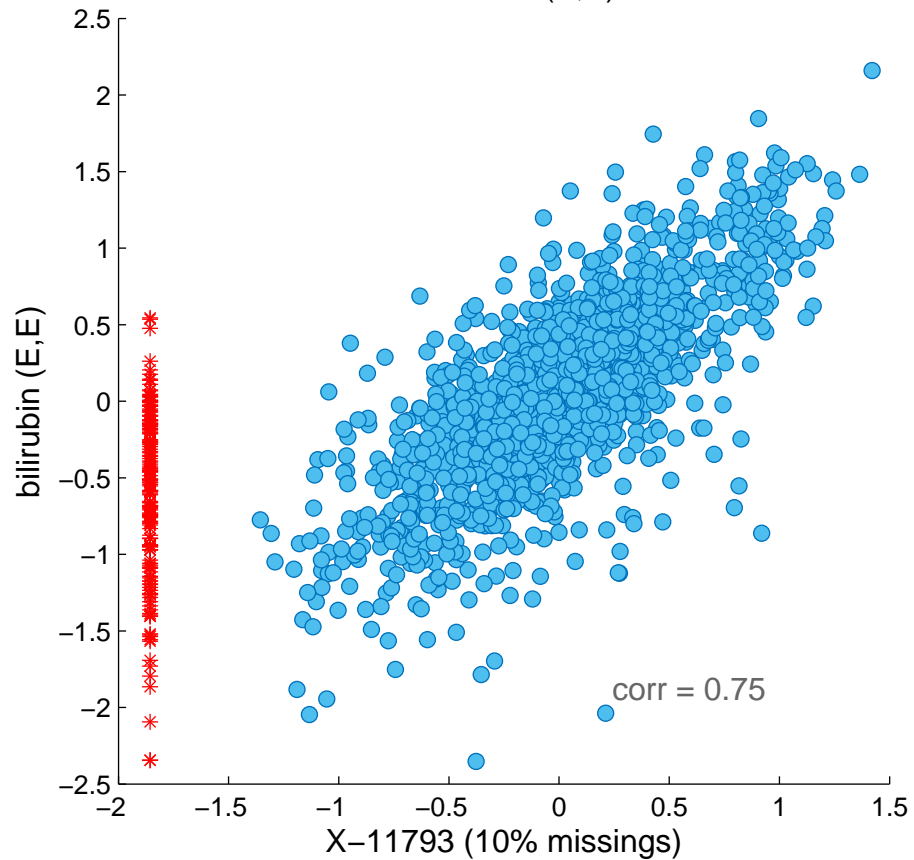
Missing values of X-11792
in cotinine



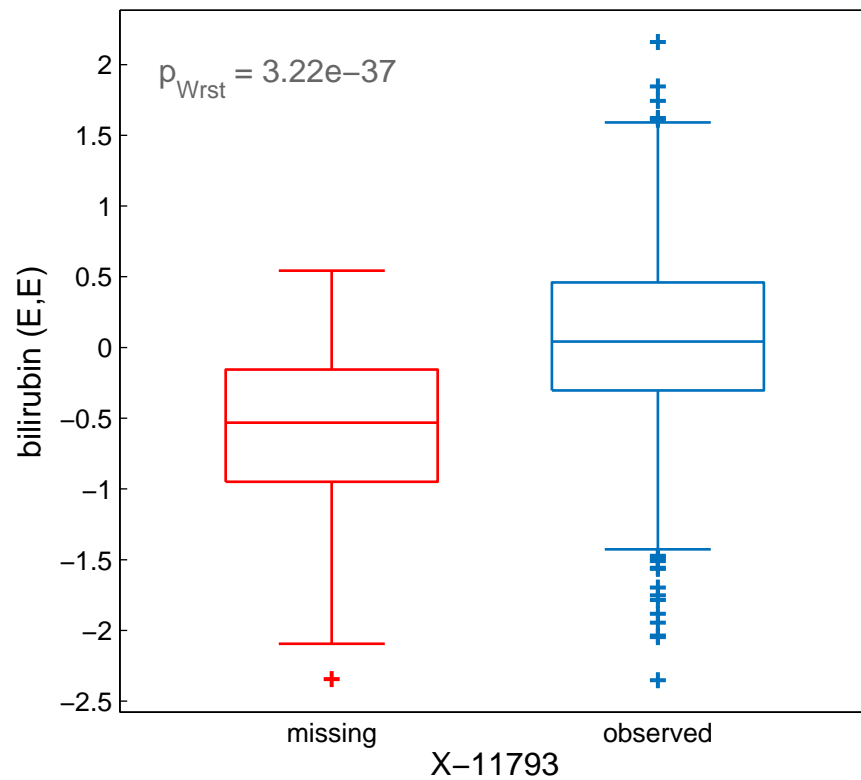
Concentrations of cotinine in
missing and observed X-11792



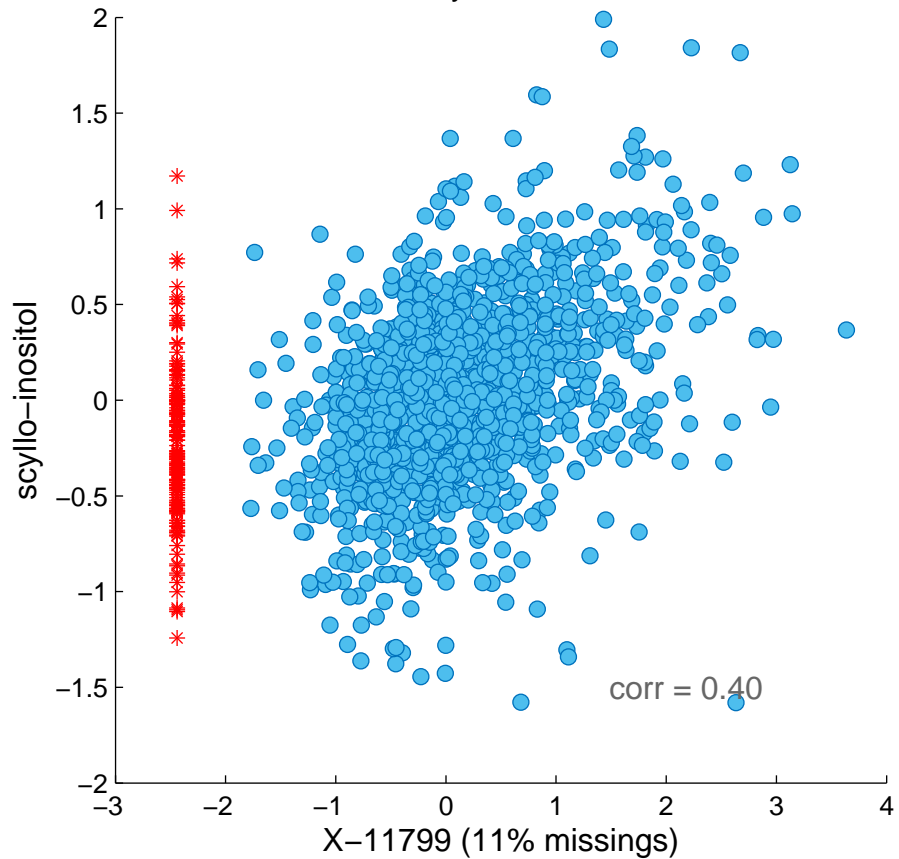
Missing values of X-11793
in bilirubin (E,E)



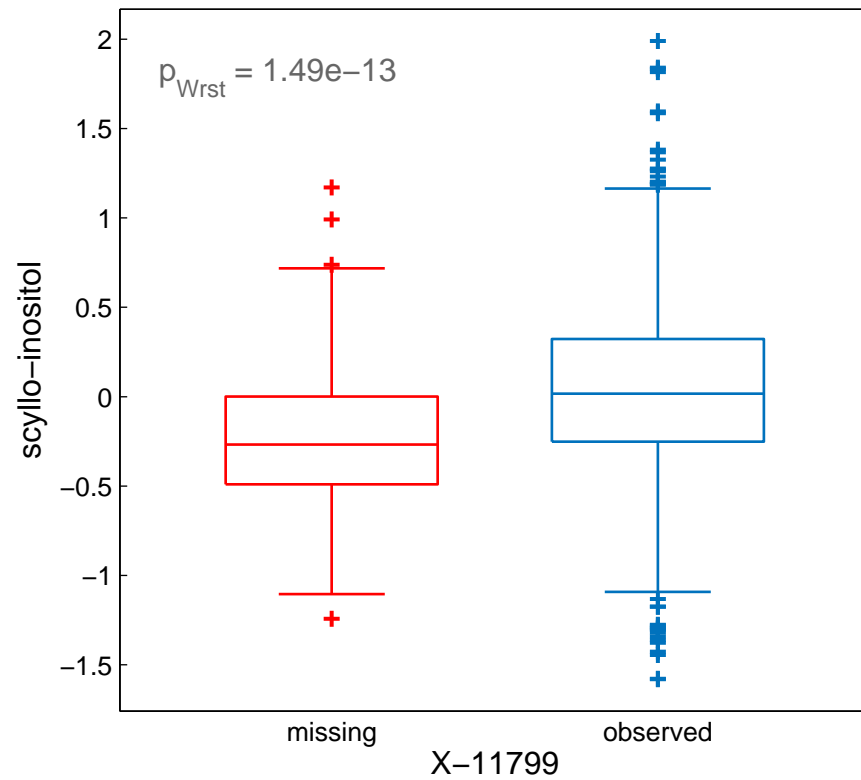
Concentrations of bilirubin (E,E) in
missing and observed X-11793



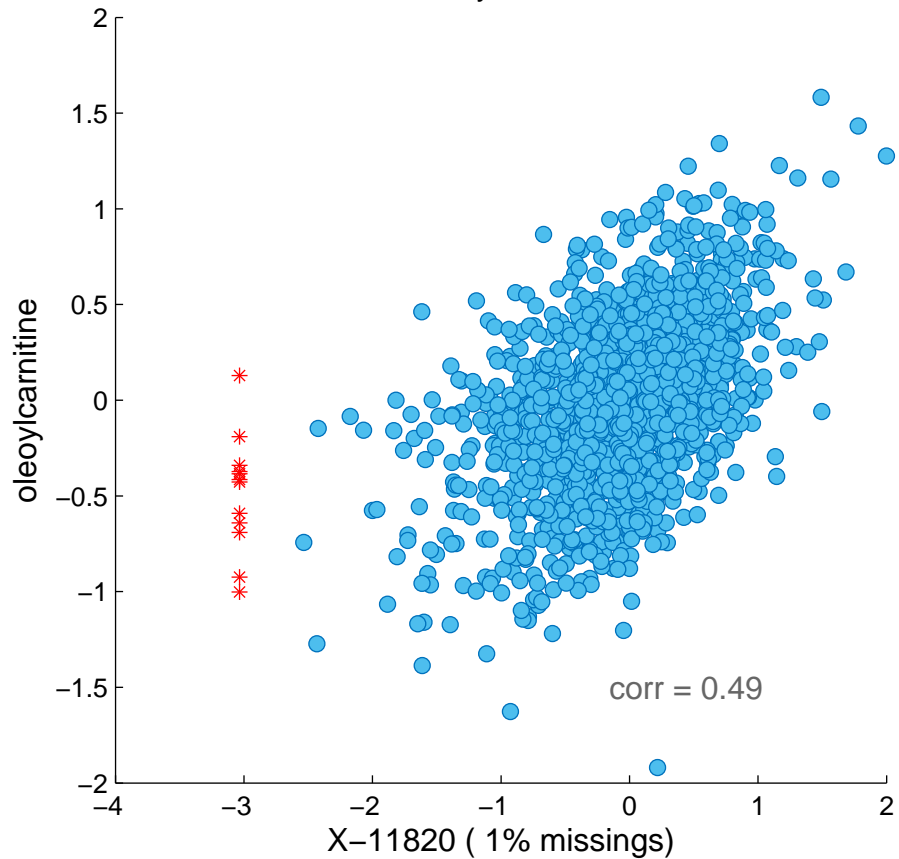
Missing values of X-11799
in scyllo-inositol



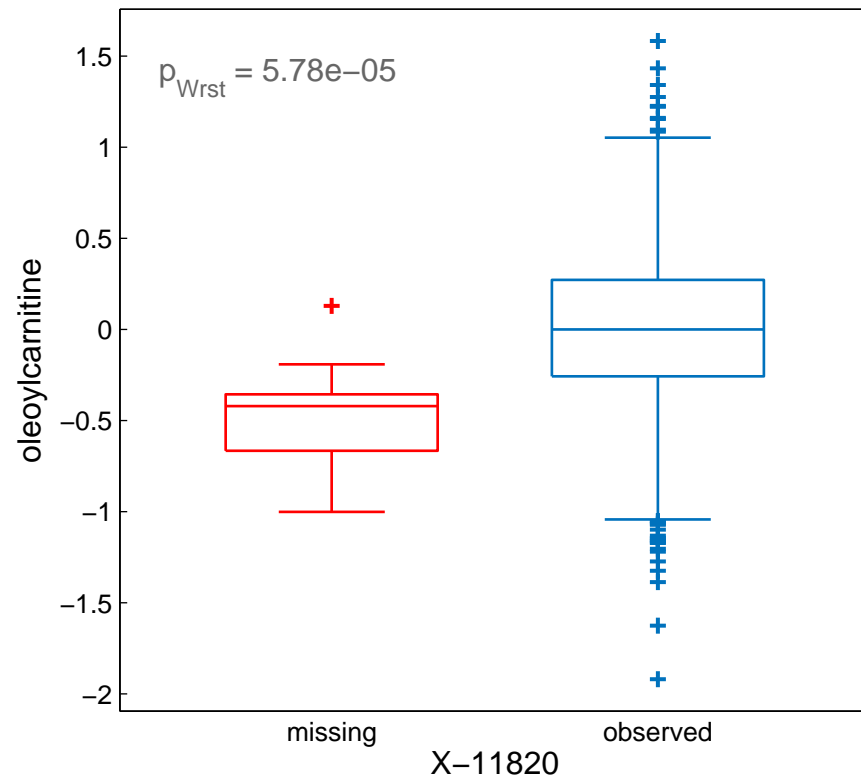
Concentrations of scyllo-inositol in
missing and observed X-11799



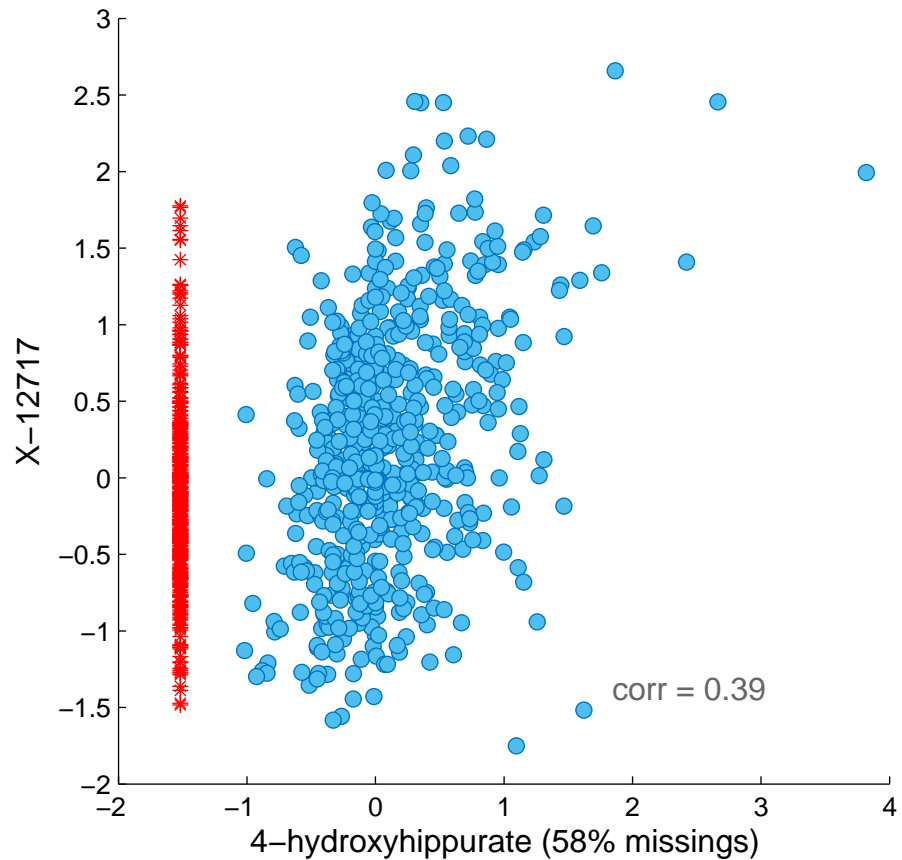
Missing values of X-11820
in oleoylcarnitine



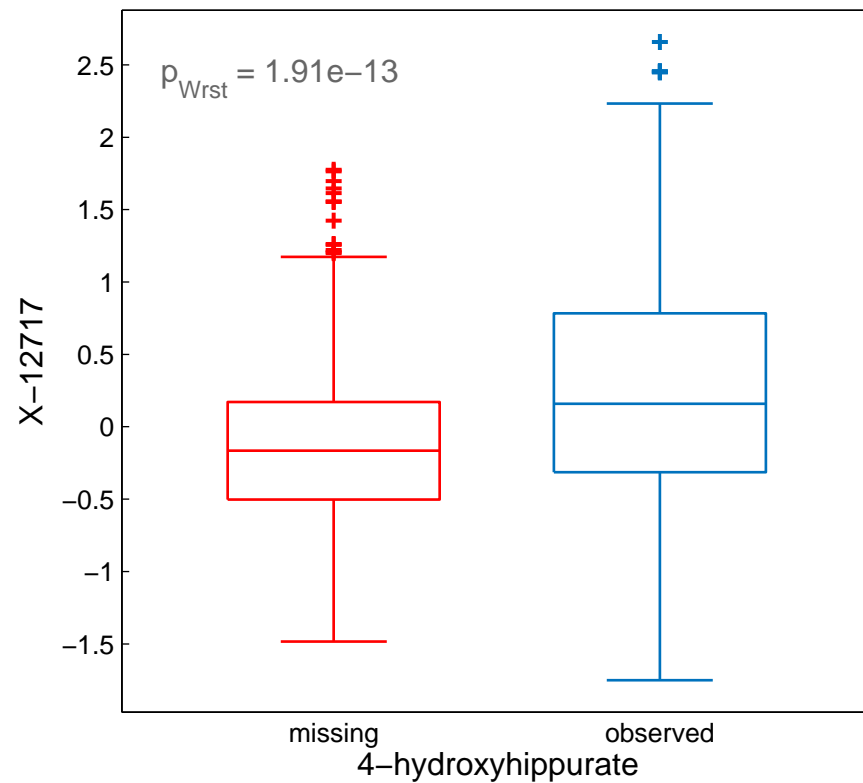
Concentrations of oleoylcarnitine in
missing and observed X-11820



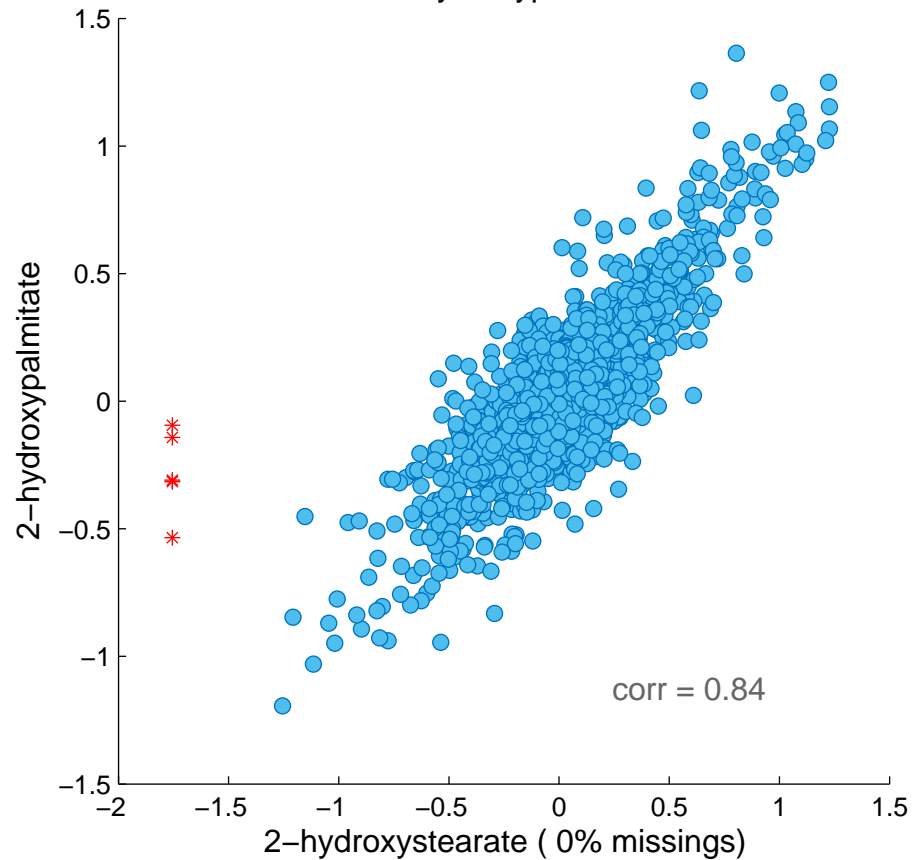
Missing values of 4-hydroxyhippurate
in X-12717



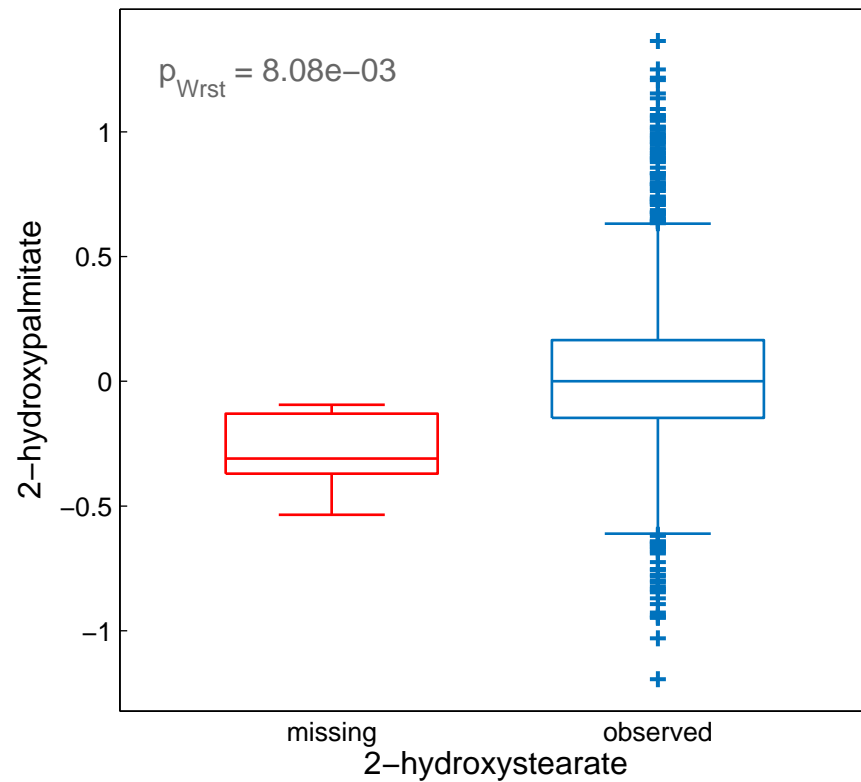
Concentrations of X-12717 in
missing and observed 4-hydroxyhippurate



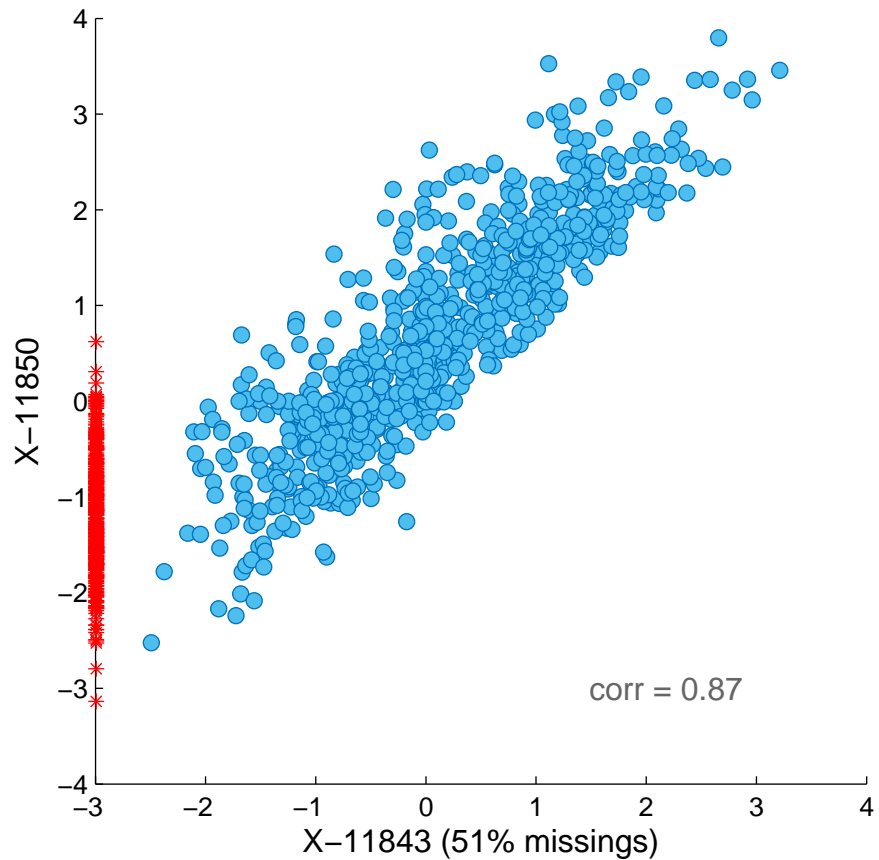
Missing values of 2-hydroxystearate
in 2-hydroxypalmitate



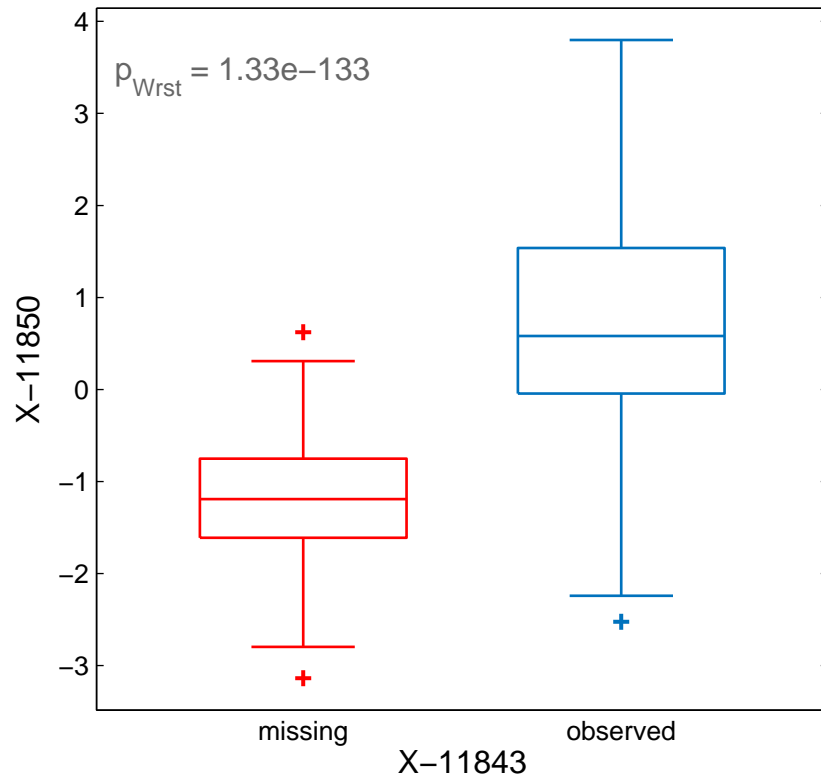
Concentrations of 2-hydroxypalmitate in
missing and observed 2-hydroxystearate



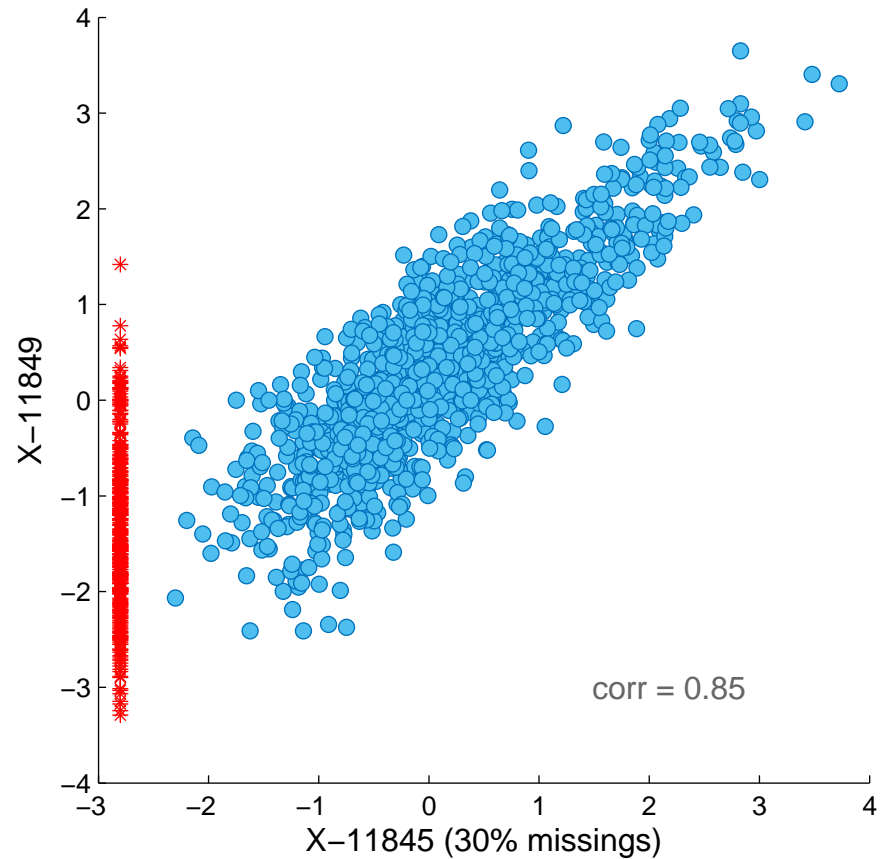
Missing values of X-11843
in X-11850



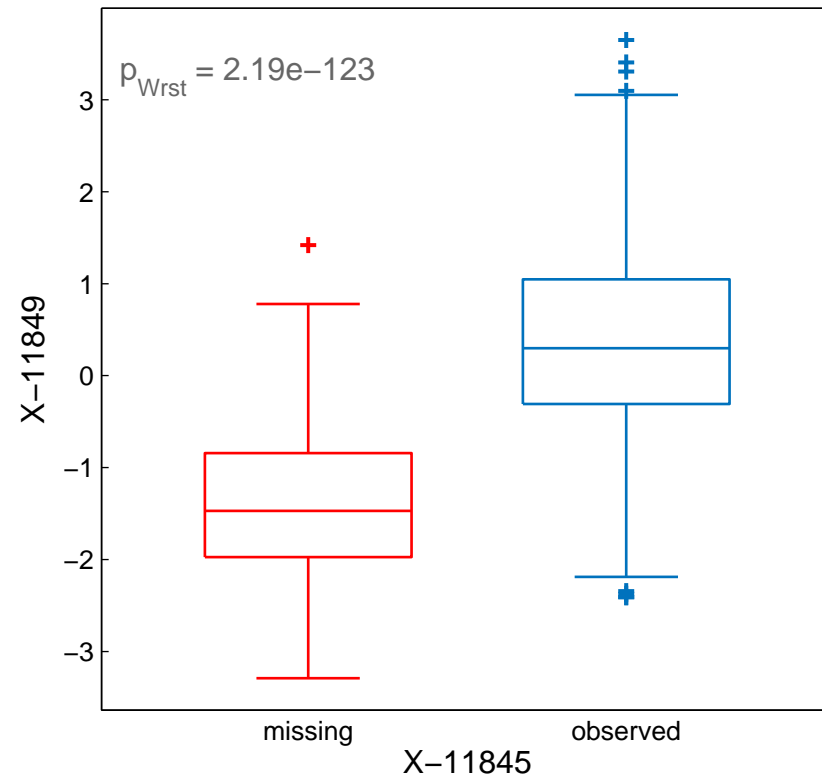
Concentrations of X-11850 in
missing and observed X-11843



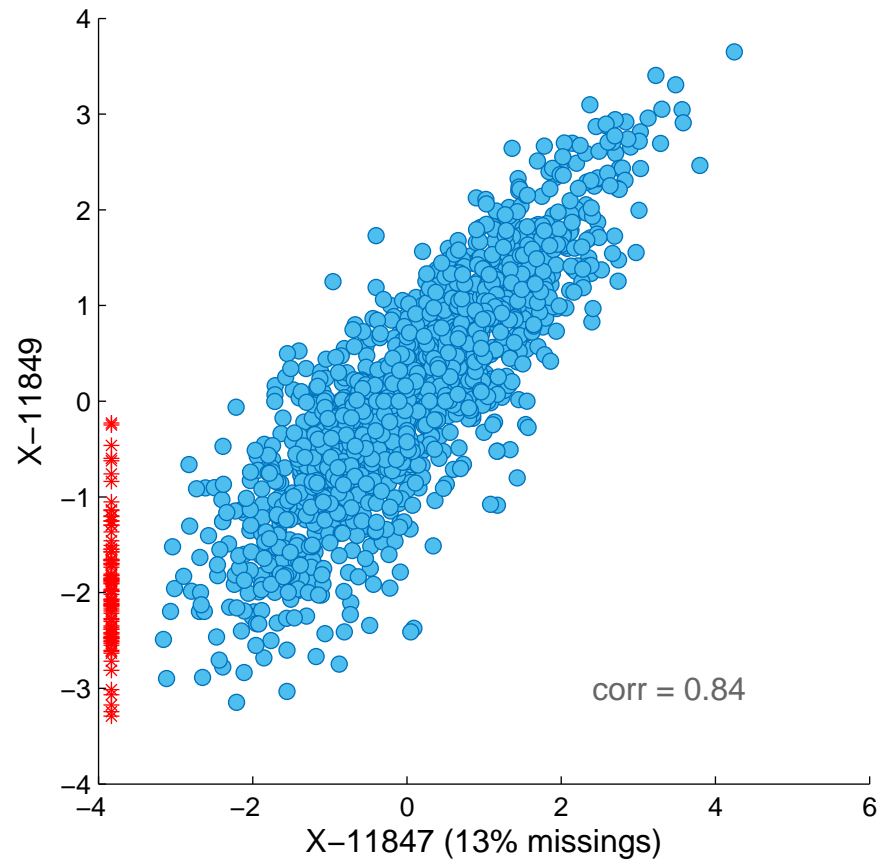
Missing values of X-11845
in X-11849



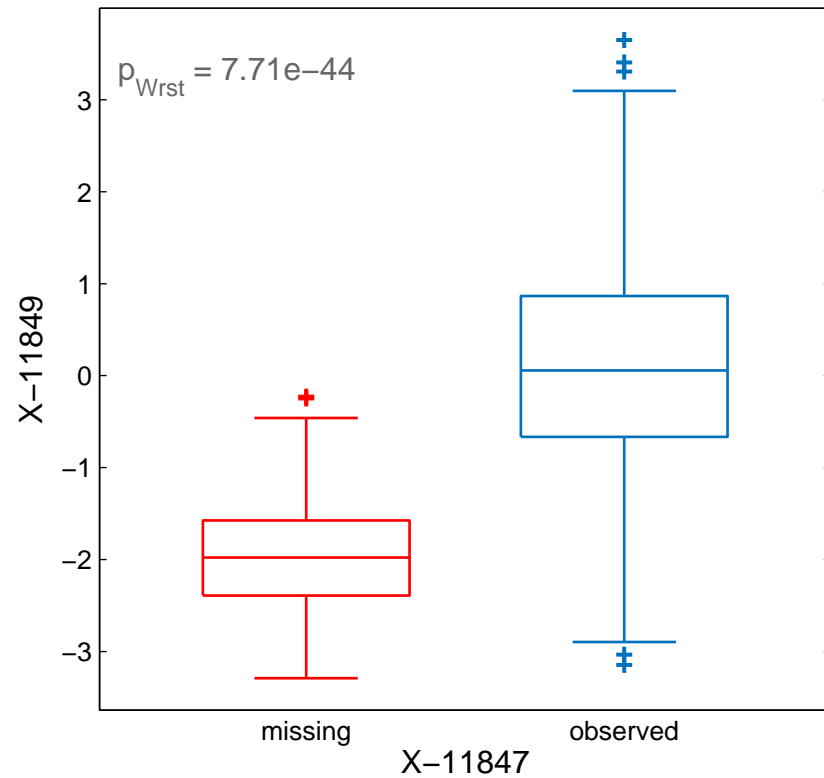
Concentrations of X-11849 in
missing and observed X-11845



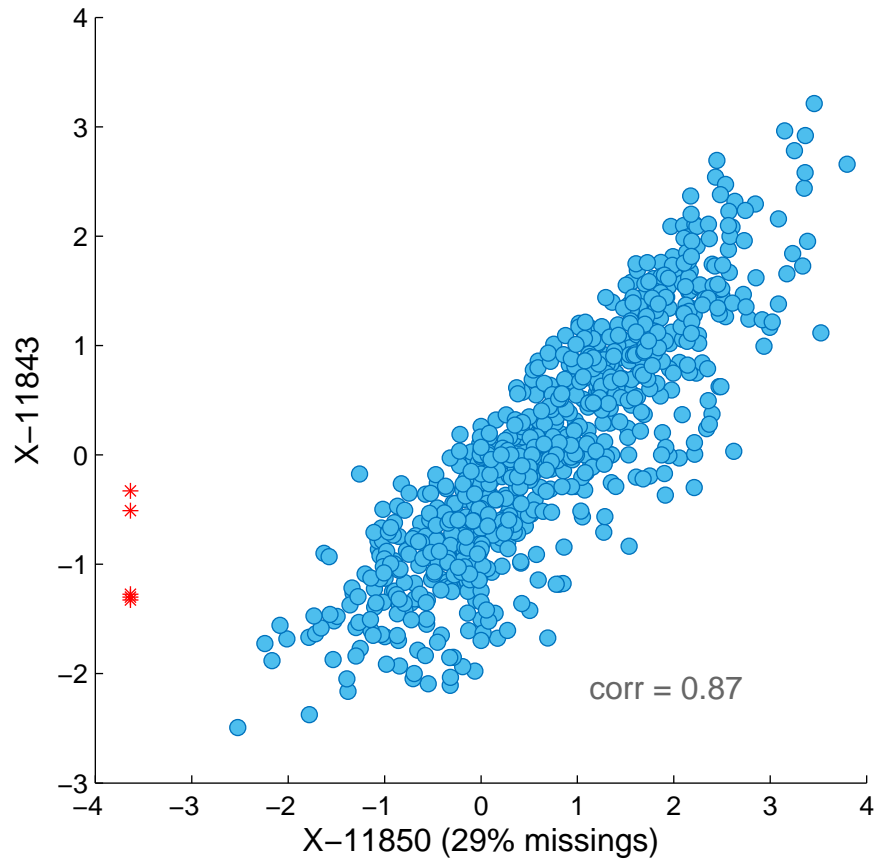
Missing values of X-11847
in X-11849



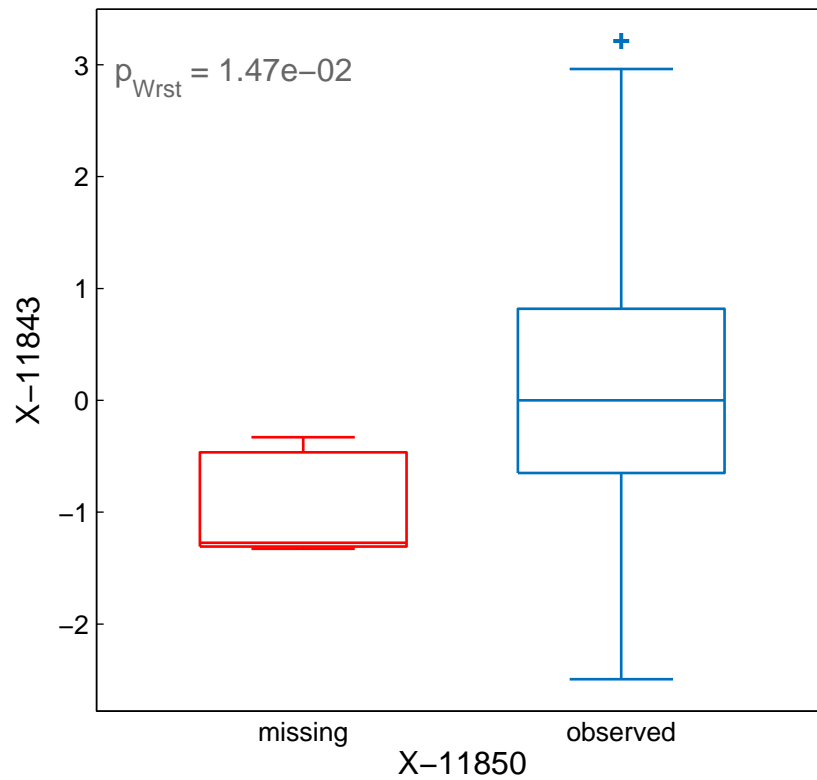
Concentrations of X-11849 in
missing and observed X-11847



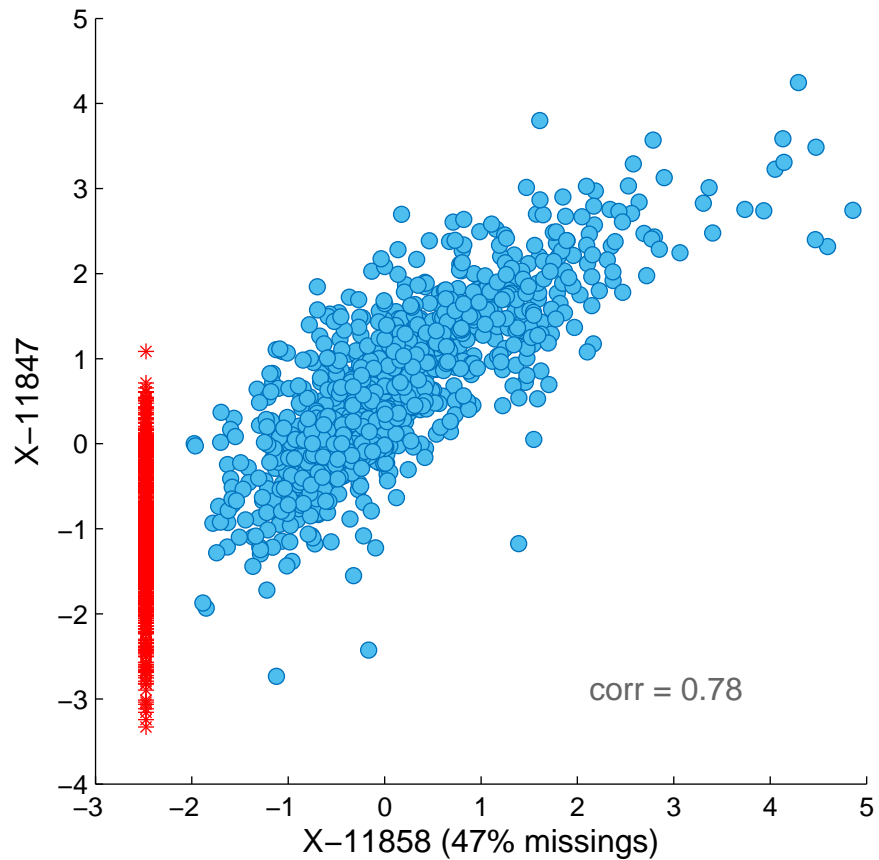
Missing values of X-11850
in X-11843



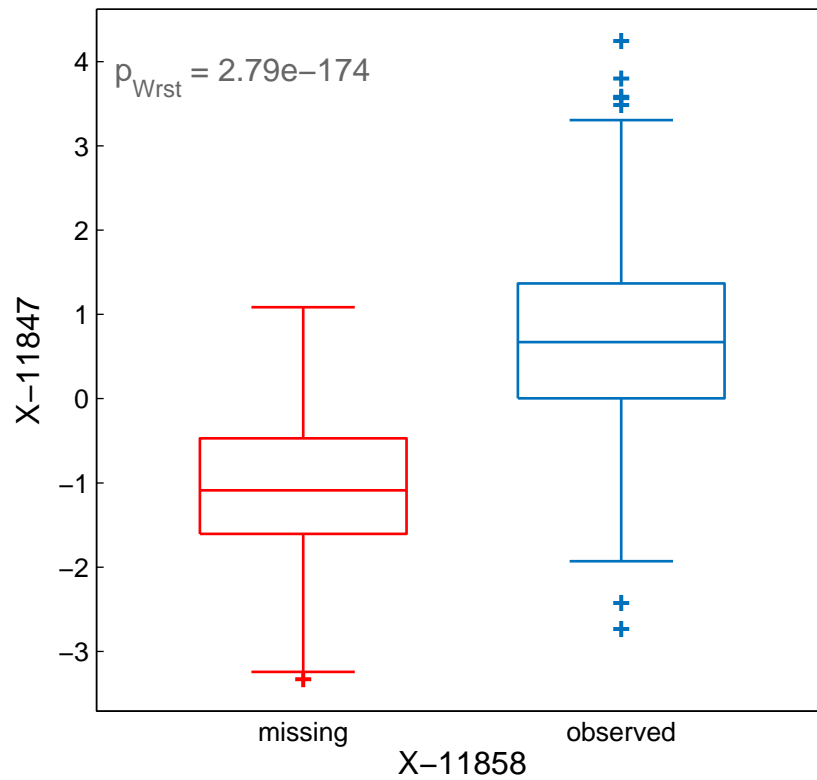
Concentrations of X-11843 in
missing and observed X-11850



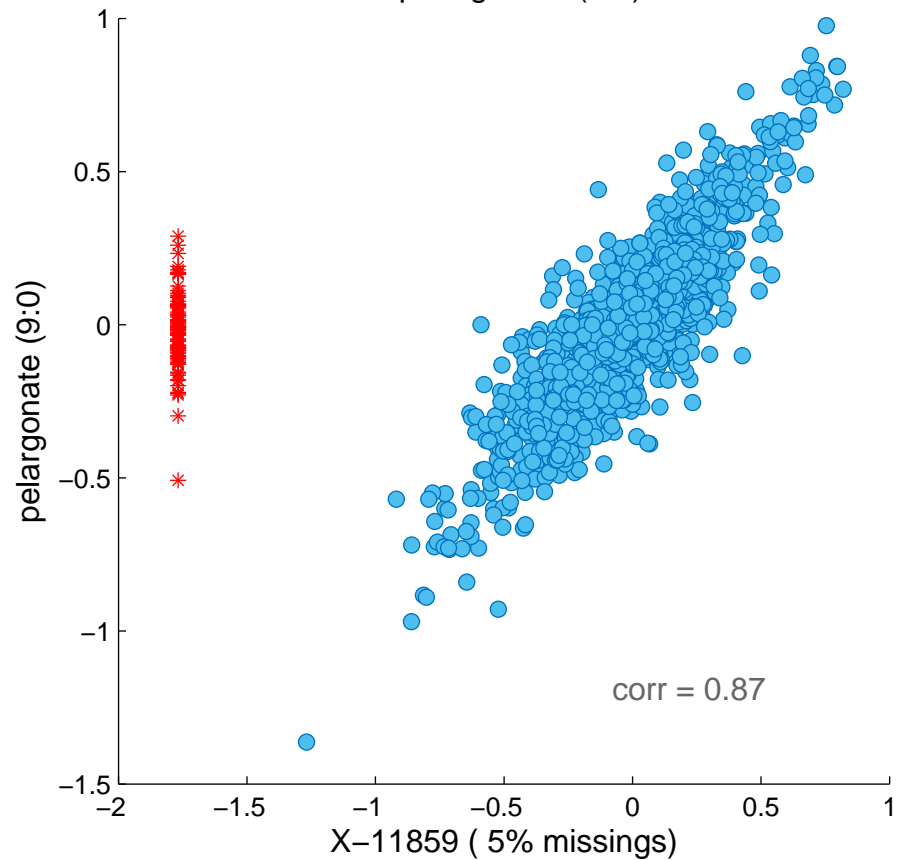
Missing values of X-11858
in X-11847



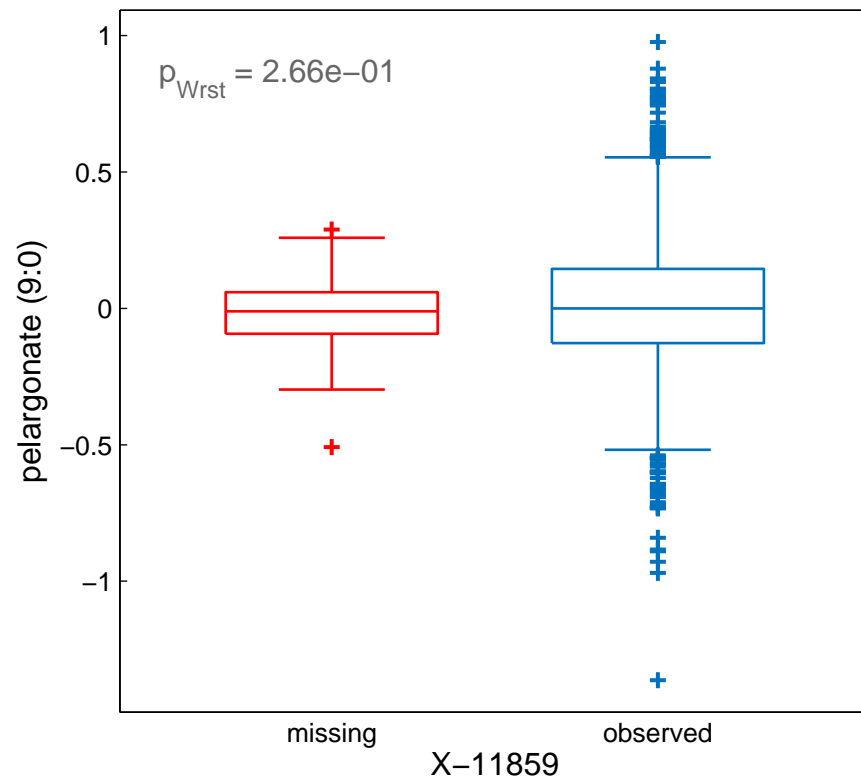
Concentrations of X-11847 in
missing and observed X-11858



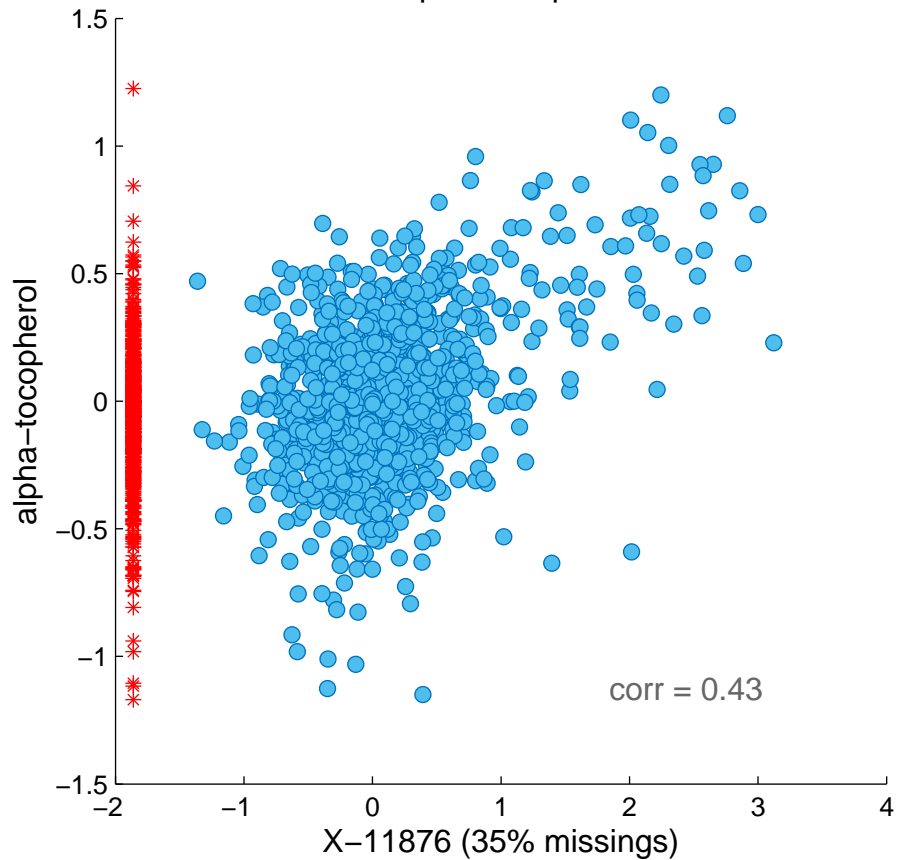
Missing values of X-11859
in pelargonate (9:0)



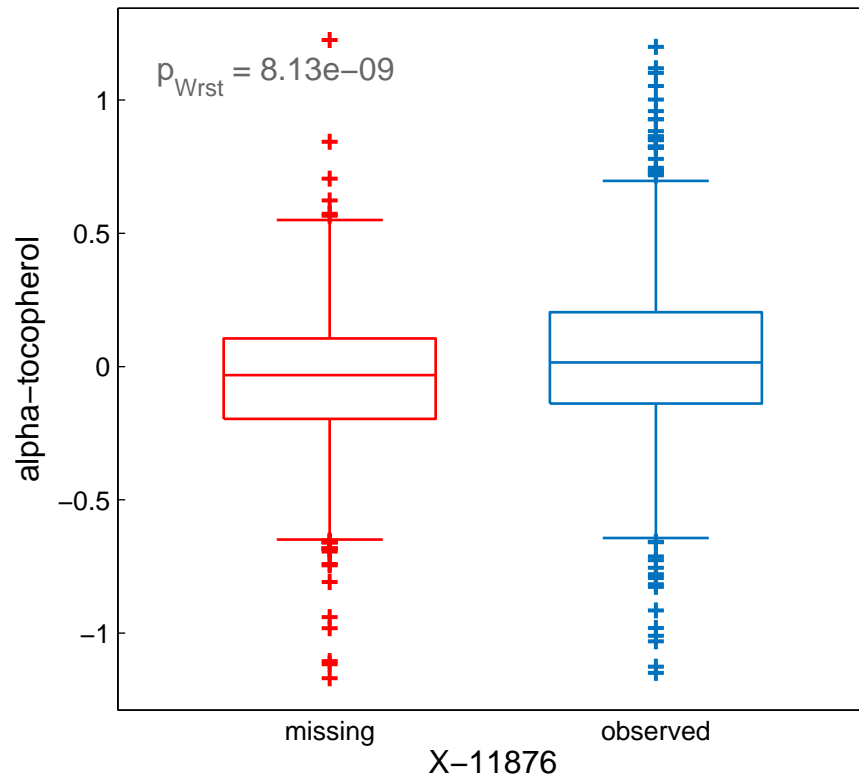
Concentrations of pelargonate (9:0) in
missing and observed X-11859



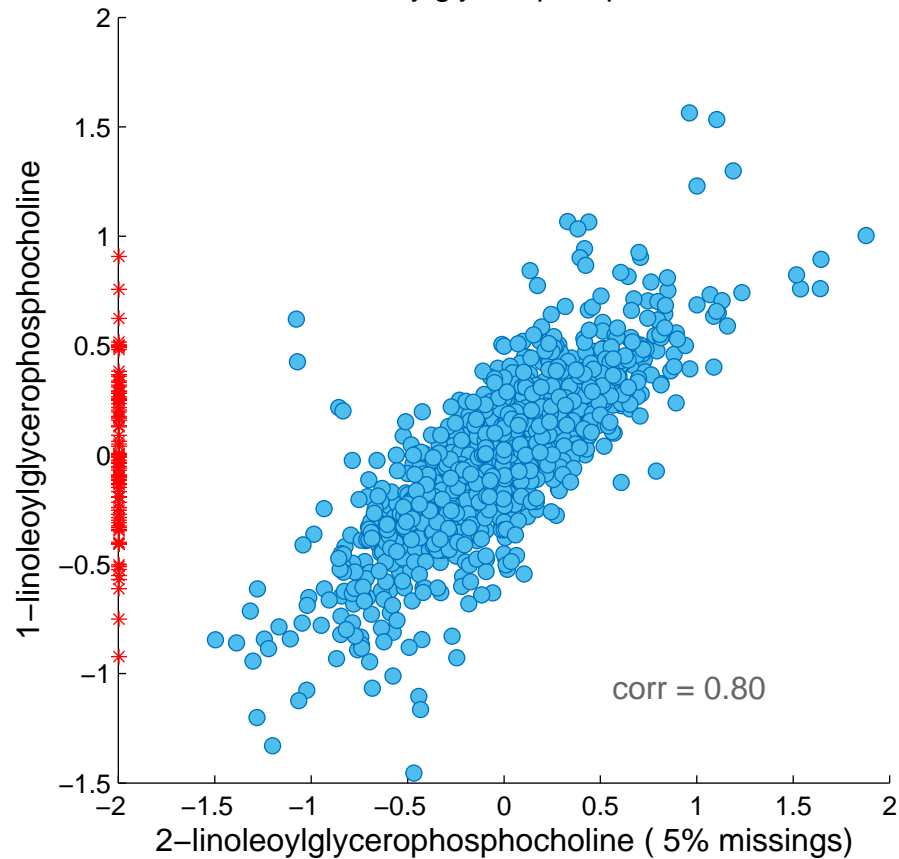
Missing values of X-11876
in alpha-tocopherol



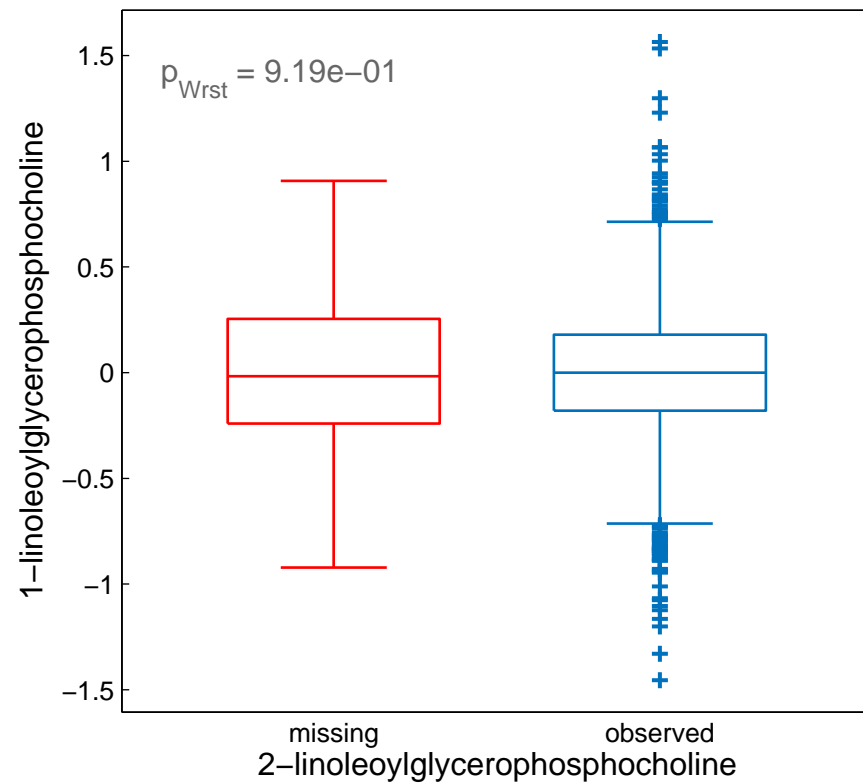
Concentrations of alpha-tocopherol in
missing and observed X-11876



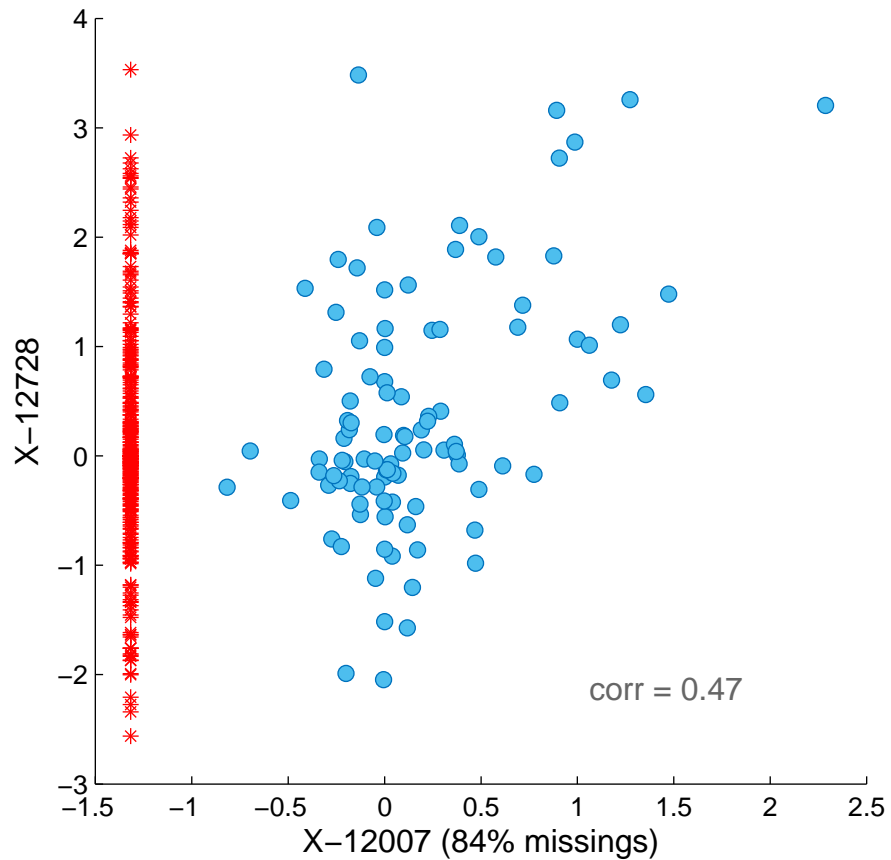
Missing values of 2-linoleoylglycerophosphocholine
in 1-linoleoylglycerophosphocholine



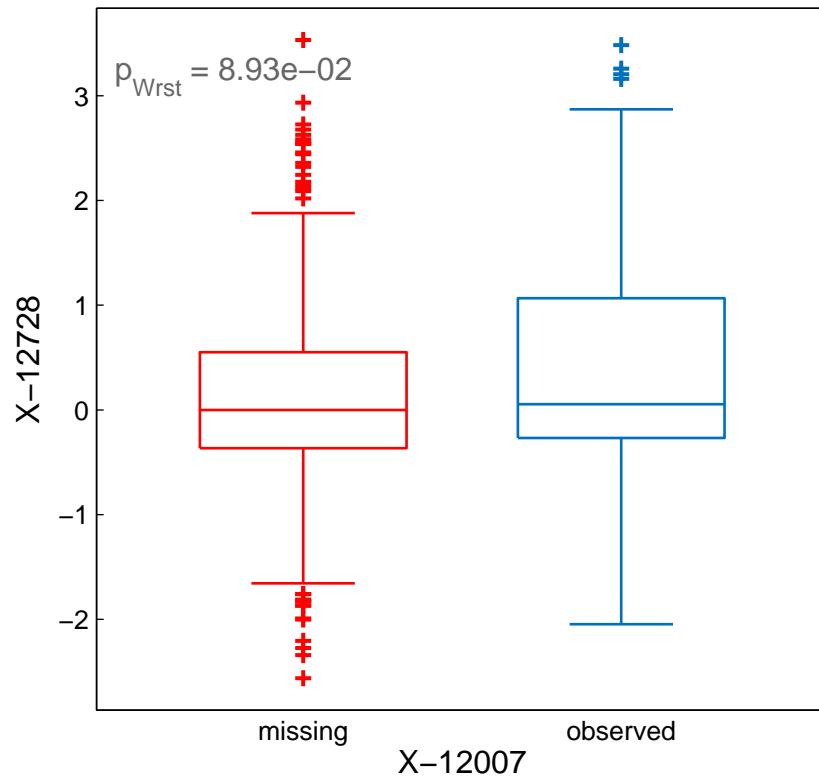
Concentrations of 1-linoleoylglycerophosphocholine in
missing and observed 2-linoleoylglycerophosphocholine



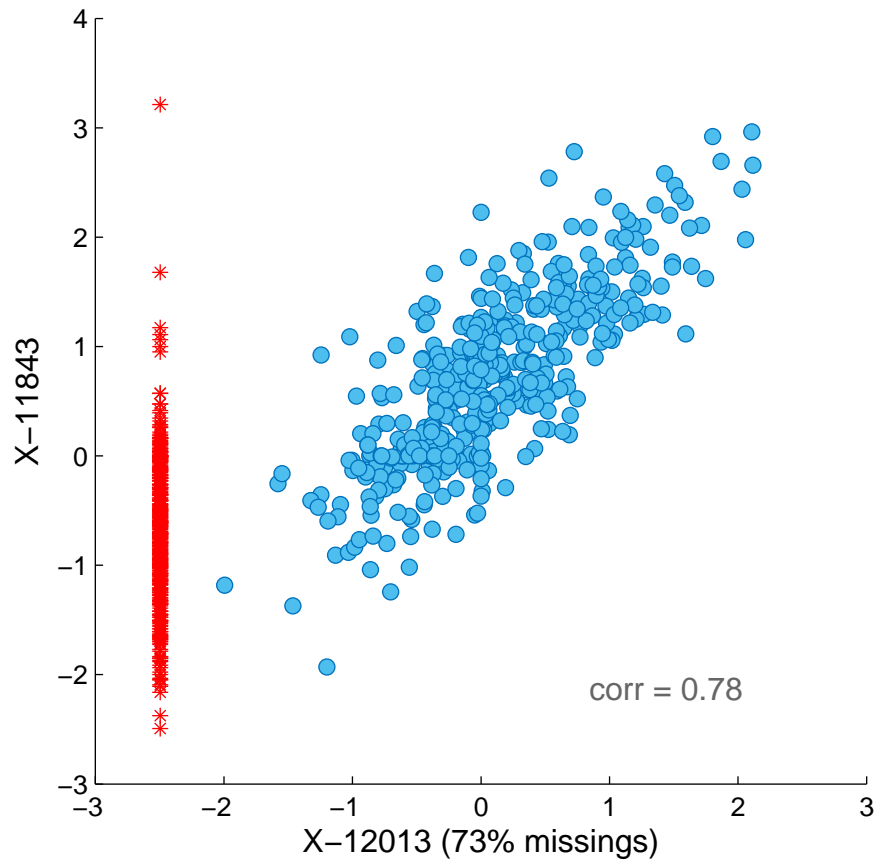
Missing values of X-12007
in X-12728



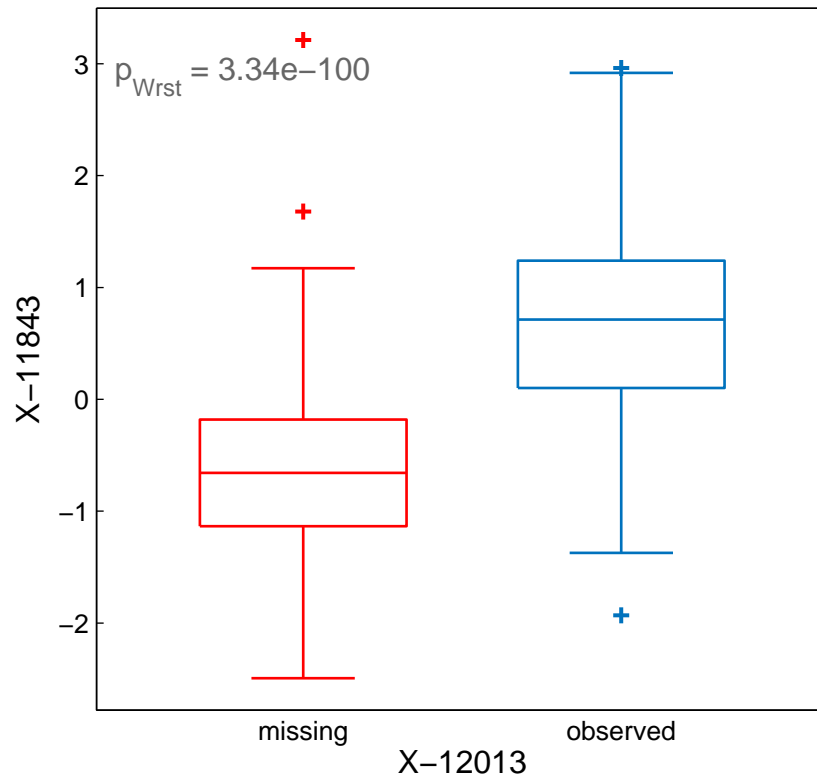
Concentrations of X-12728 in
missing and observed X-12007



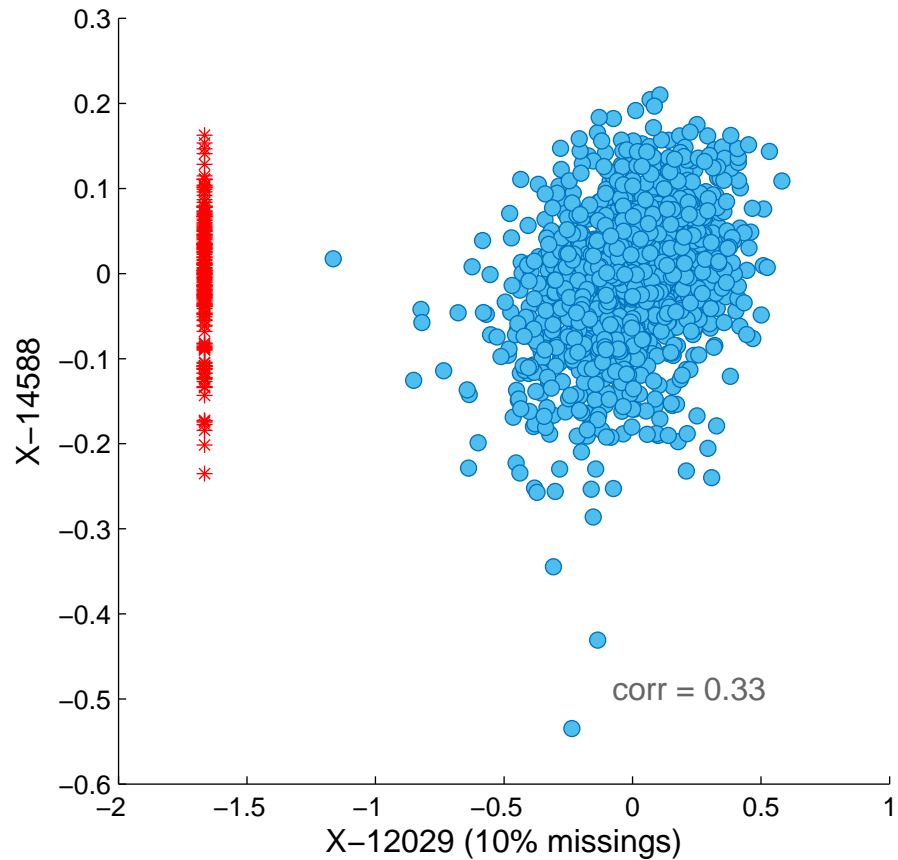
Missing values of X-12013
in X-11843



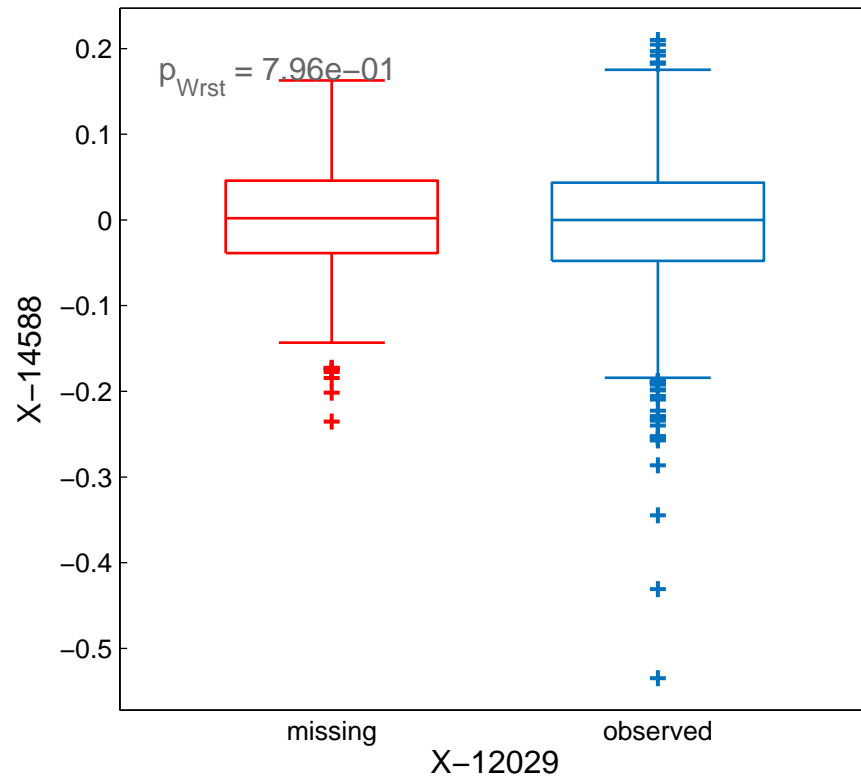
Concentrations of X-11843 in
missing and observed X-12013



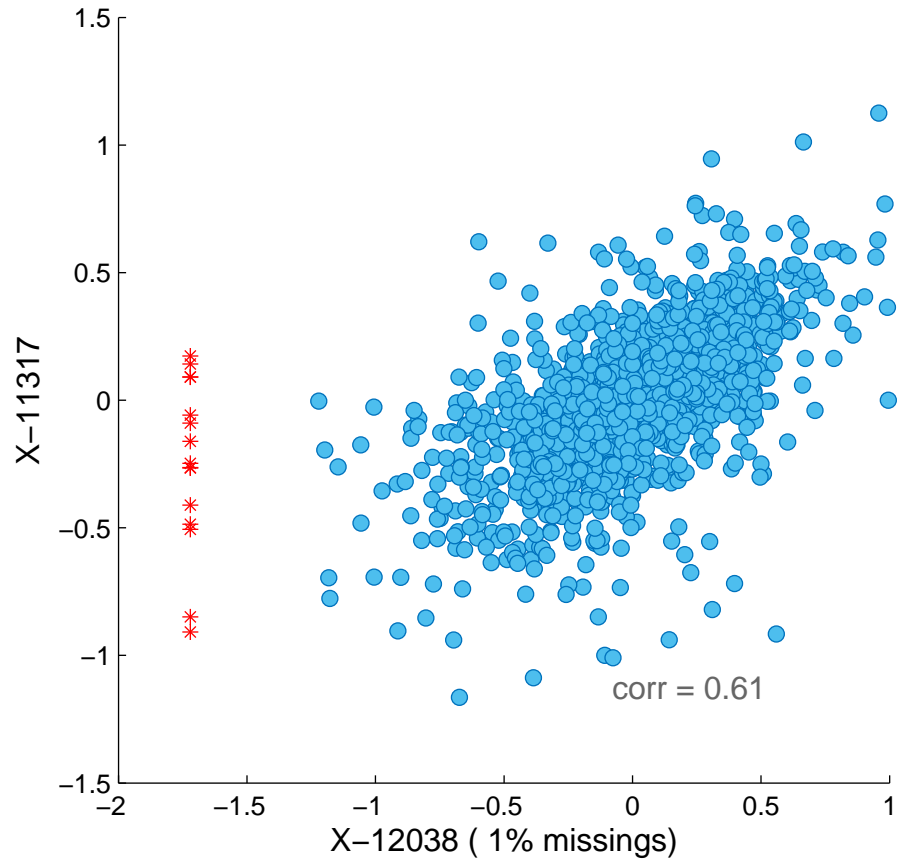
Missing values of X-12029
in X-14588



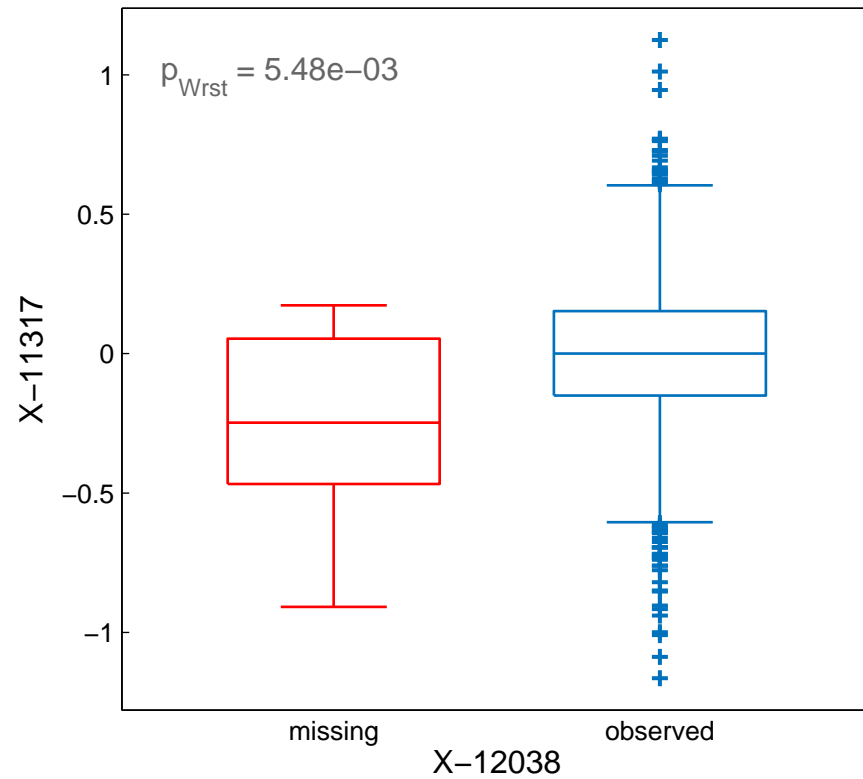
Concentrations of X-14588 in
missing and observed X-12029



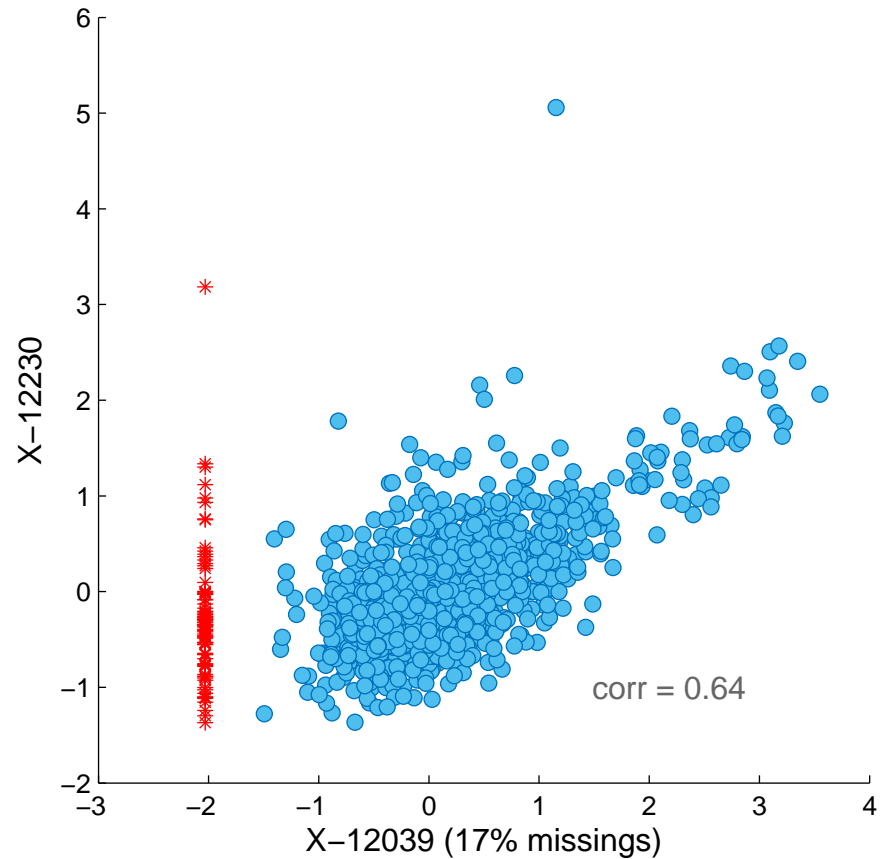
Missing values of X-12038
in X-11317



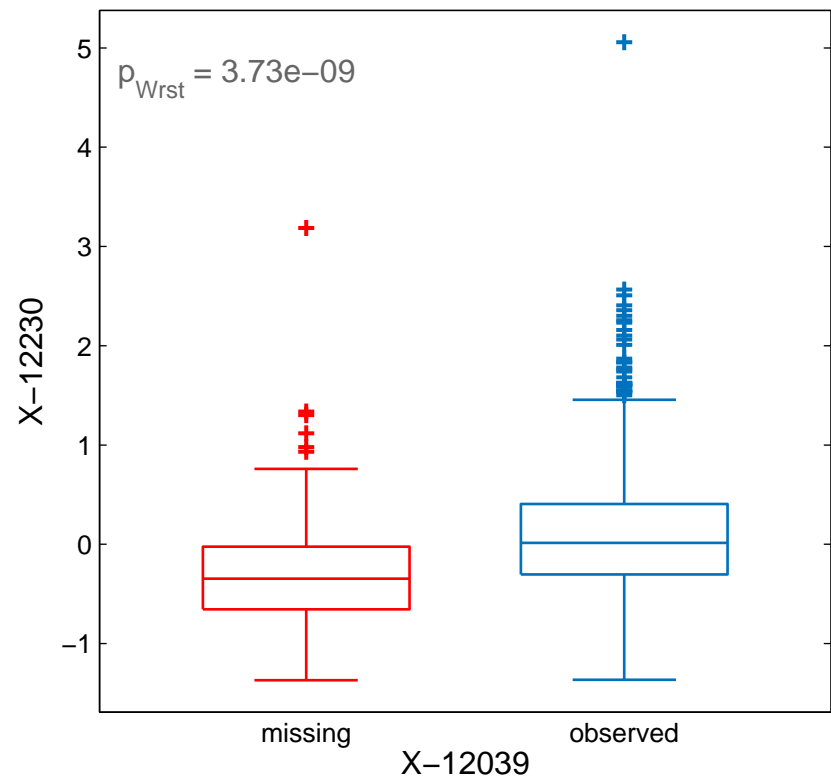
Concentrations of X-11317 in
missing and observed X-12038



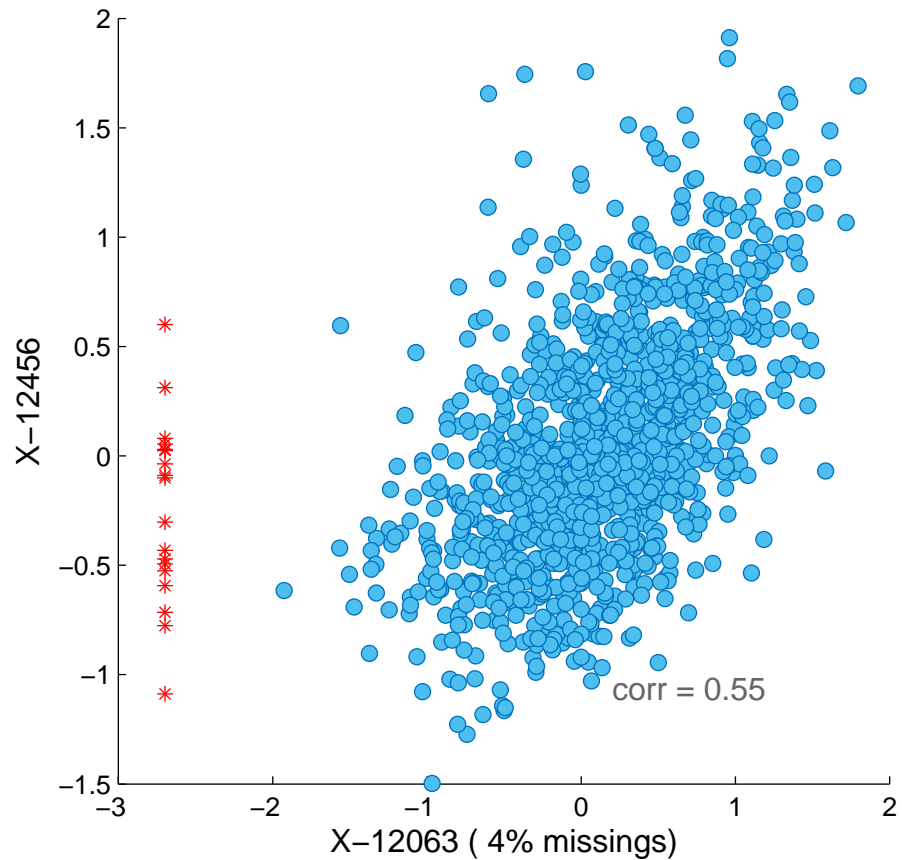
Missing values of X-12039
in X-12230



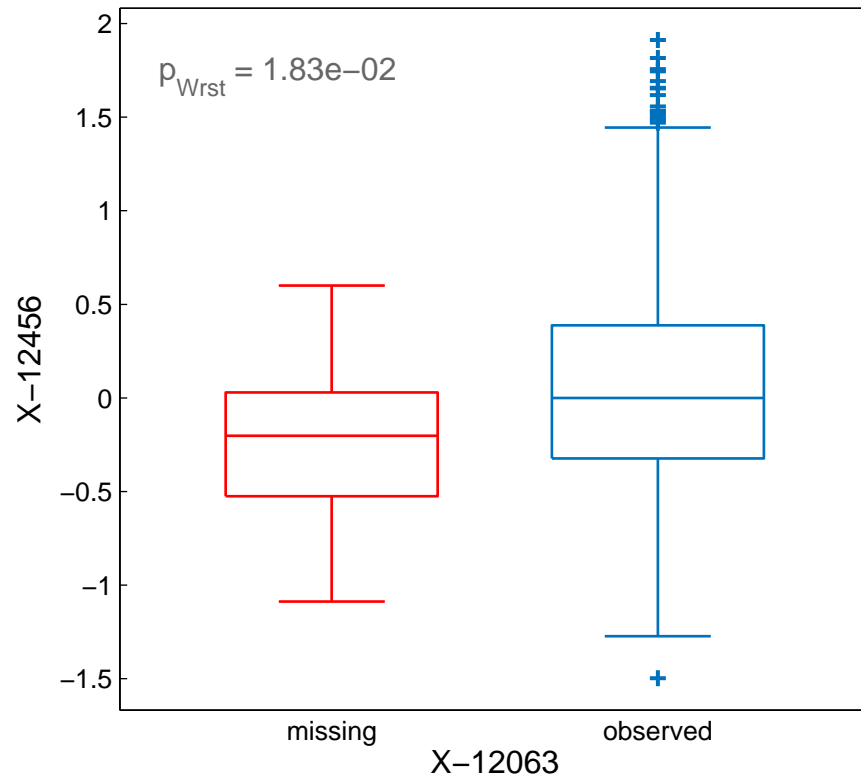
Concentrations of X-12230 in
missing and observed X-12039



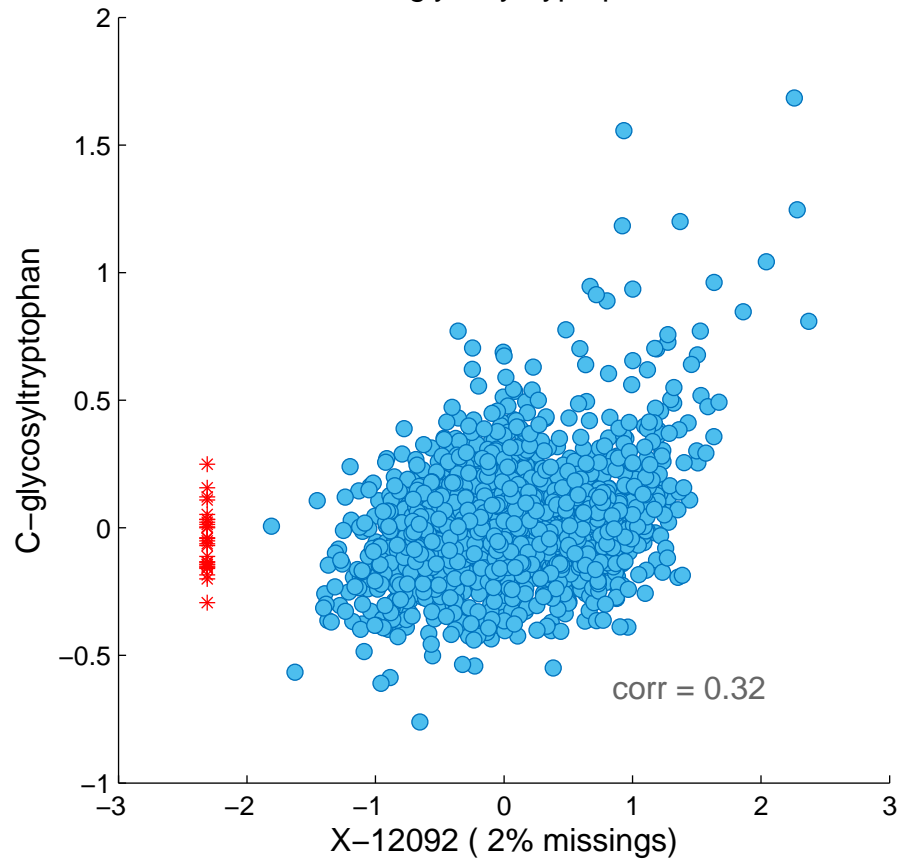
Missing values of X-12063
in X-12456



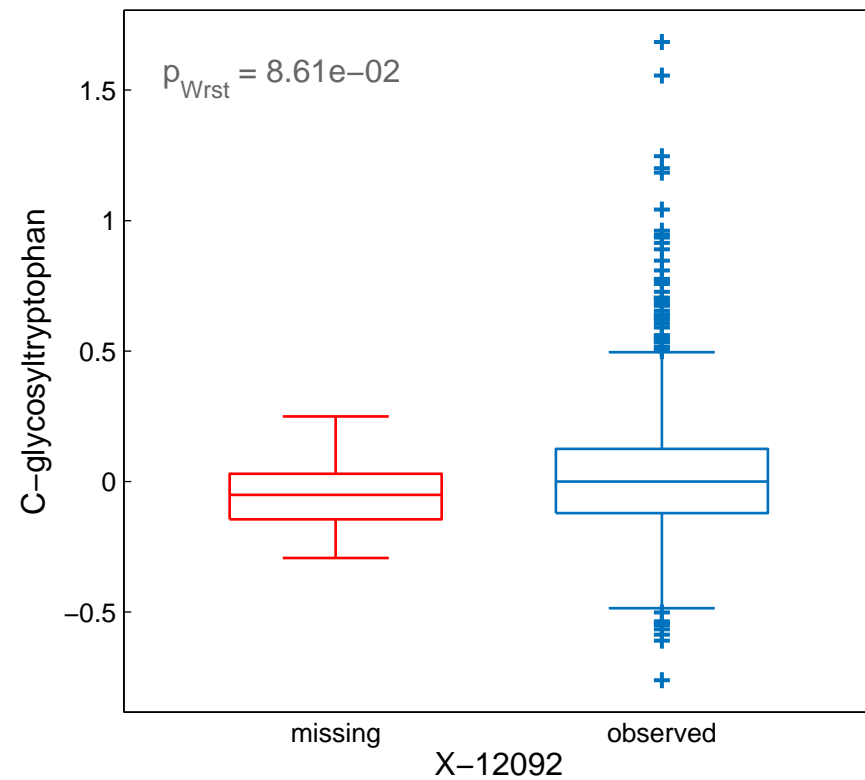
Concentrations of X-12456 in
missing and observed X-12063



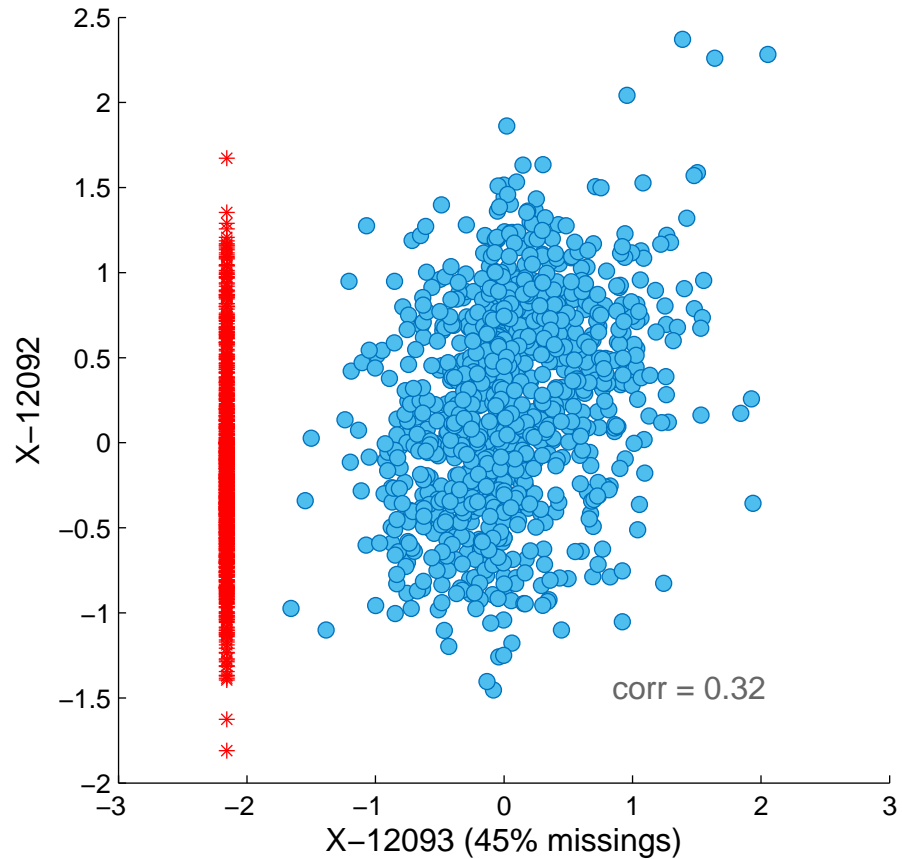
Missing values of X-12092
in C-glycosyltryptophan



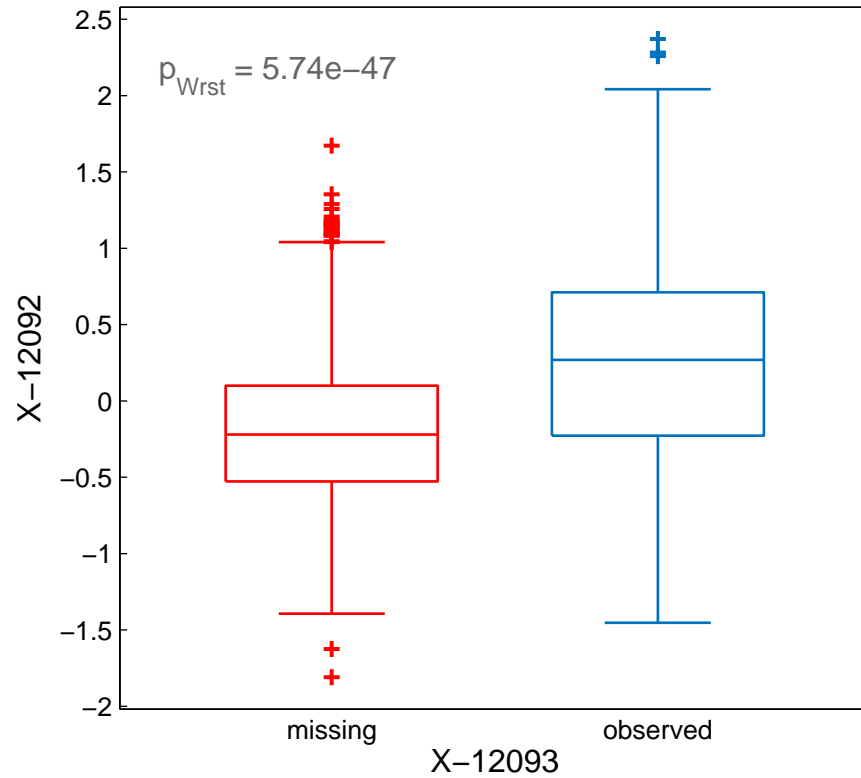
Concentrations of C-glycosyltryptophan in
missing and observed X-12092



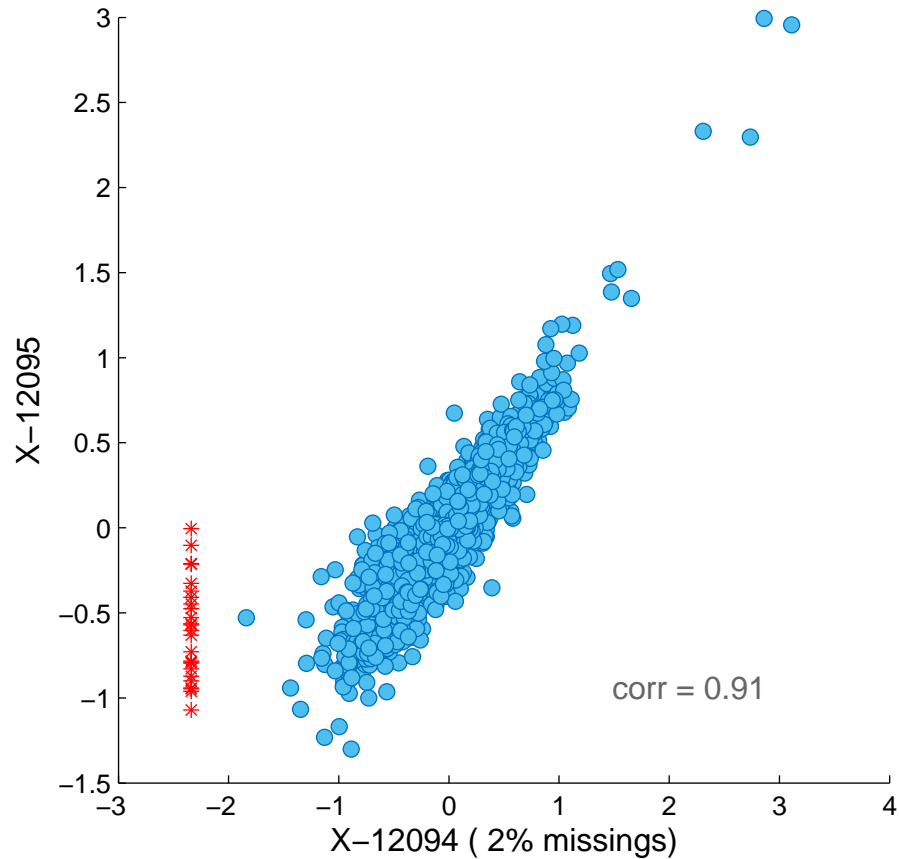
Missing values of X-12093
in X-12092



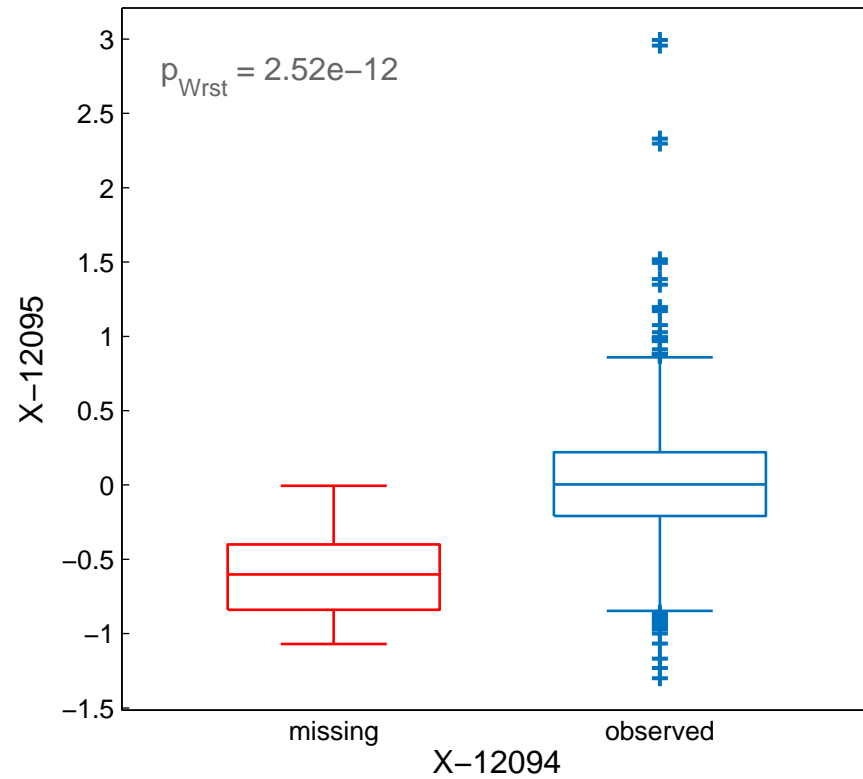
Concentrations of X-12092 in
missing and observed X-12093



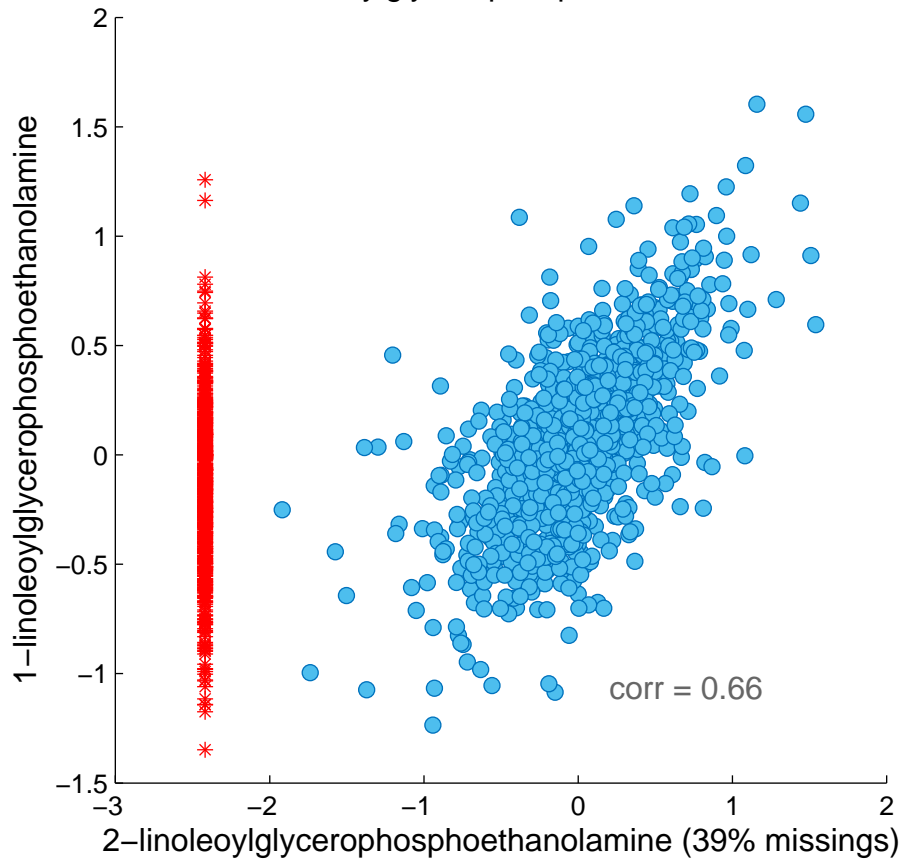
Missing values of X-12094
in X-12095



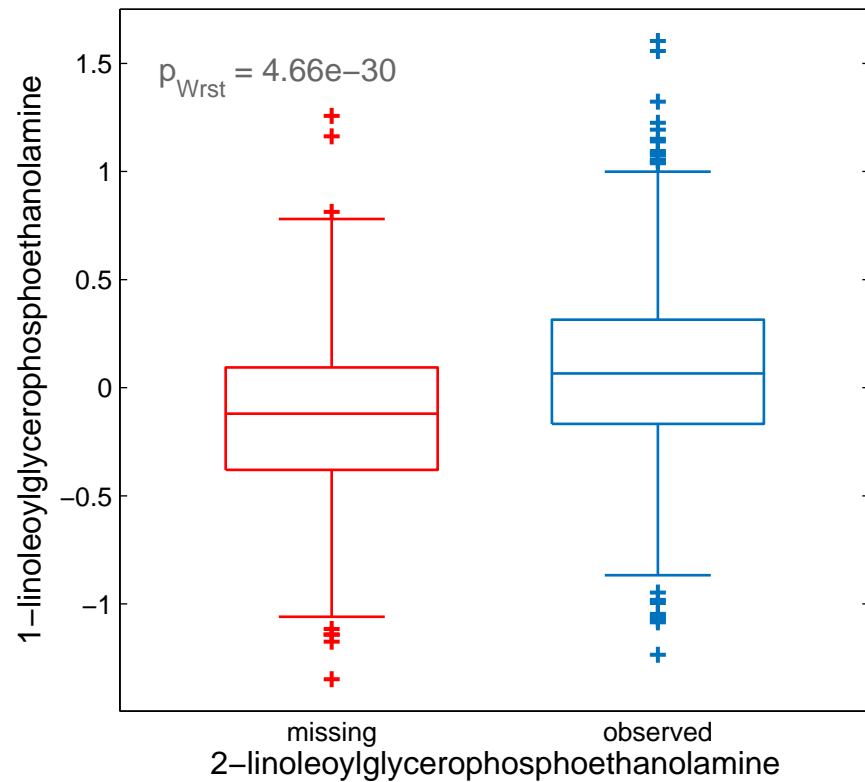
Concentrations of X-12095 in
missing and observed X-12094



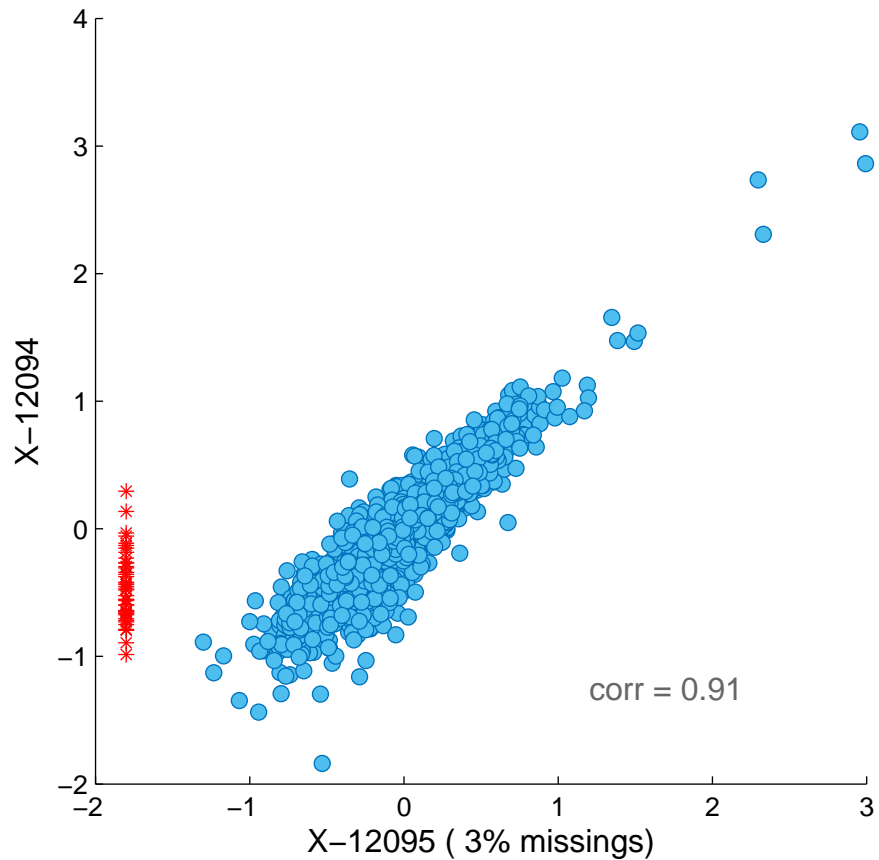
Missing values of 2-linoleoylglycerophosphoethanolamine in 1-linoleoylglycerophosphoethanolamine



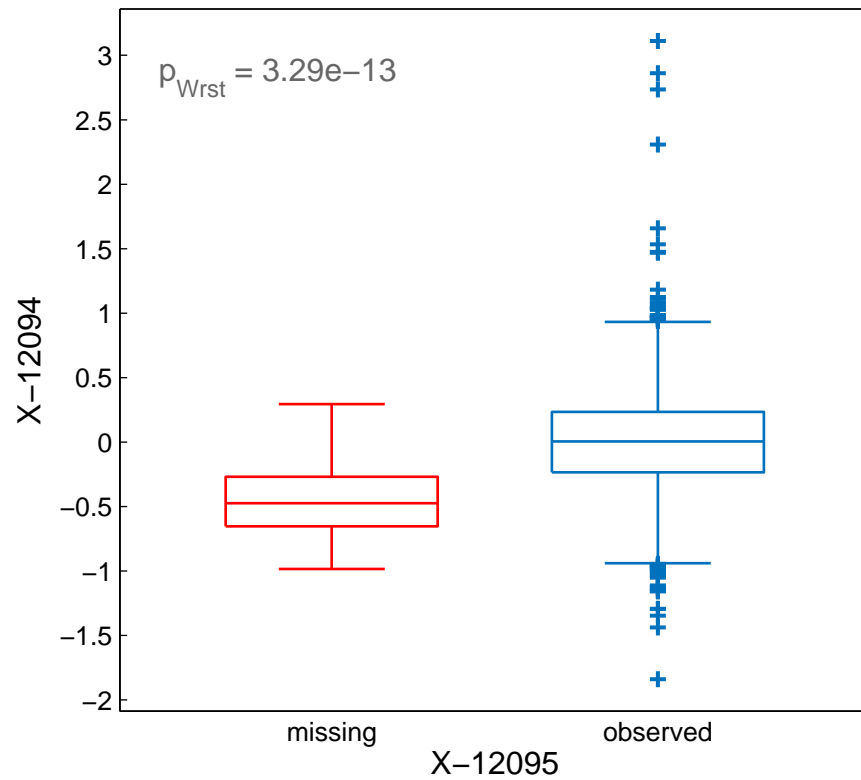
Concentrations of 1-linoleoylglycerophosphoethanolamine in missing and observed 2-linoleoylglycerophosphoethanolamine



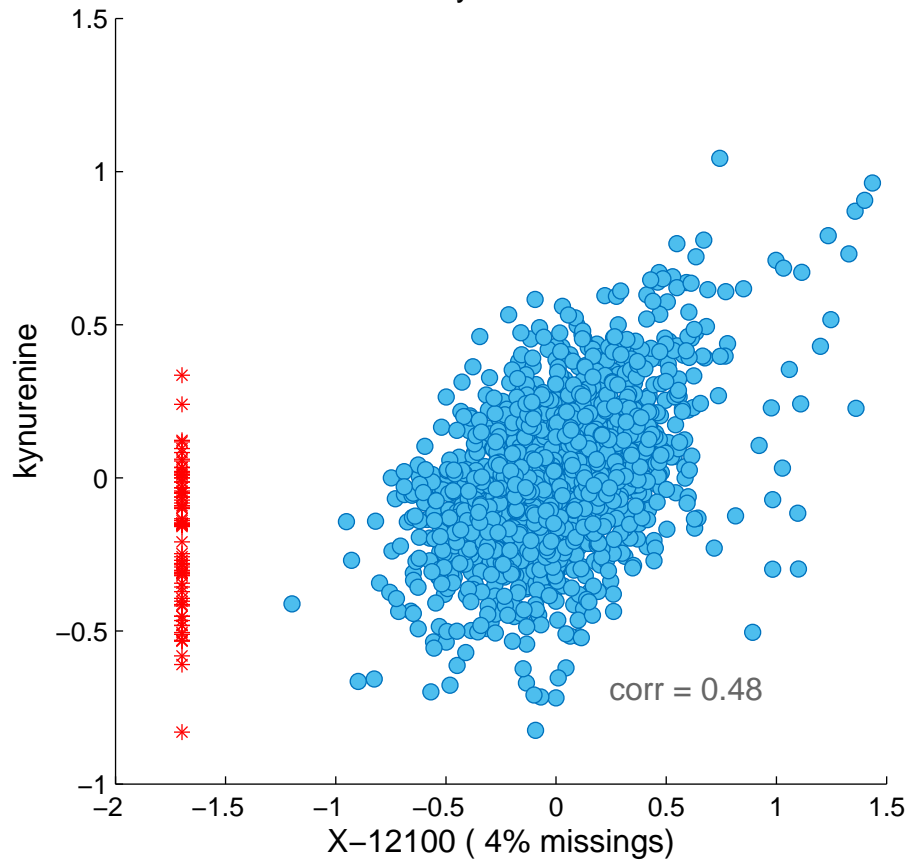
Missing values of X-12095
in X-12094



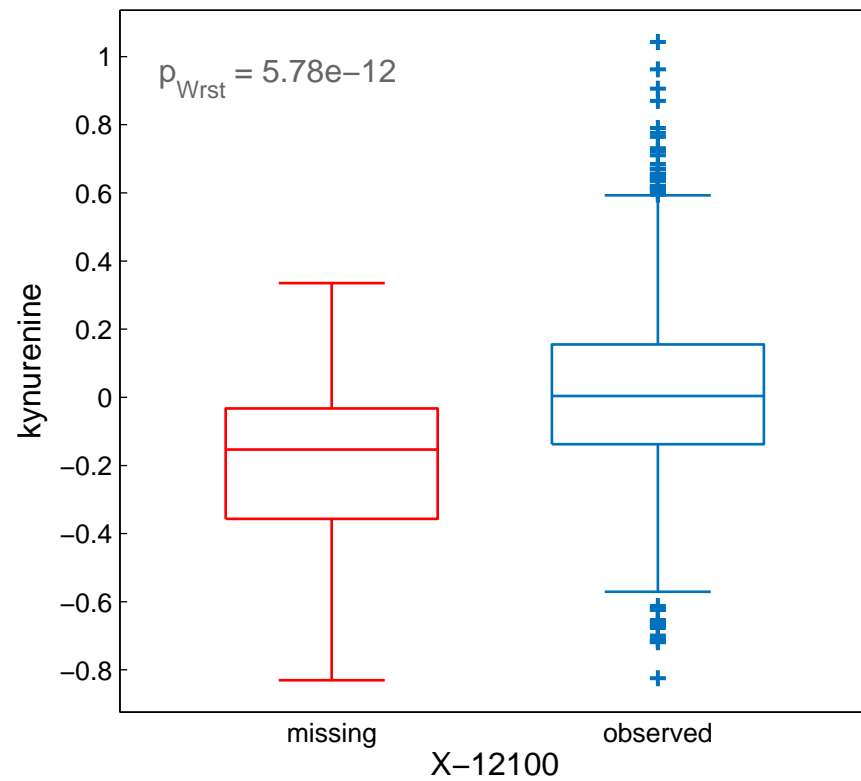
Concentrations of X-12094 in
missing and observed X-12095



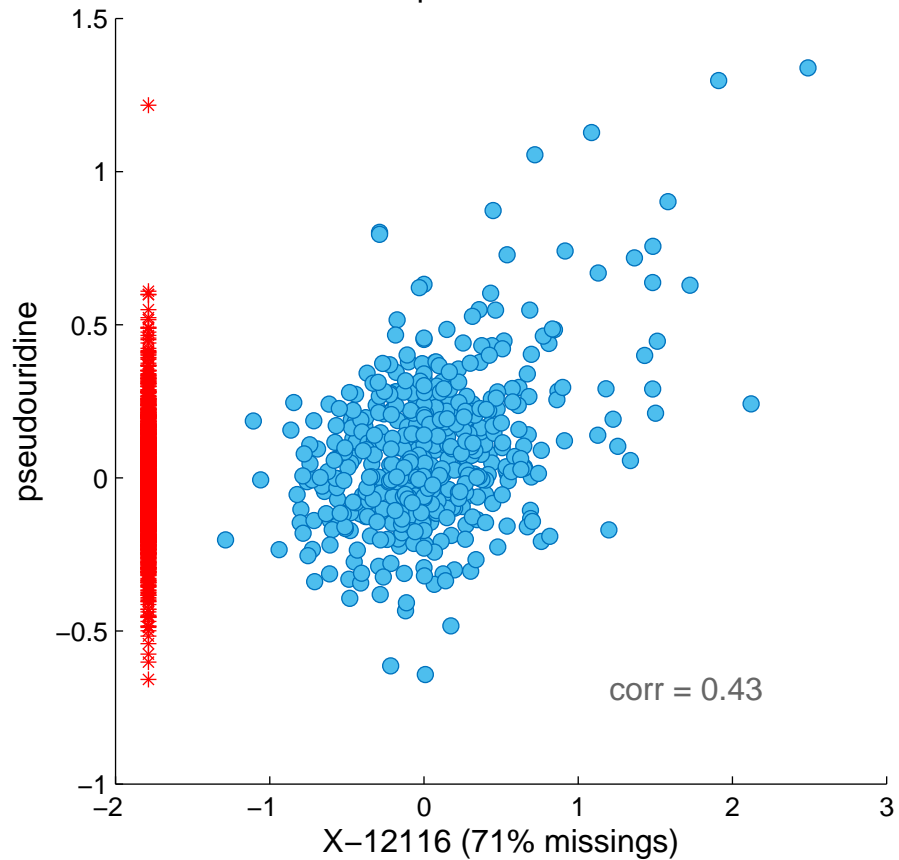
Missing values of X-12100
in kynurenine



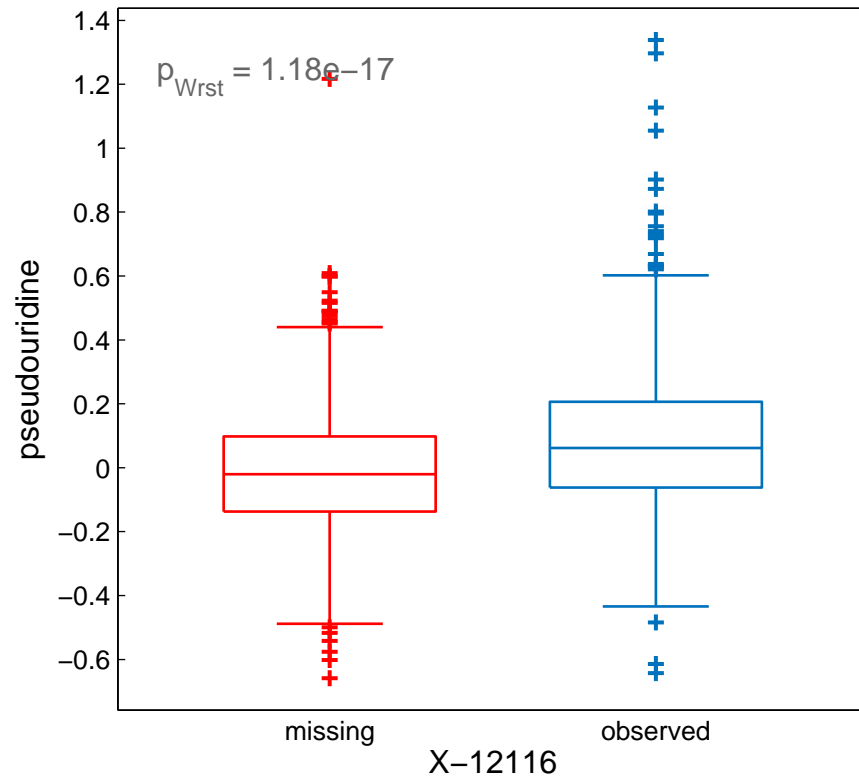
Concentrations of kynurenine in
missing and observed X-12100



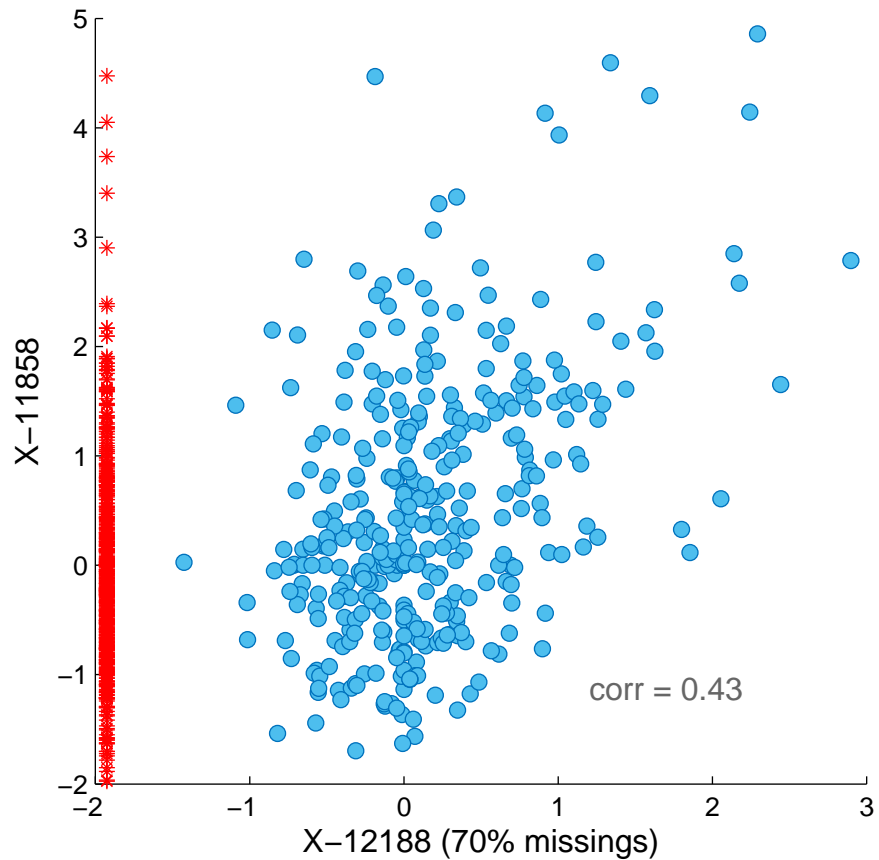
Missing values of X-12116
in pseudouridine



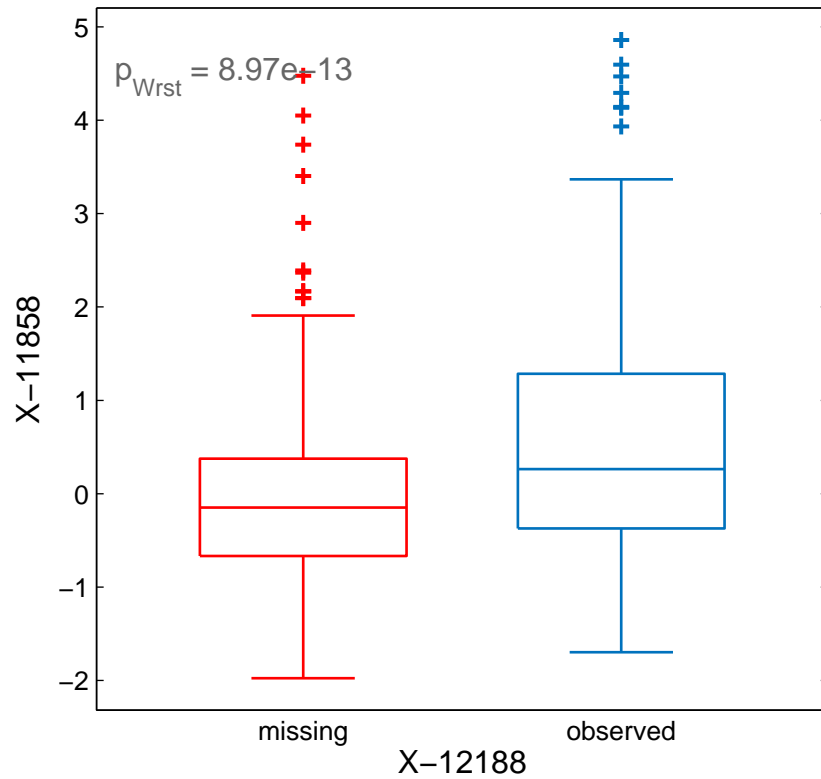
Concentrations of pseudouridine in
missing and observed X-12116



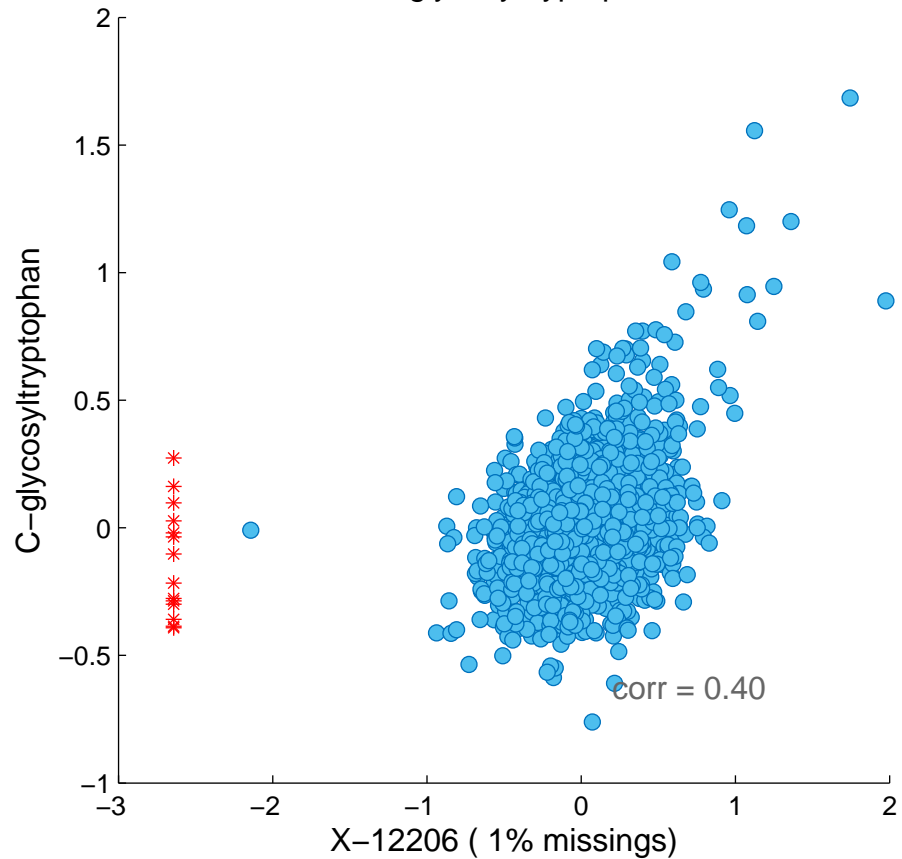
Missing values of X-12188
in X-11858



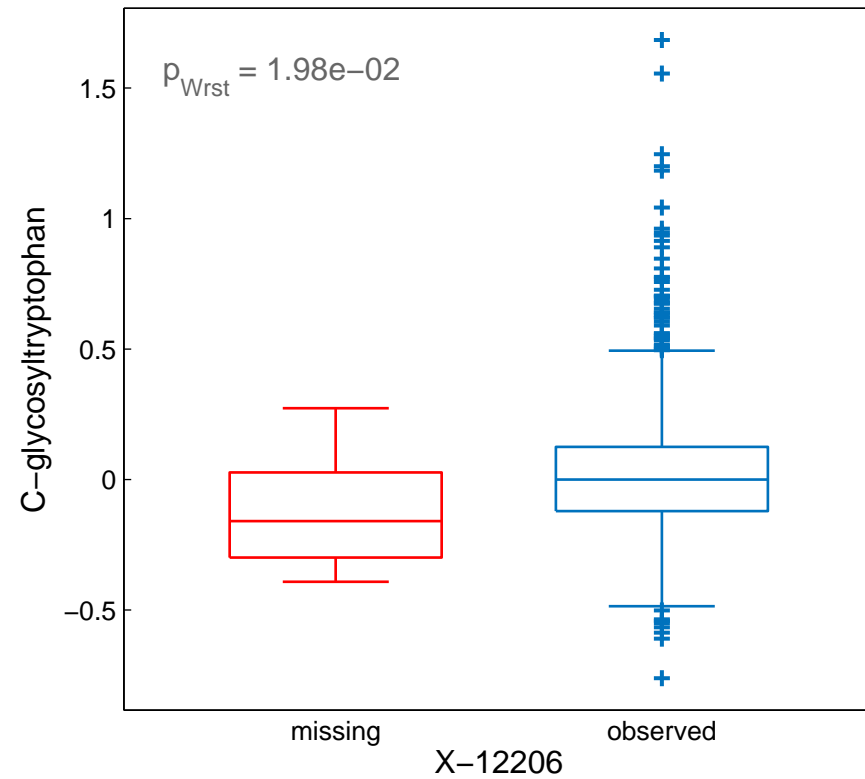
Concentrations of X-11858 in
missing and observed X-12188



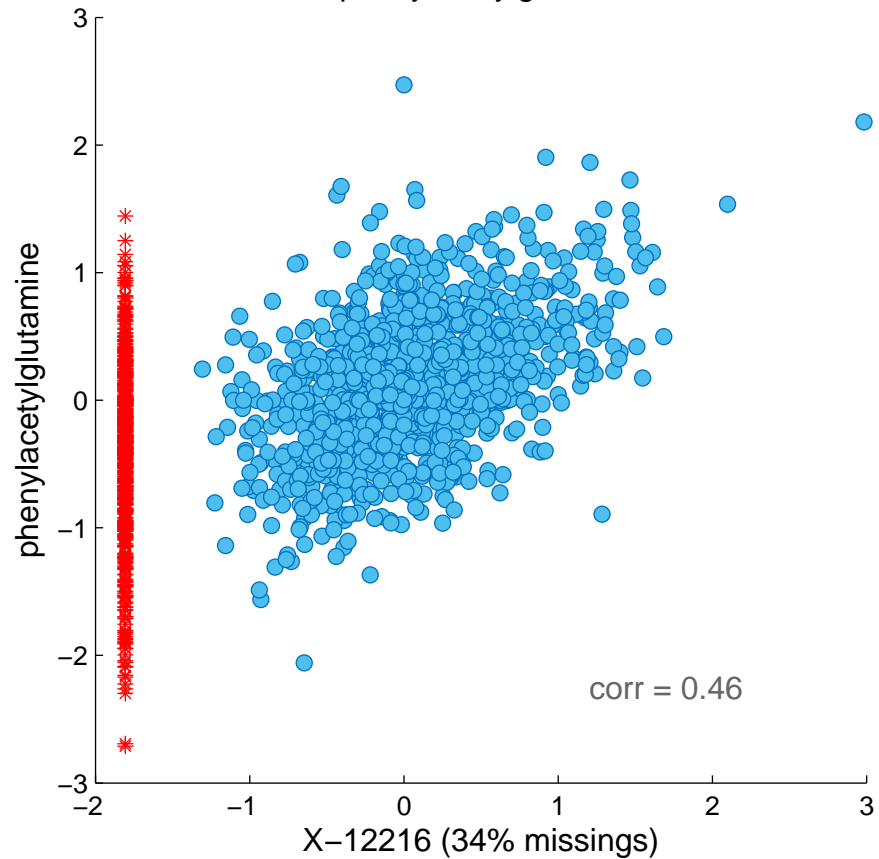
Missing values of X-12206
in C-glycosyltryptophan



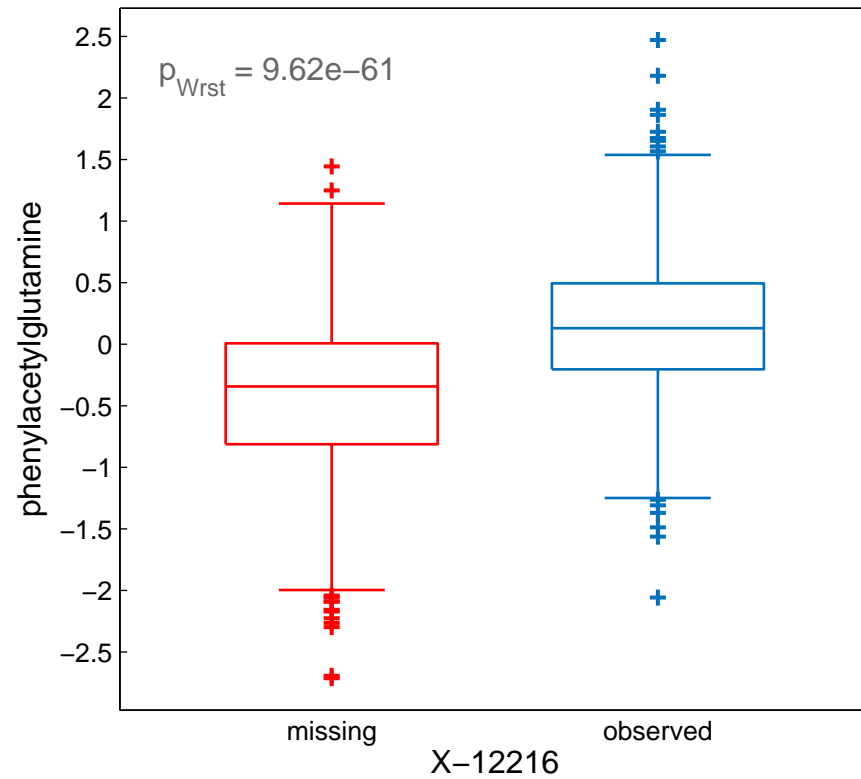
Concentrations of C-glycosyltryptophan in
missing and observed X-12206



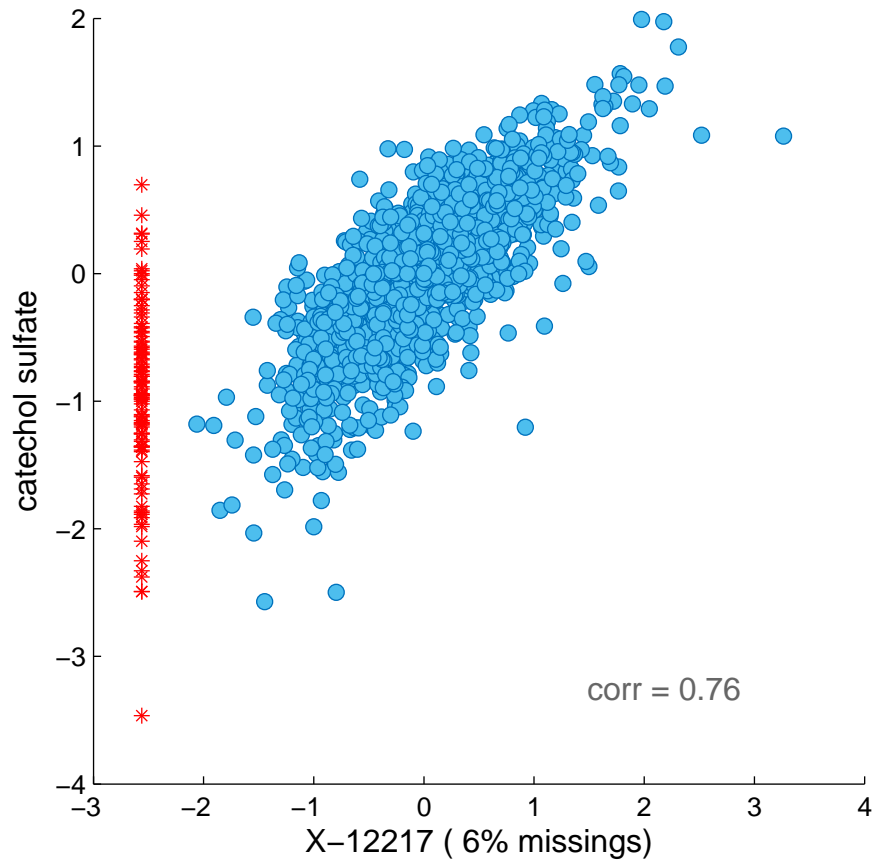
Missing values of X-12216
in phenylacetylglutamine



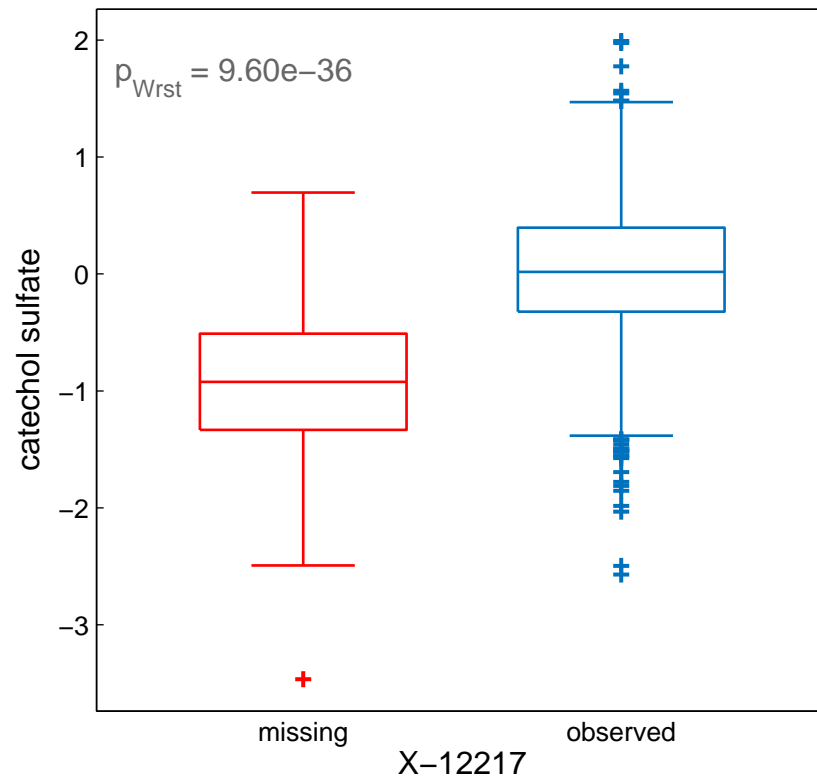
Concentrations of phenylacetylglutamine in
missing and observed X-12216



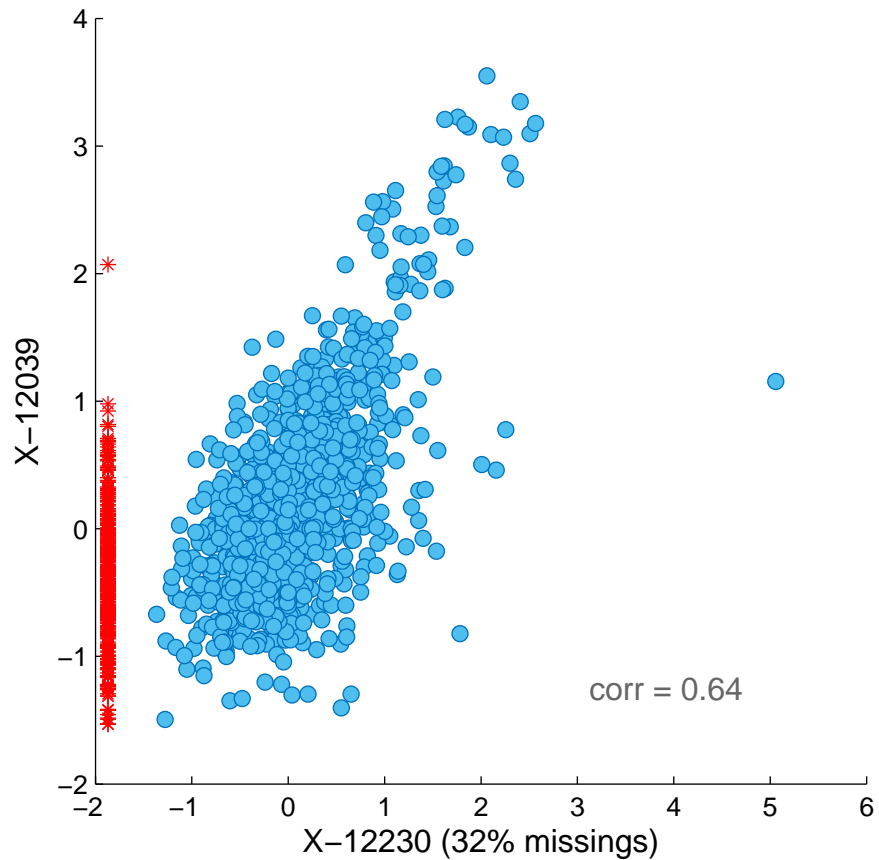
Missing values of X-12217
in catechol sulfate



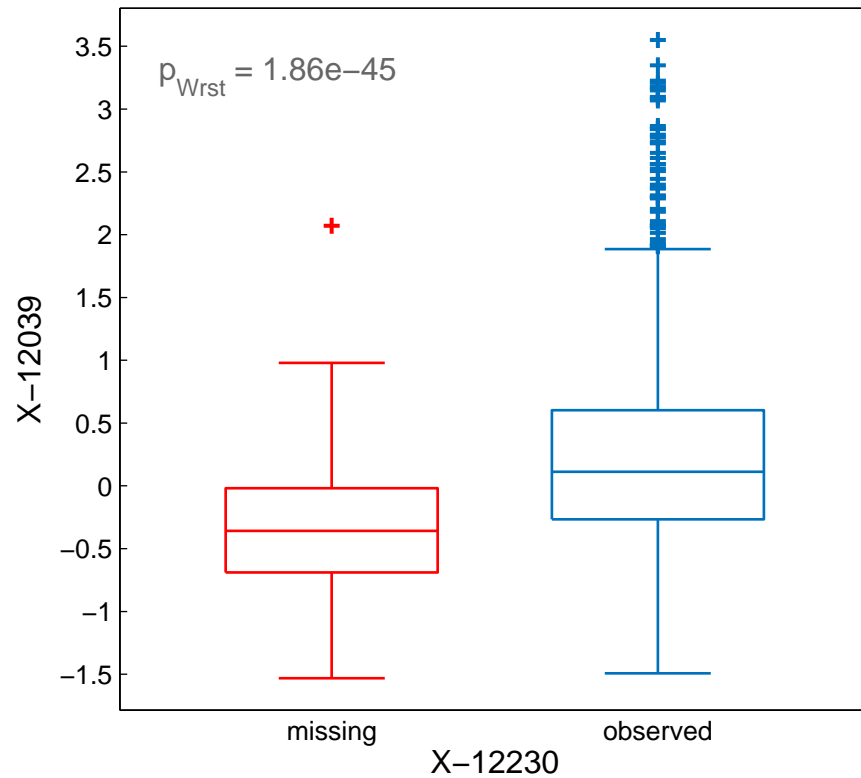
Concentrations of catechol sulfate in
missing and observed X-12217



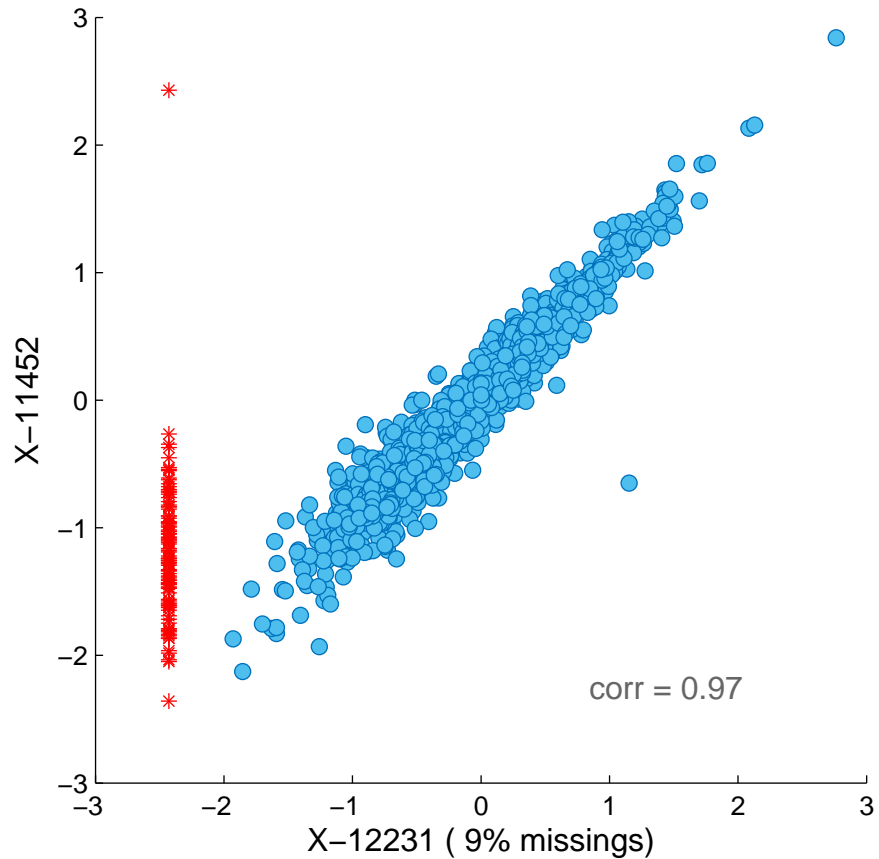
Missing values of X-12230
in X-12039



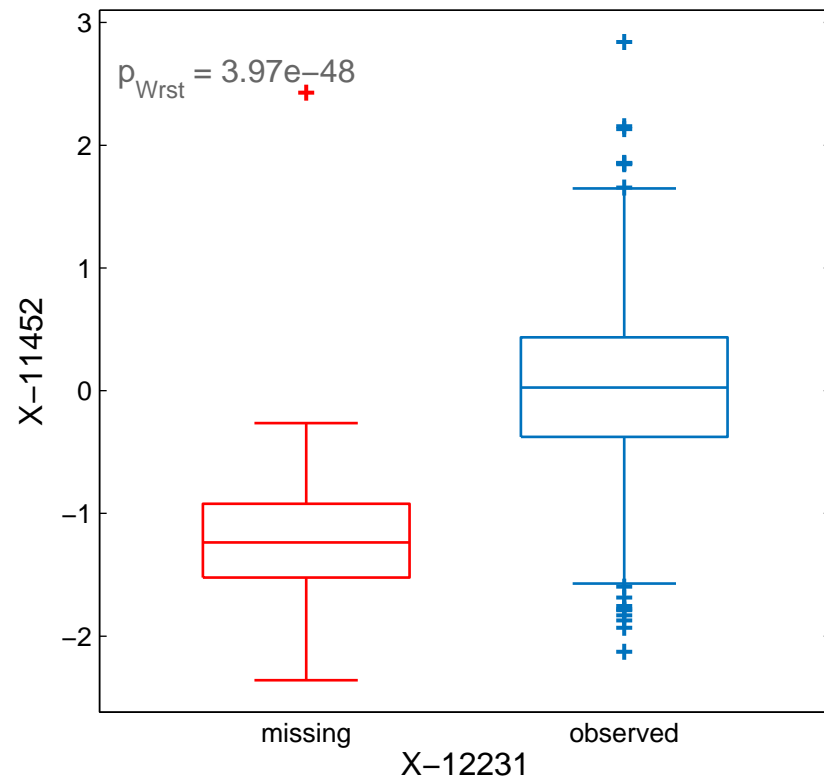
Concentrations of X-12039 in
missing and observed X-12230



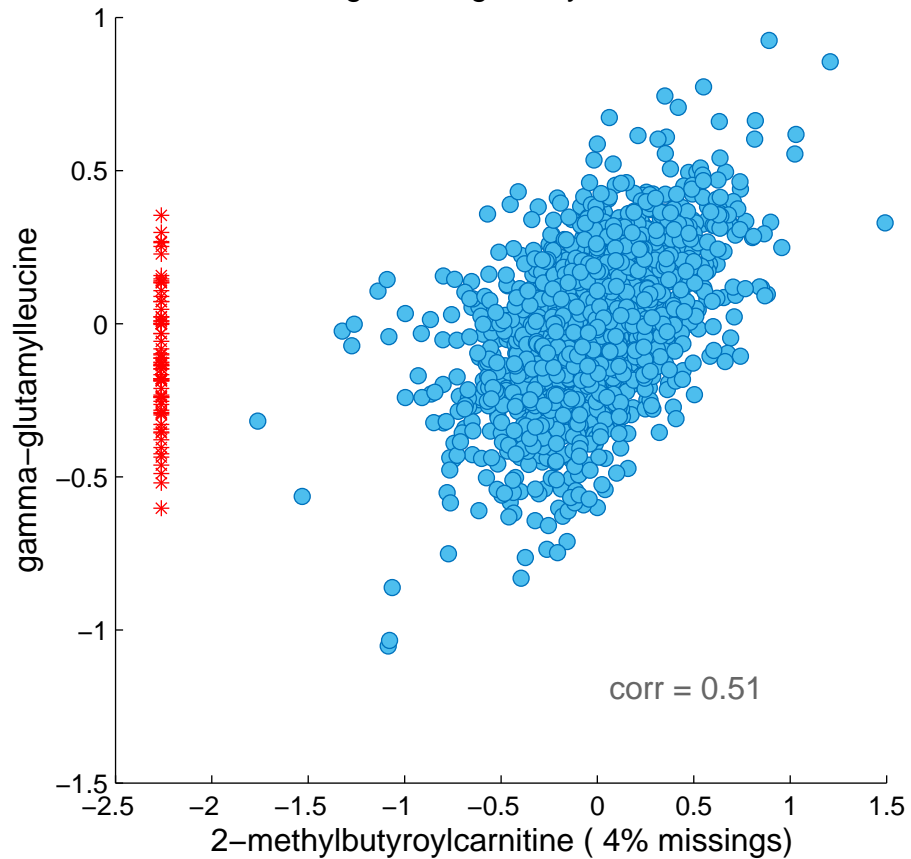
Missing values of X-12231
in X-11452



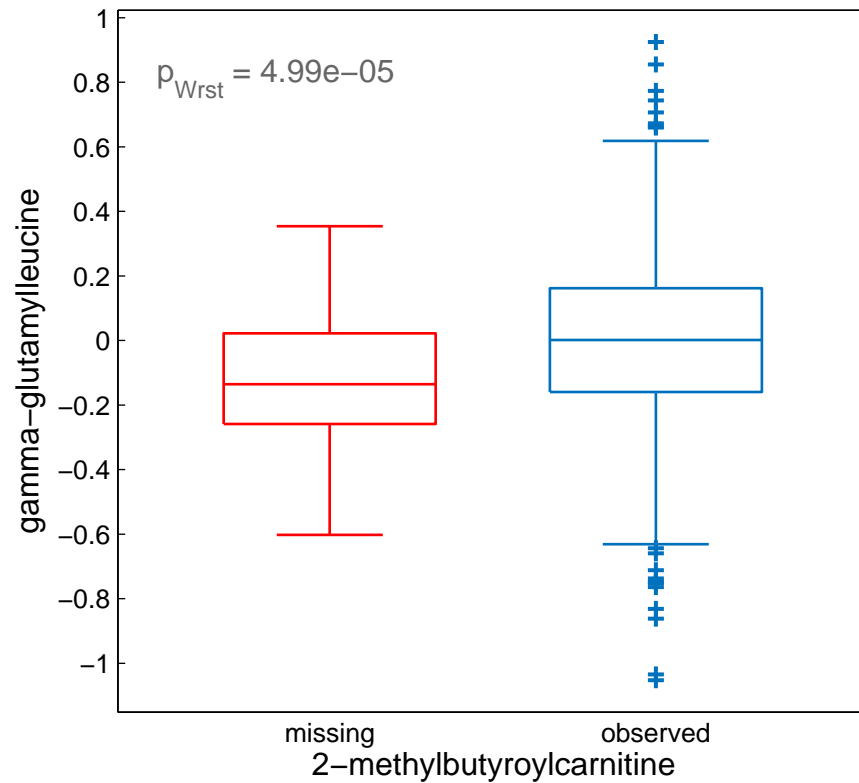
Concentrations of X-11452 in
missing and observed X-12231



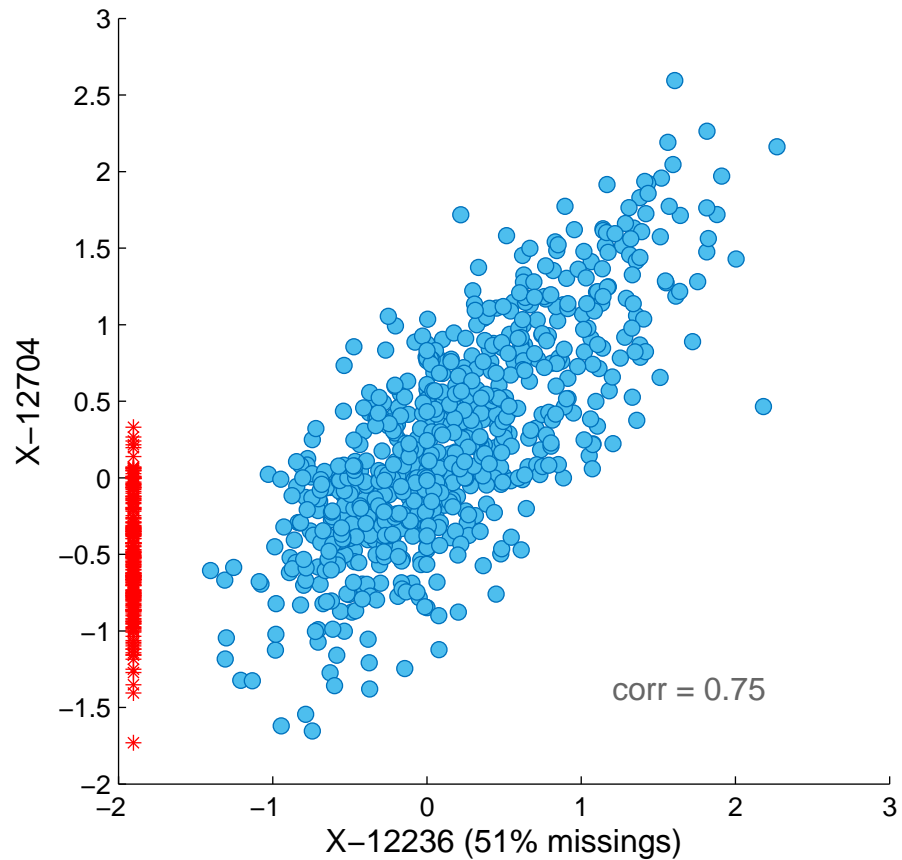
Missing values of 2-methylbutyrylcarnitine in gamma-glutamylleucine



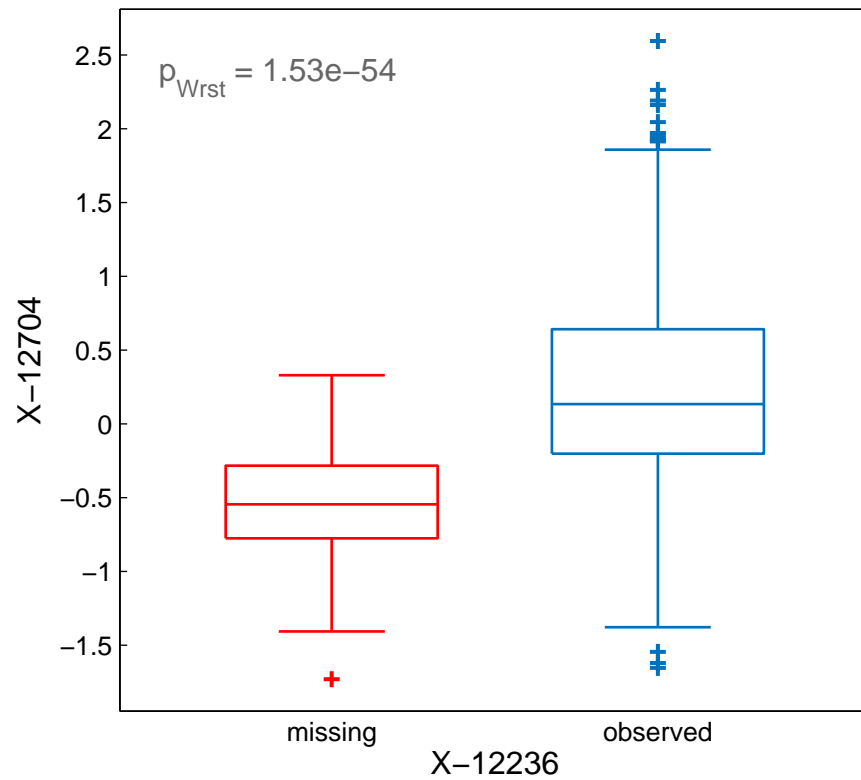
Concentrations of gamma-glutamylleucine in missing and observed 2-methylbutyrylcarnitine



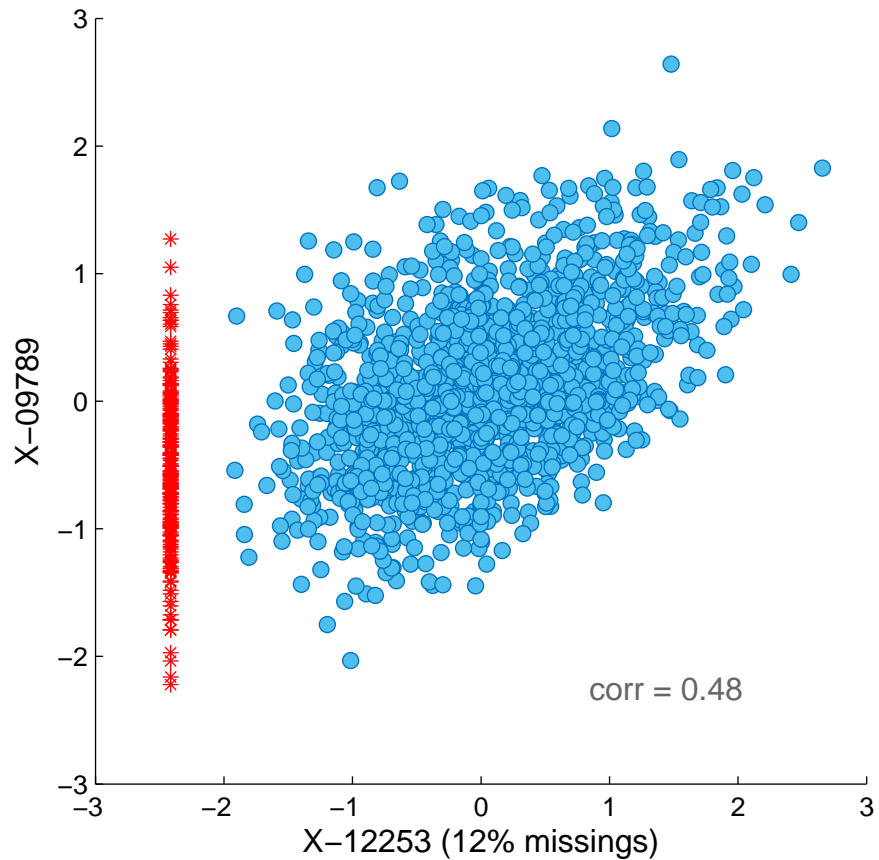
Missing values of X-12236
in X-12704



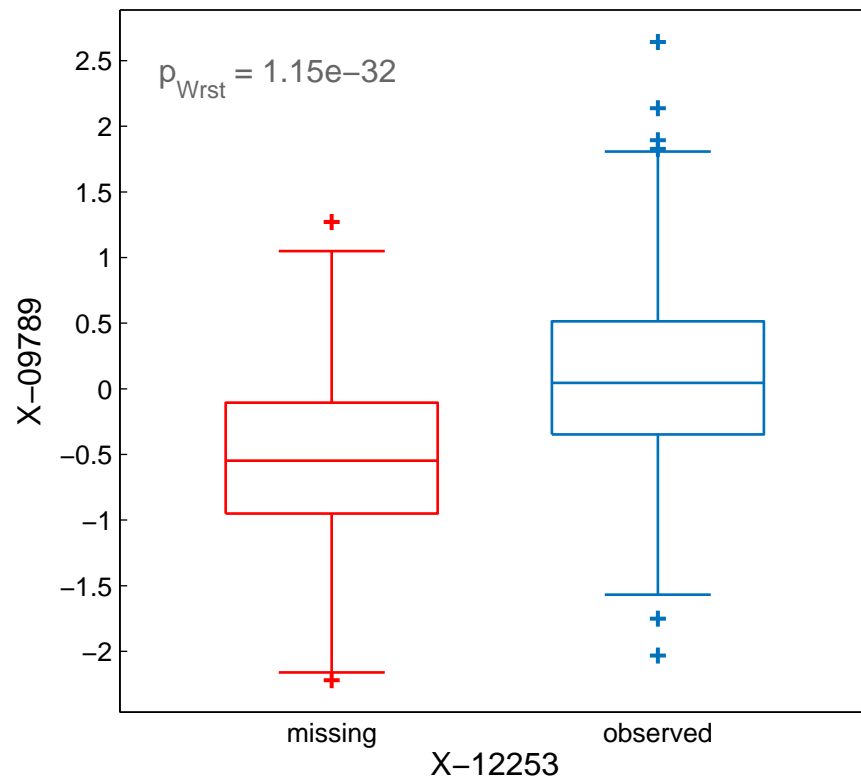
Concentrations of X-12704 in
missing and observed X-12236



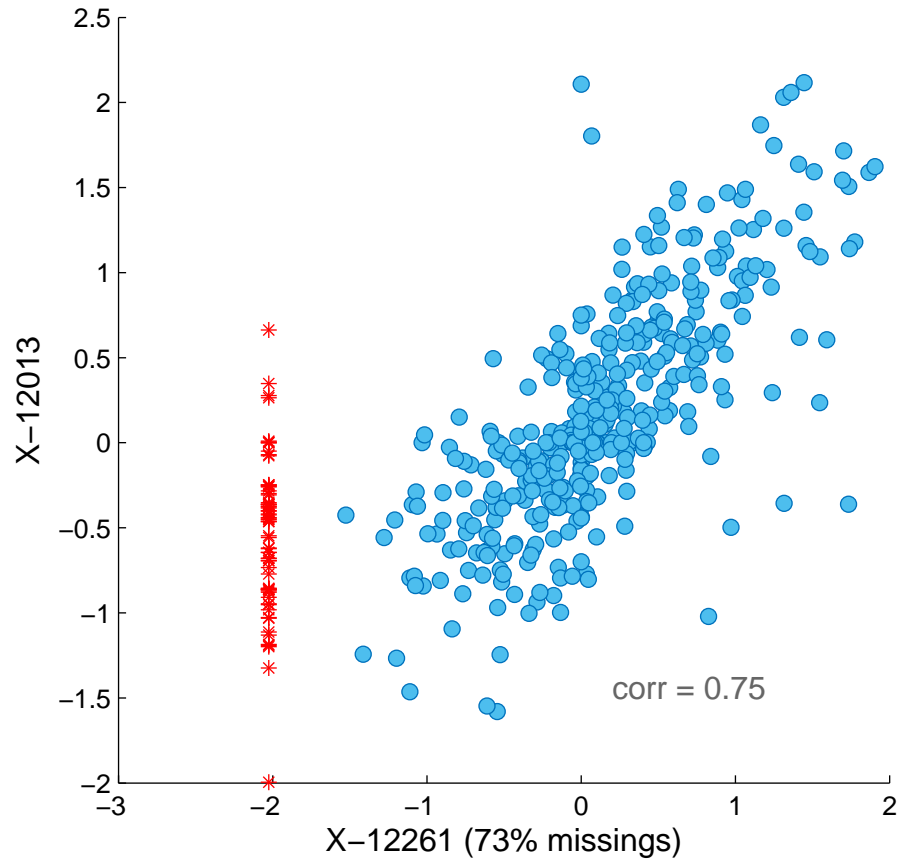
Missing values of X-12253
in X-09789



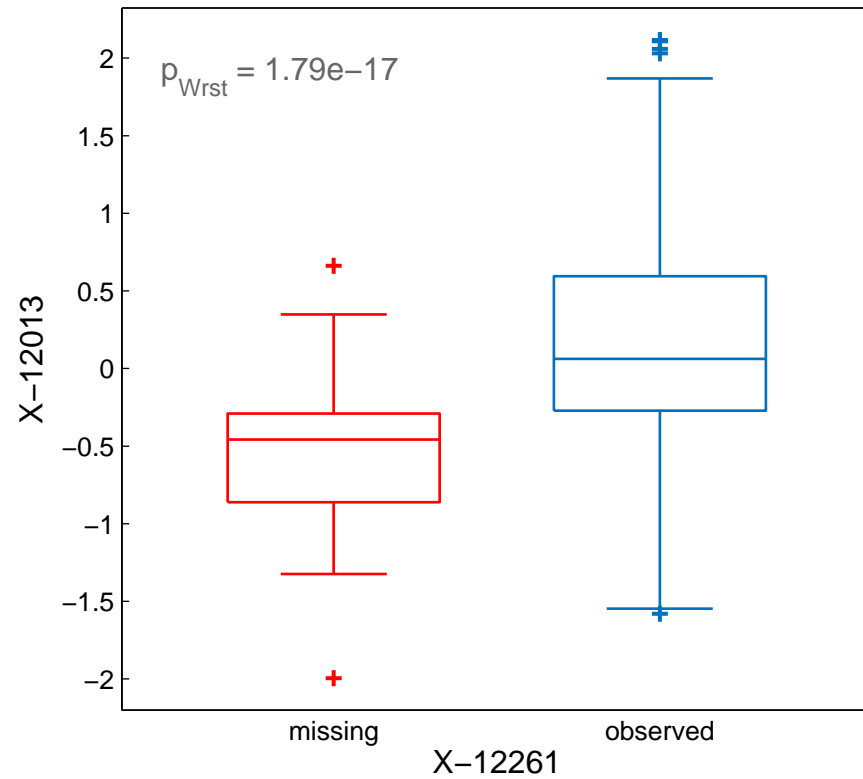
Concentrations of X-09789 in
missing and observed X-12253



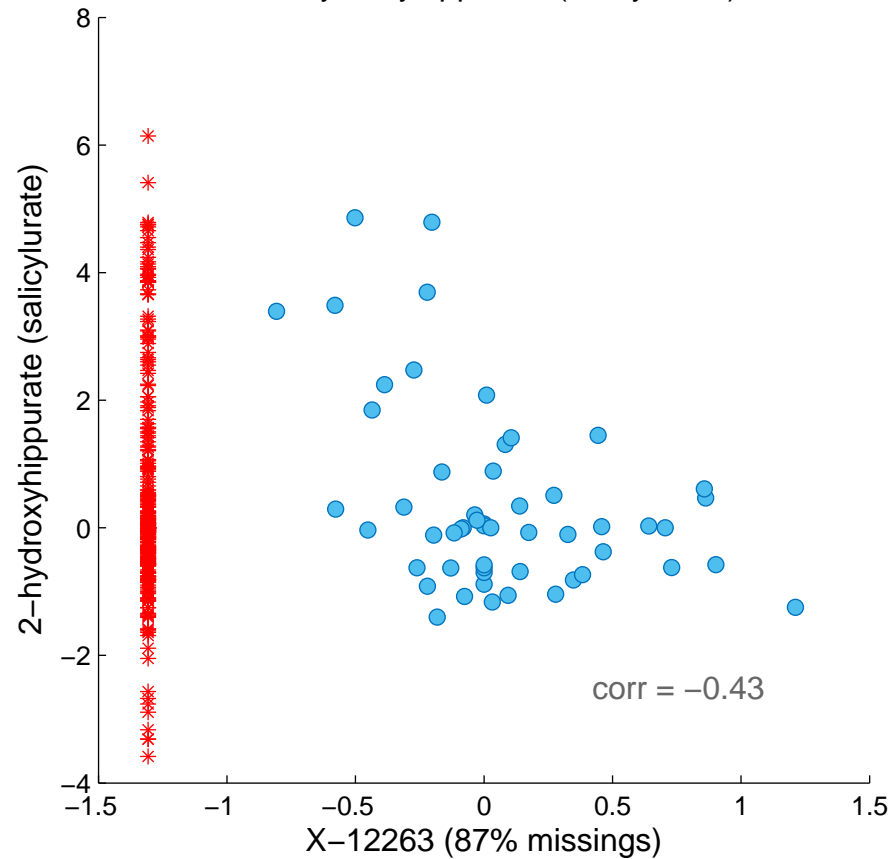
Missing values of X-12261
in X-12013



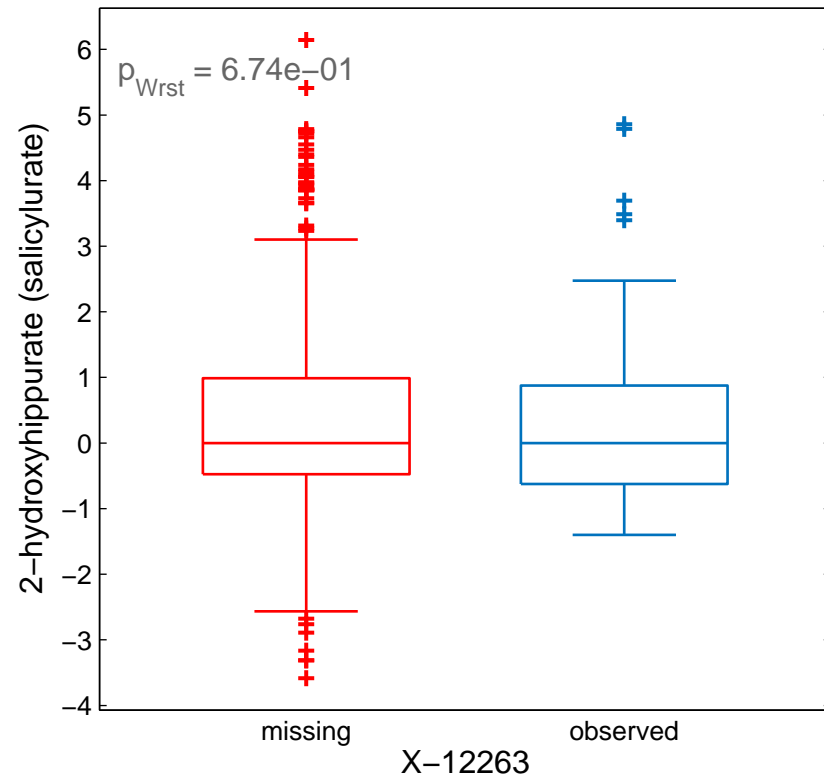
Concentrations of X-12013 in
missing and observed X-12261



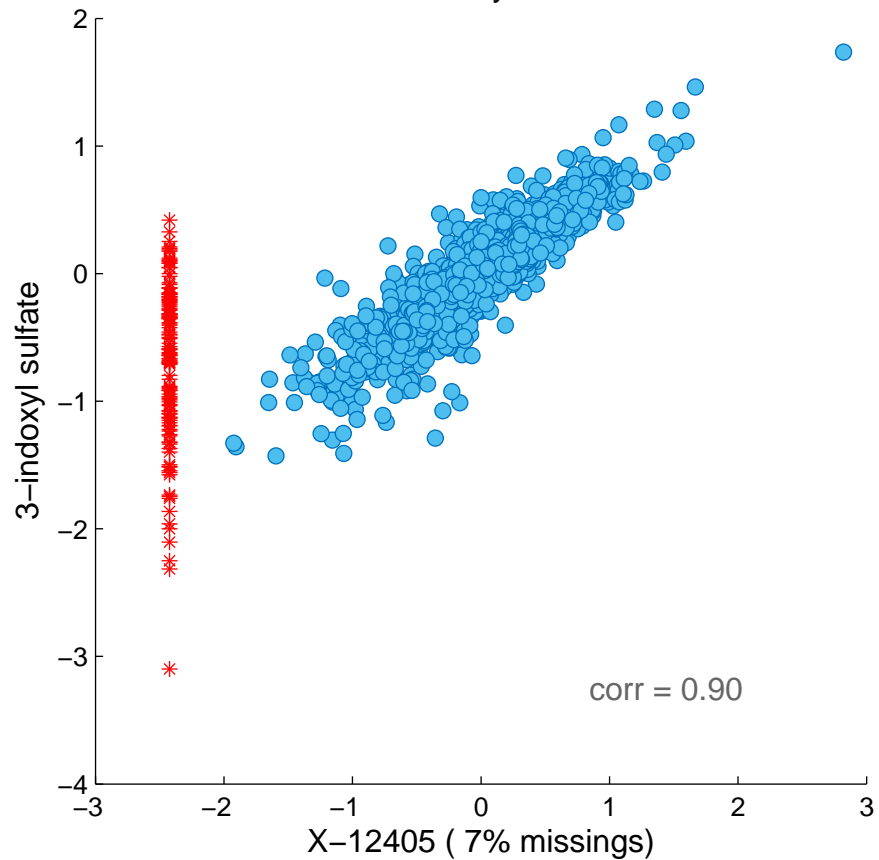
Missing values of X-12263
in 2-hydroxyhippurate (salicylurate)



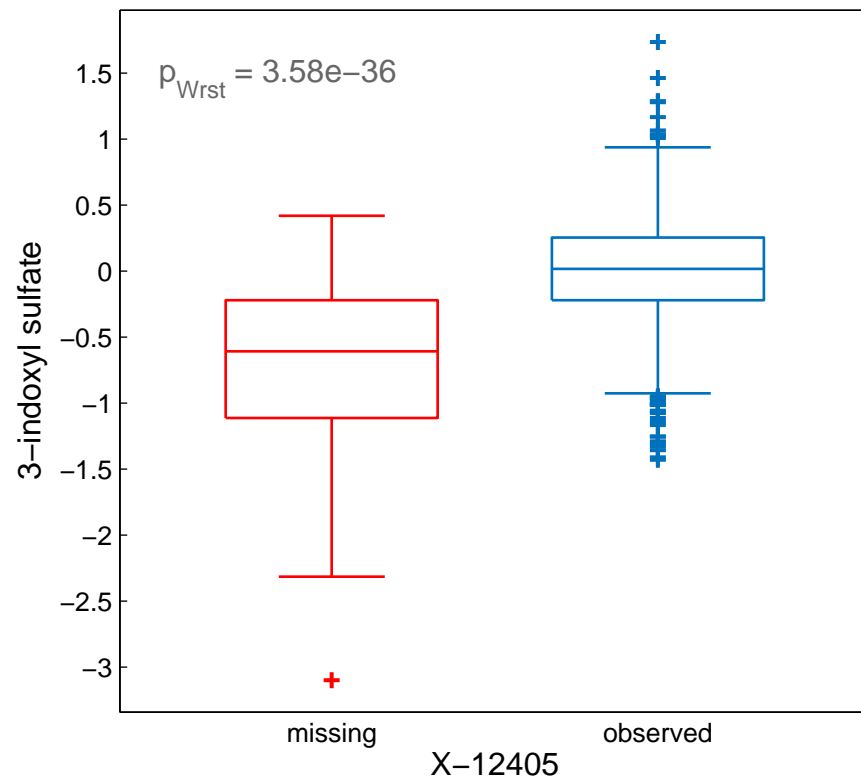
Concentrations of 2-hydroxyhippurate (salicylurate) in
missing and observed X-12263



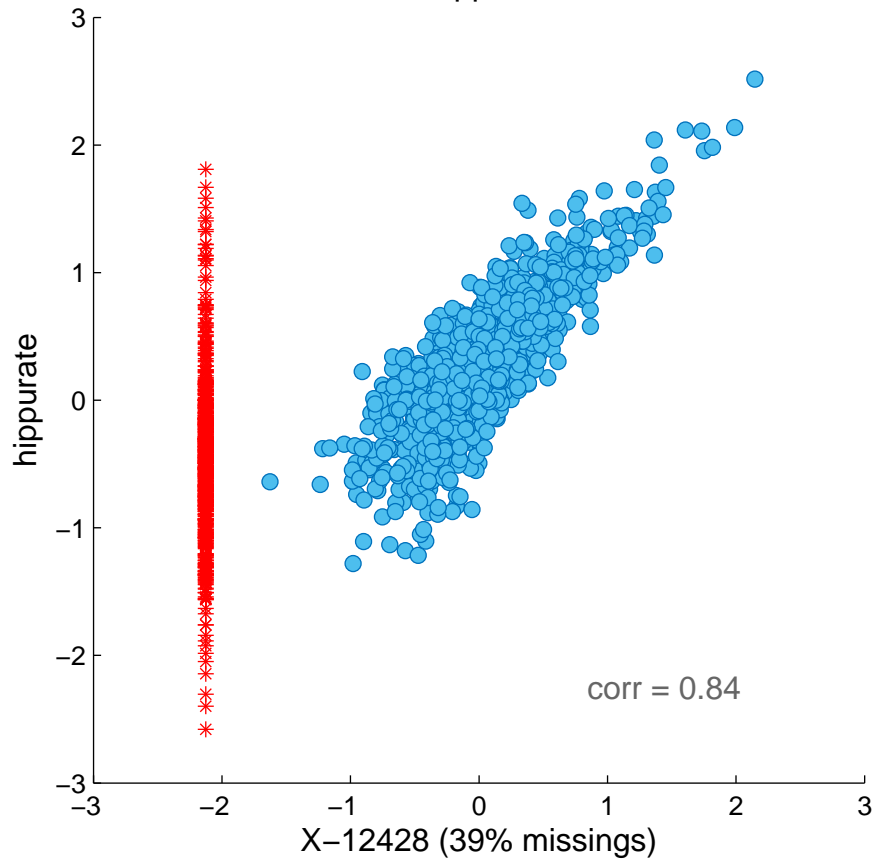
Missing values of X-12405
in 3-indoxyl sulfate



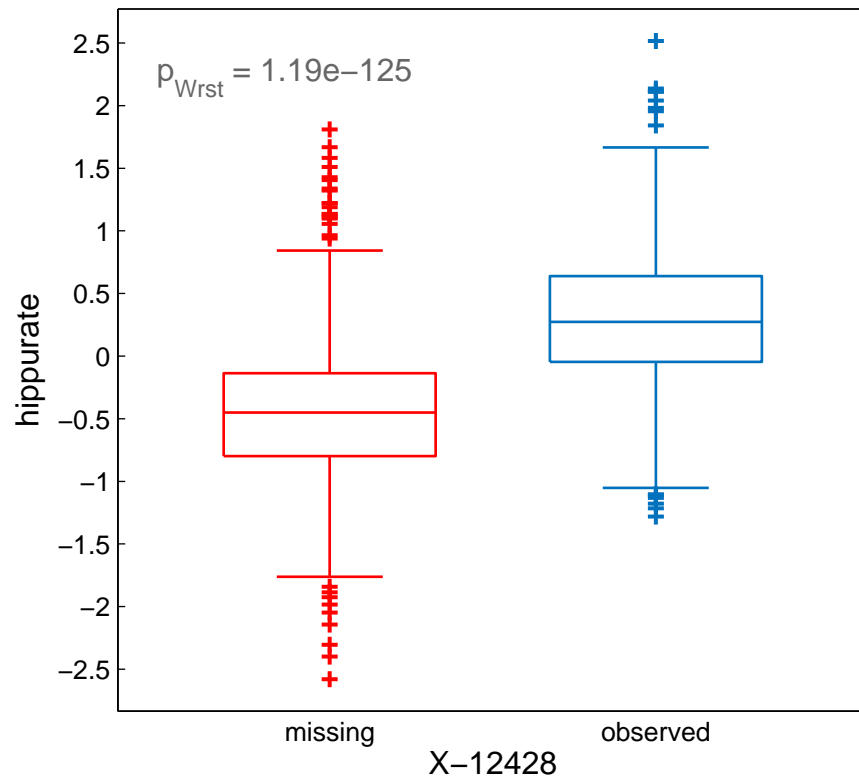
Concentrations of 3-indoxyl sulfate in
missing and observed X-12405



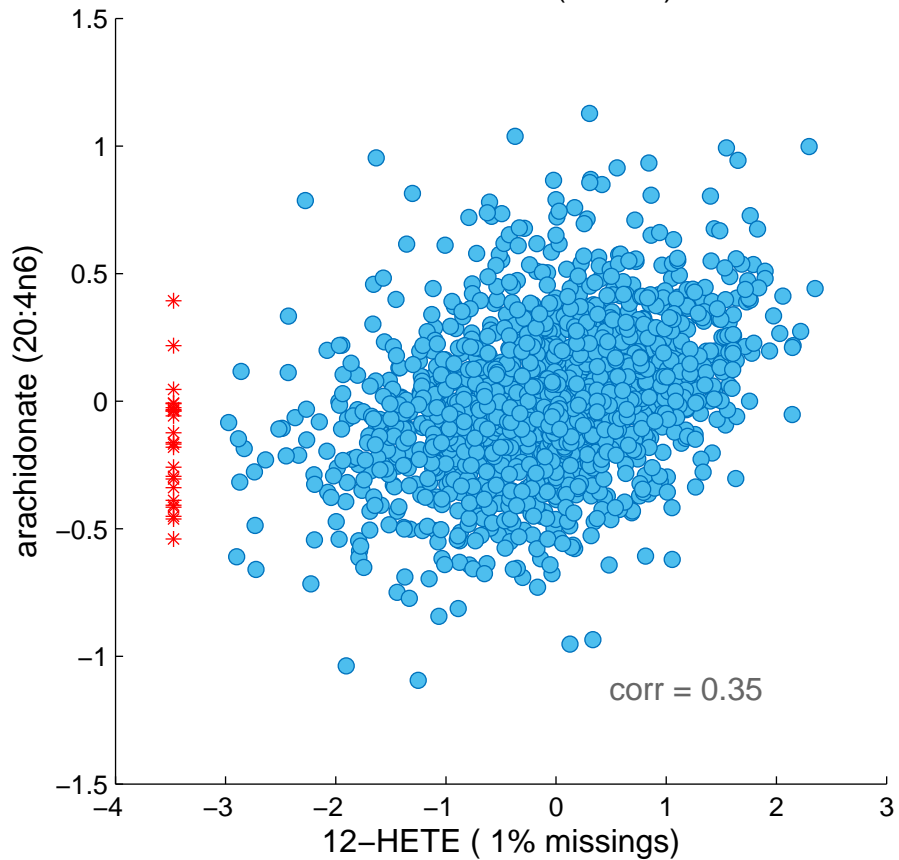
Missing values of X-12428
in hippurate



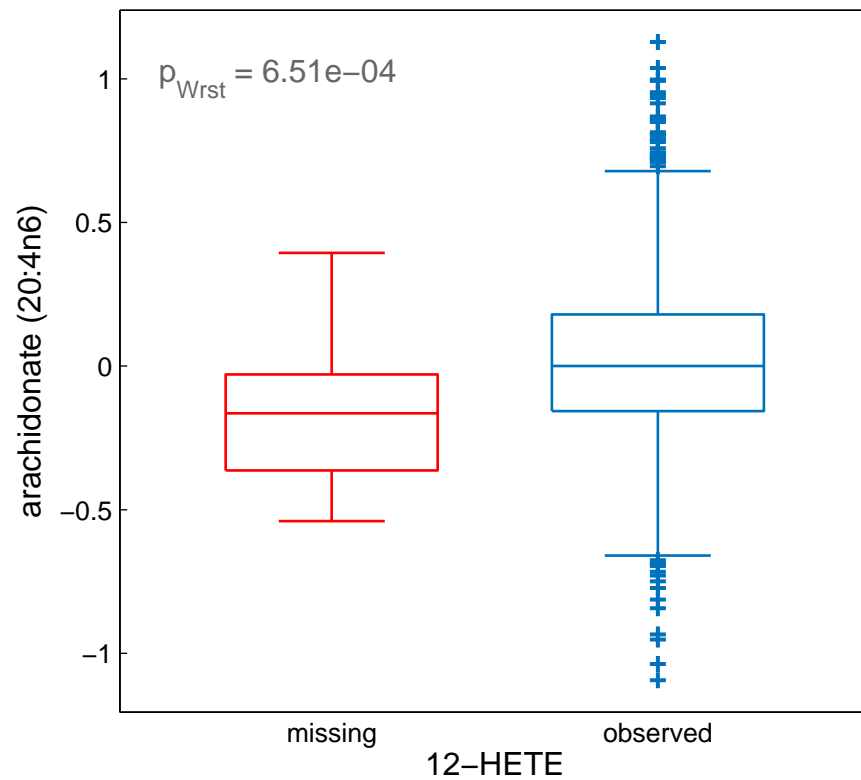
Concentrations of hippurate in
missing and observed X-12428



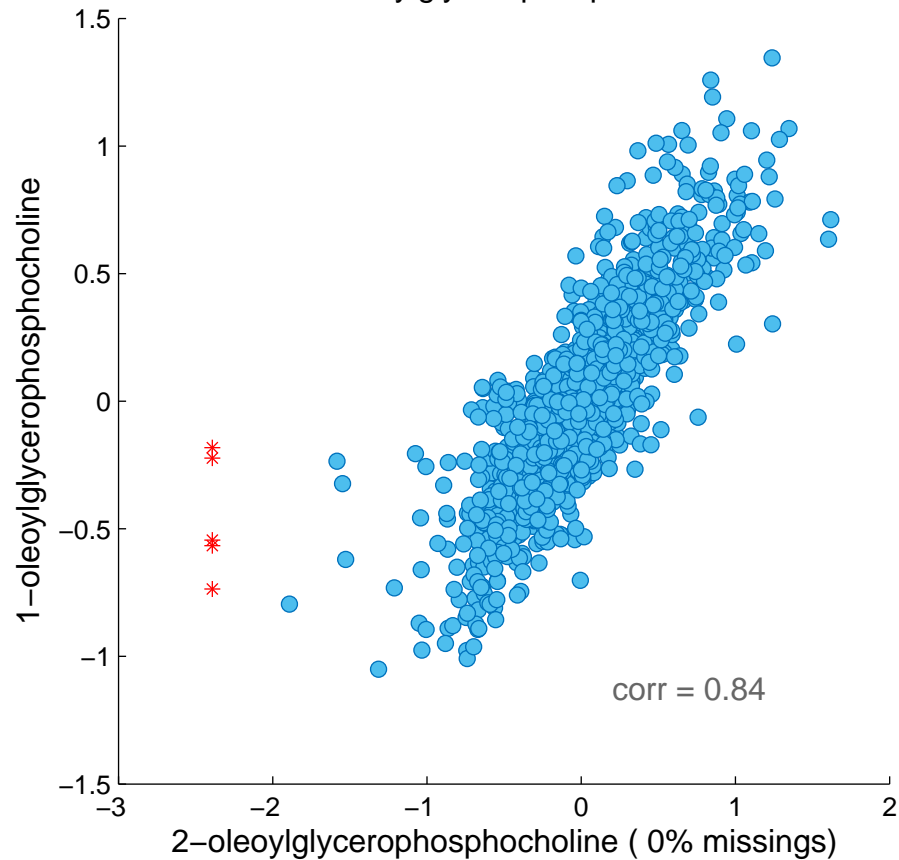
Missing values of 12-HETE
in arachidonate (20:4n6)



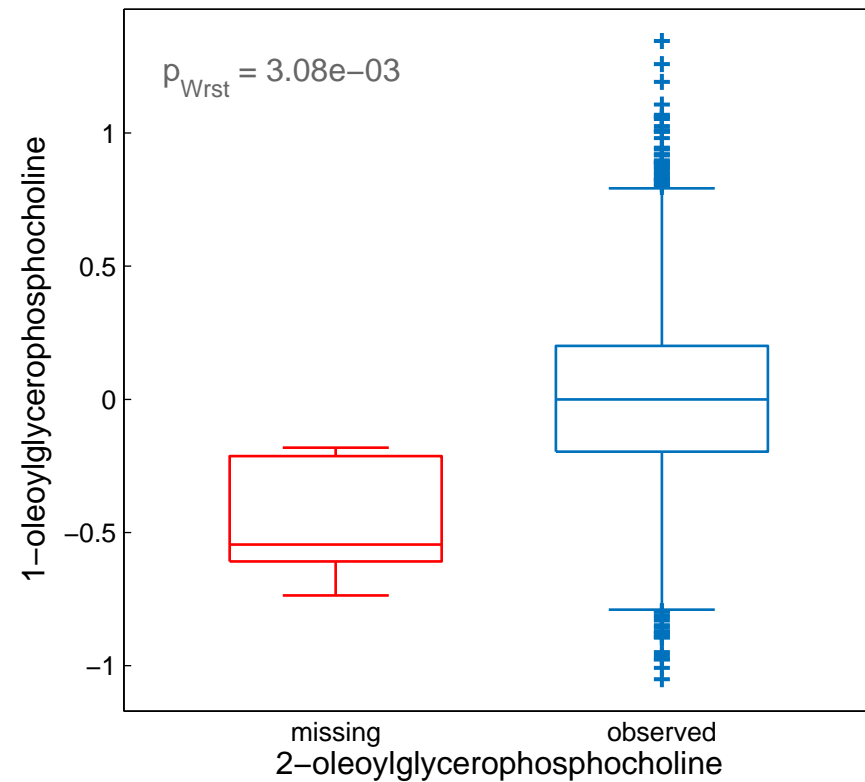
Concentrations of arachidonate (20:4n6) in
missing and observed 12-HETE



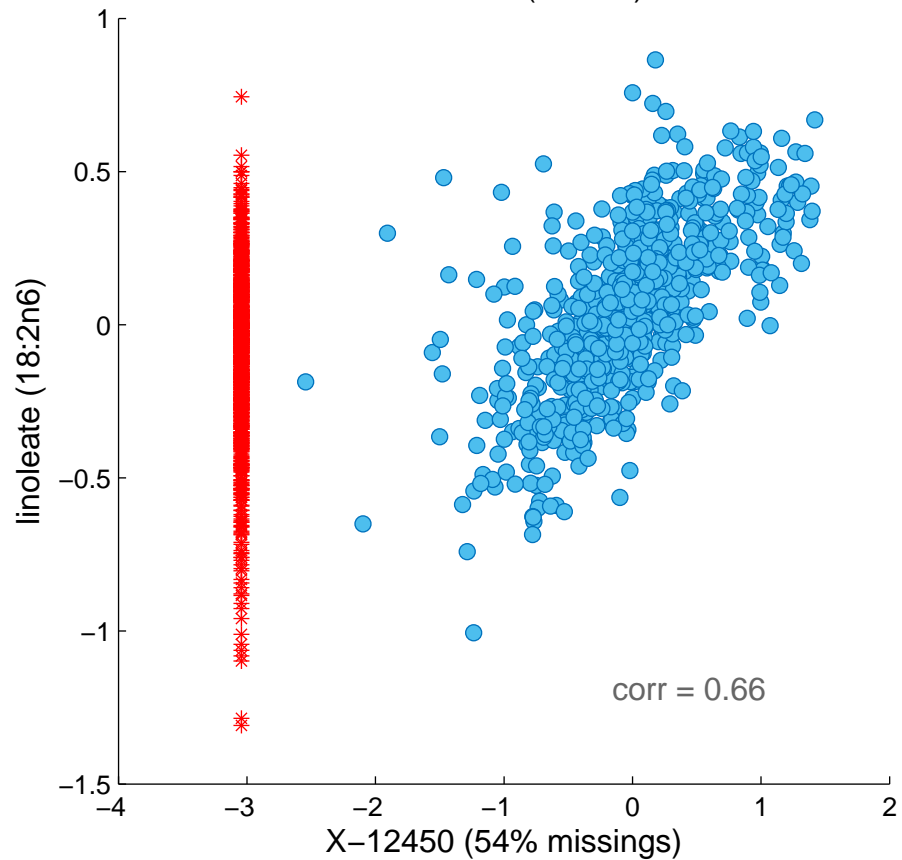
Missing values of 2-oleoylglycerophosphocholine
in 1-oleoylglycerophosphocholine



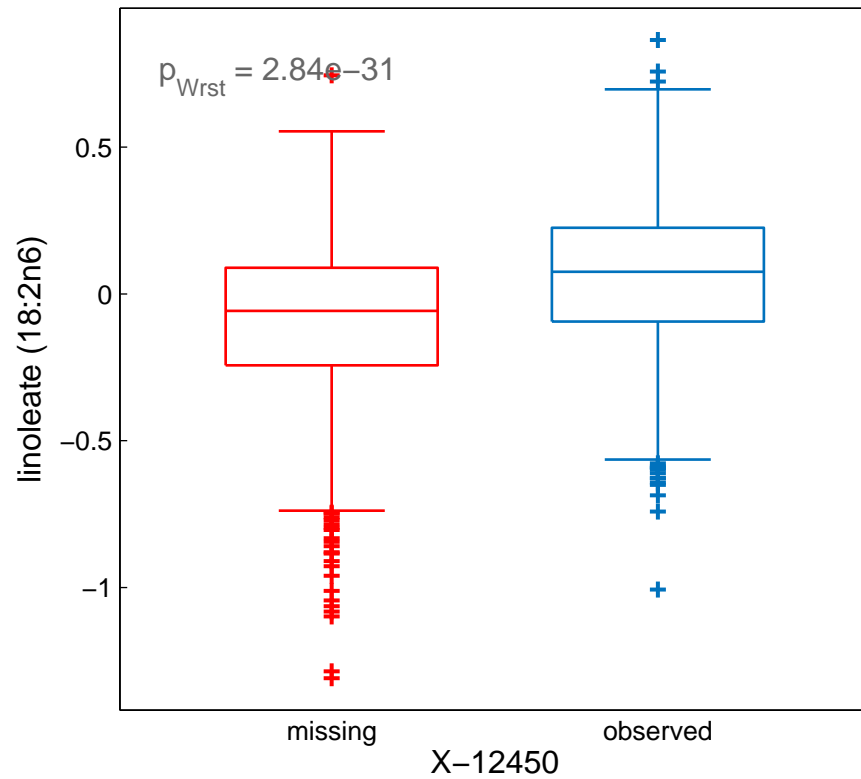
Concentrations of 1-oleoylglycerophosphocholine in
missing and observed 2-oleoylglycerophosphocholine



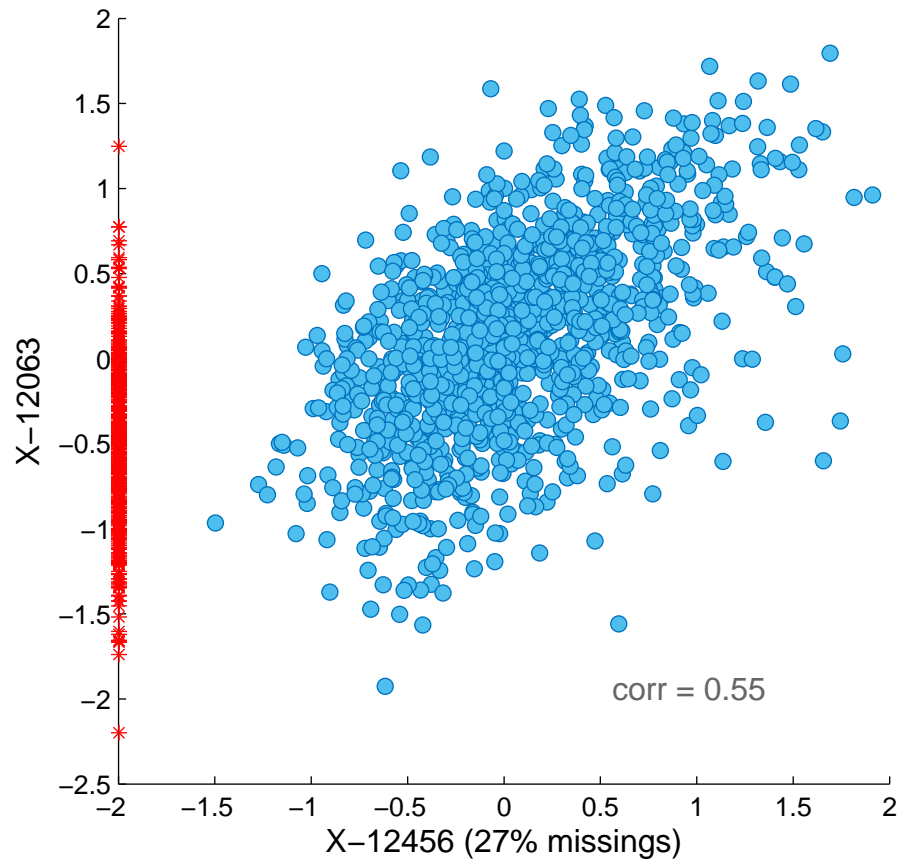
Missing values of X-12450
in linoleate (18:2n6)



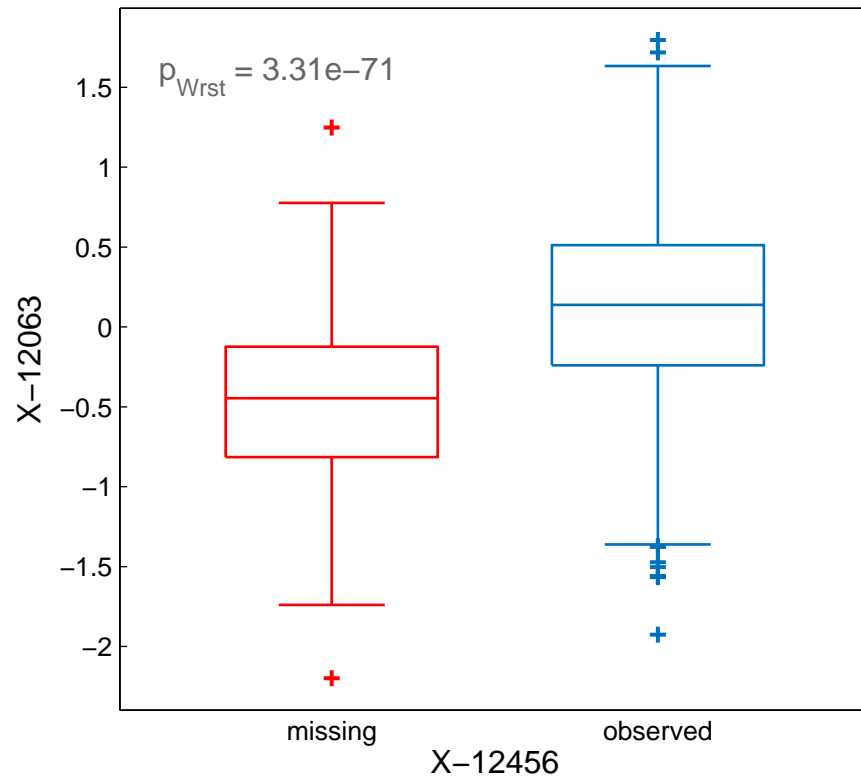
Concentrations of linoleate (18:2n6) in
missing and observed X-12450



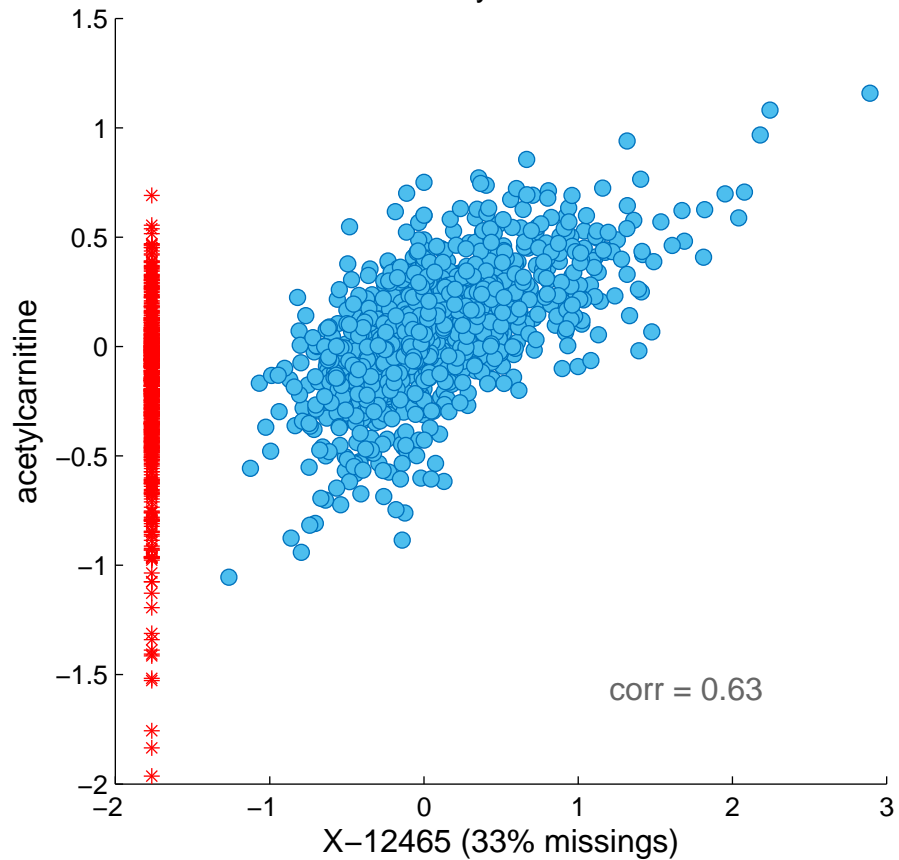
Missing values of X-12456
in X-12063



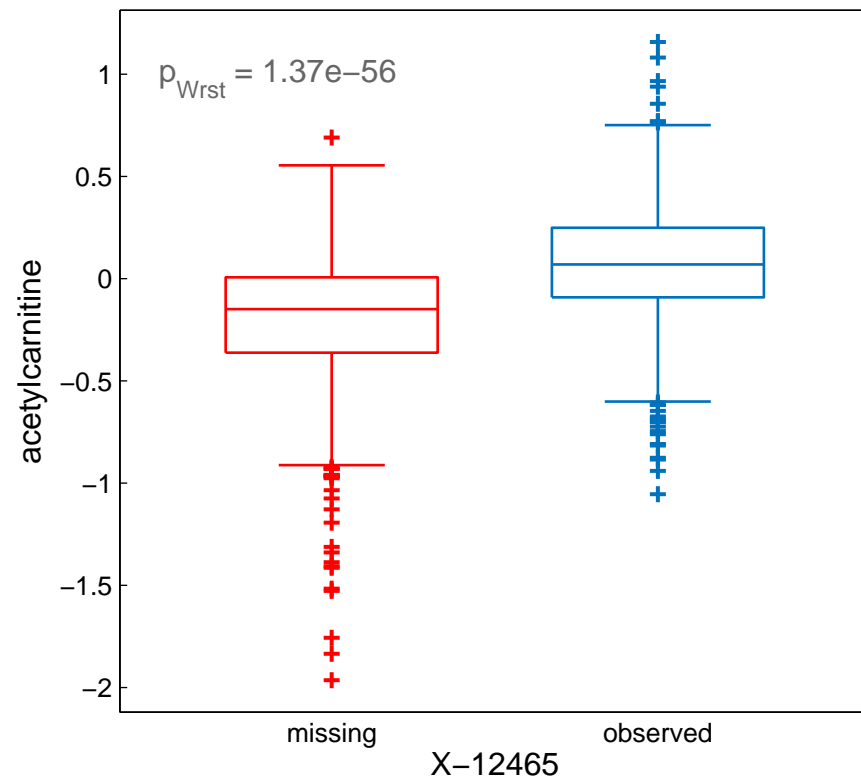
Concentrations of X-12063 in
missing and observed X-12456



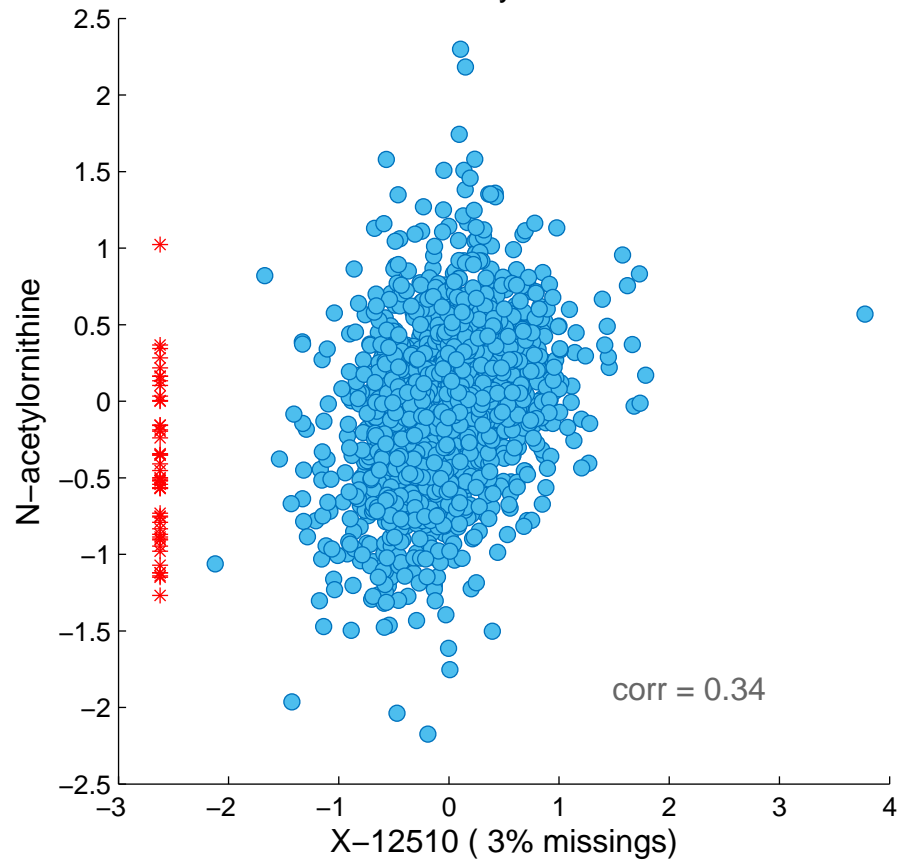
Missing values of X-12465
in acetylcarnitine



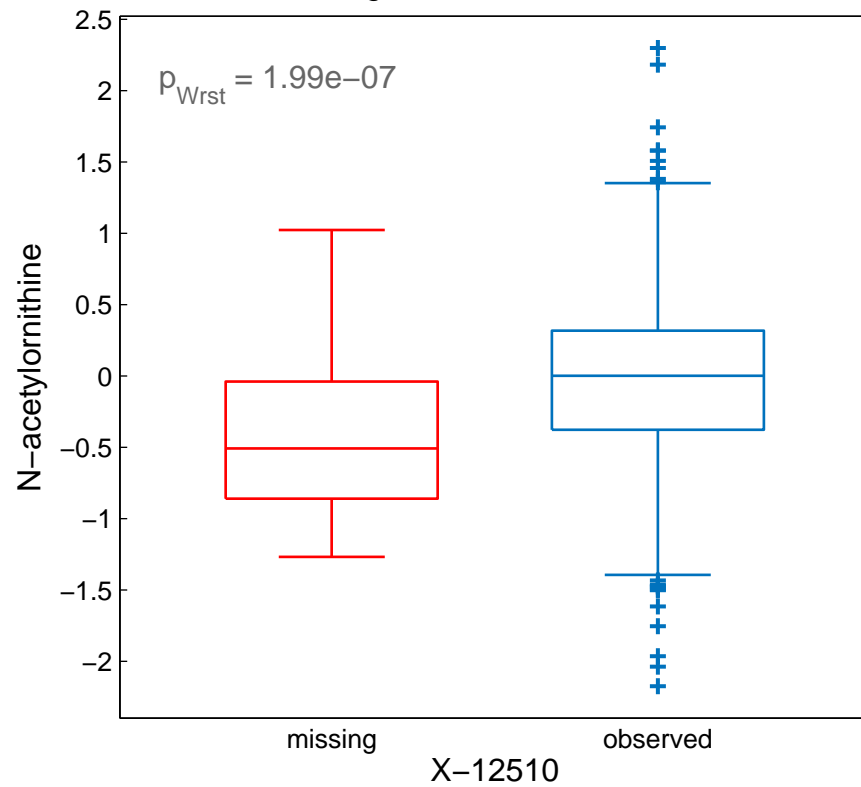
Concentrations of acetylcarnitine in
missing and observed X-12465



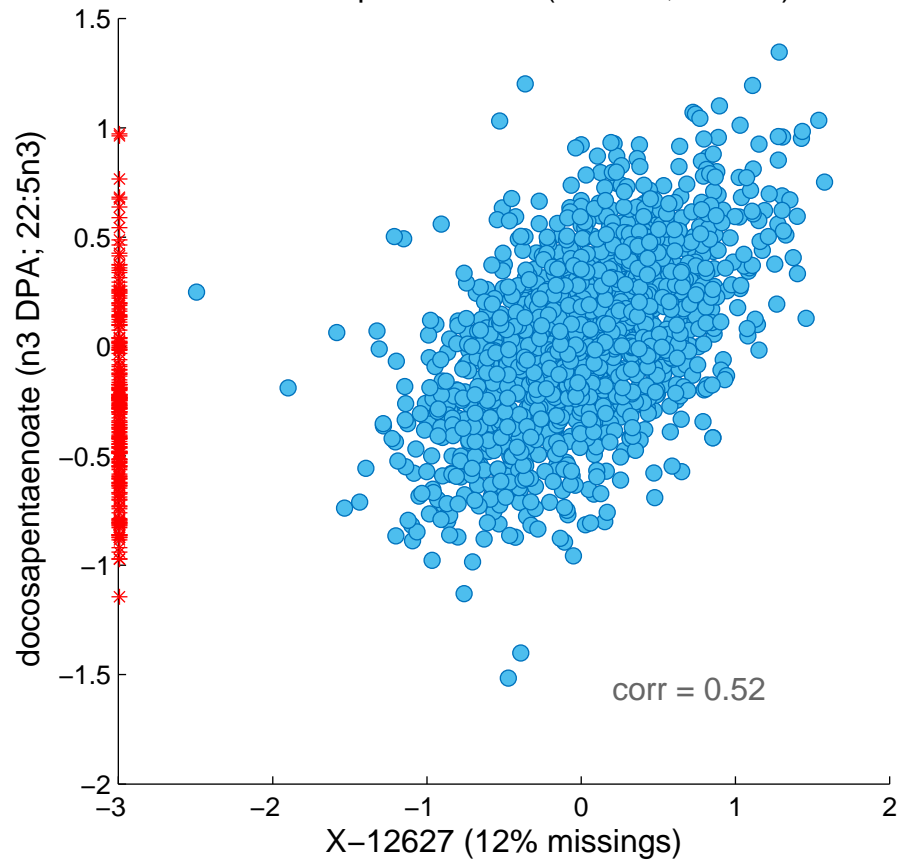
Missing values of X-12510
in N-acetylornithine



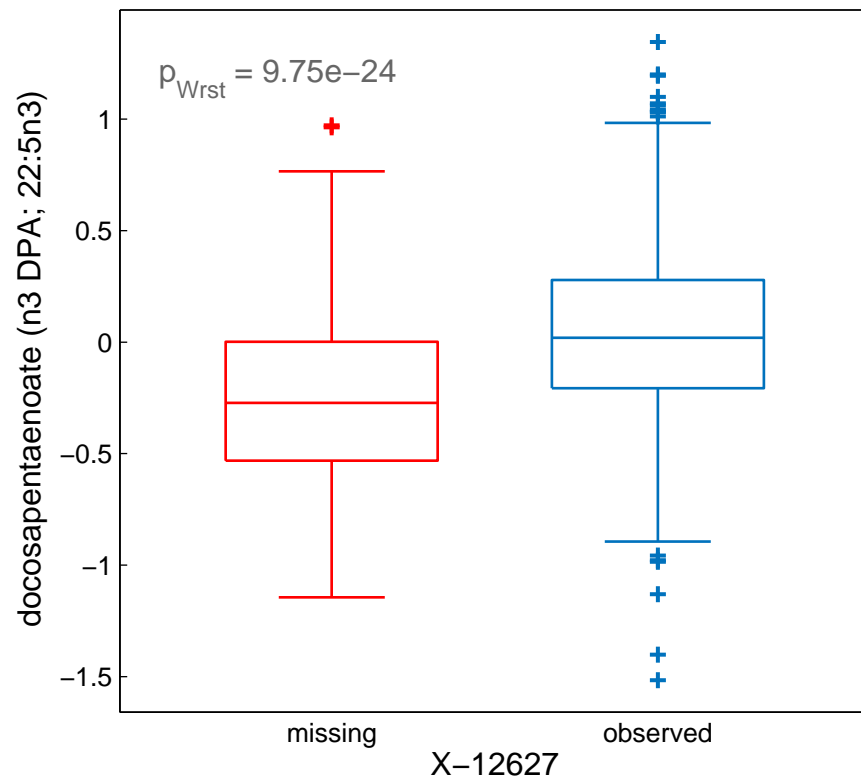
Concentrations of N-acetylornithine in
missing and observed X-12510



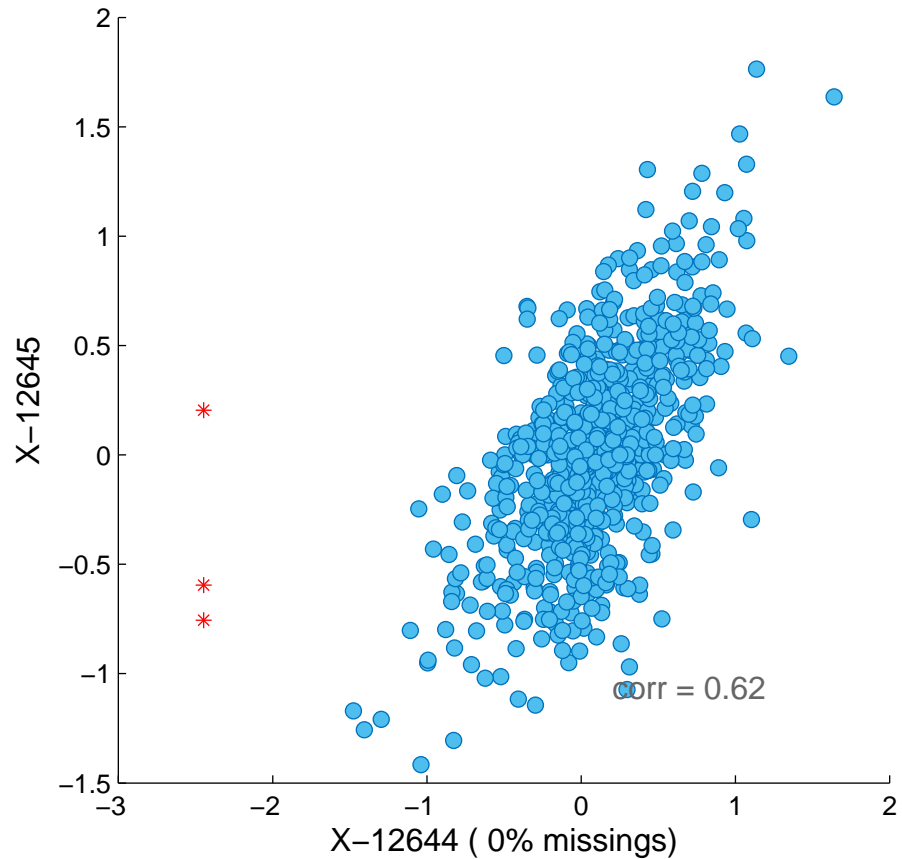
Missing values of X-12627
in docosapentaenoate (n3 DPA; 22:5n3)



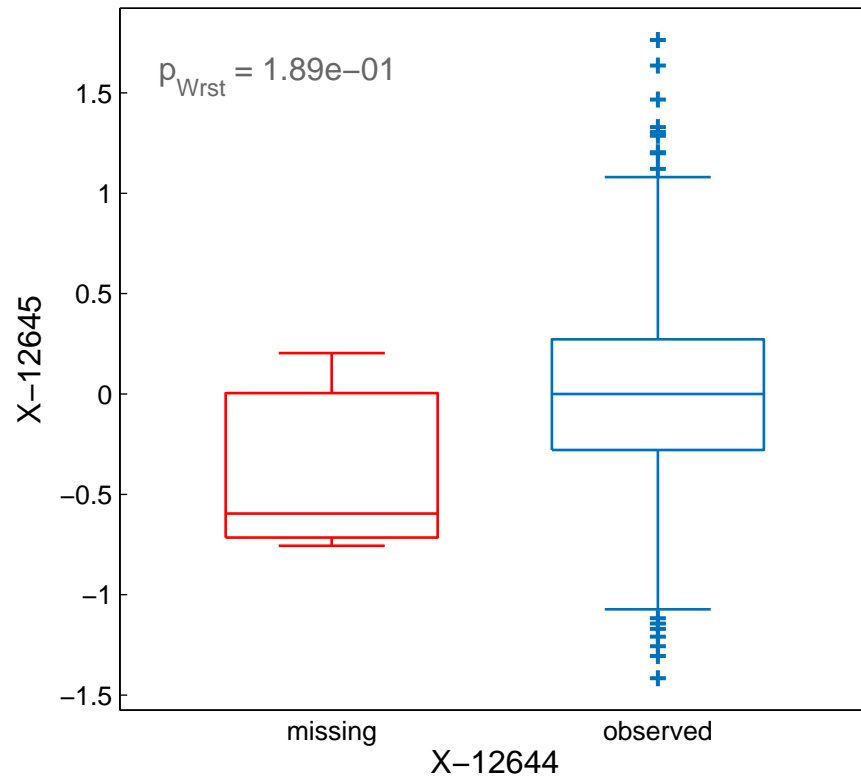
Concentrations of docosapentaenoate (n3 DPA; 22:5n3) in
missing and observed X-12627



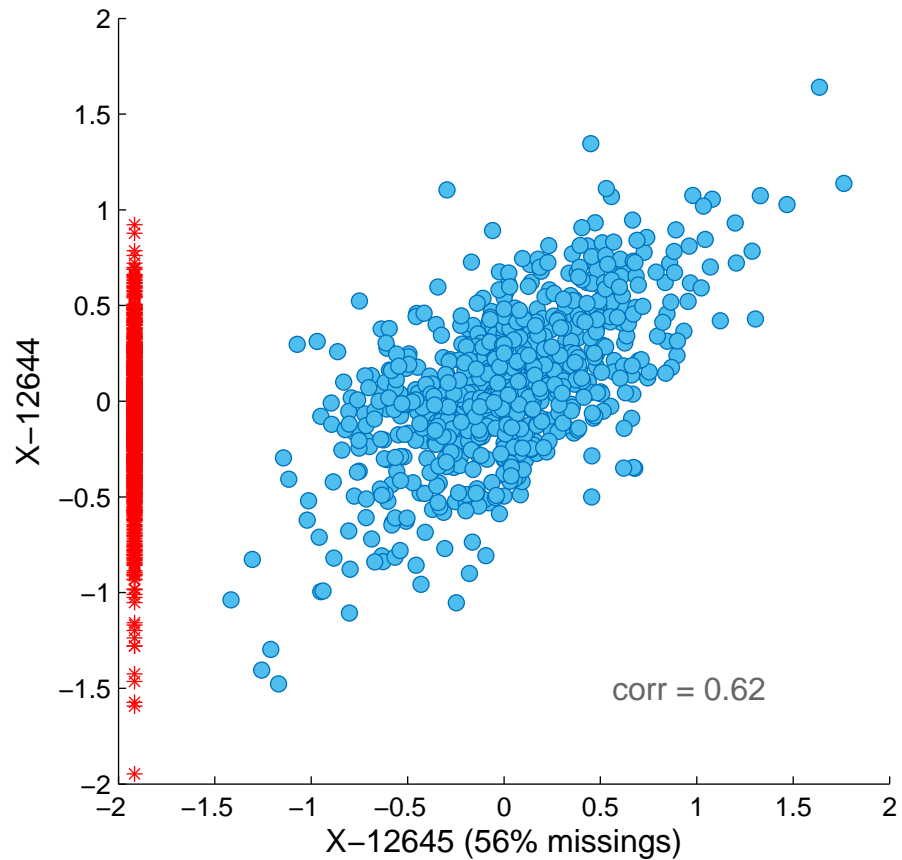
Missing values of X-12644
in X-12645



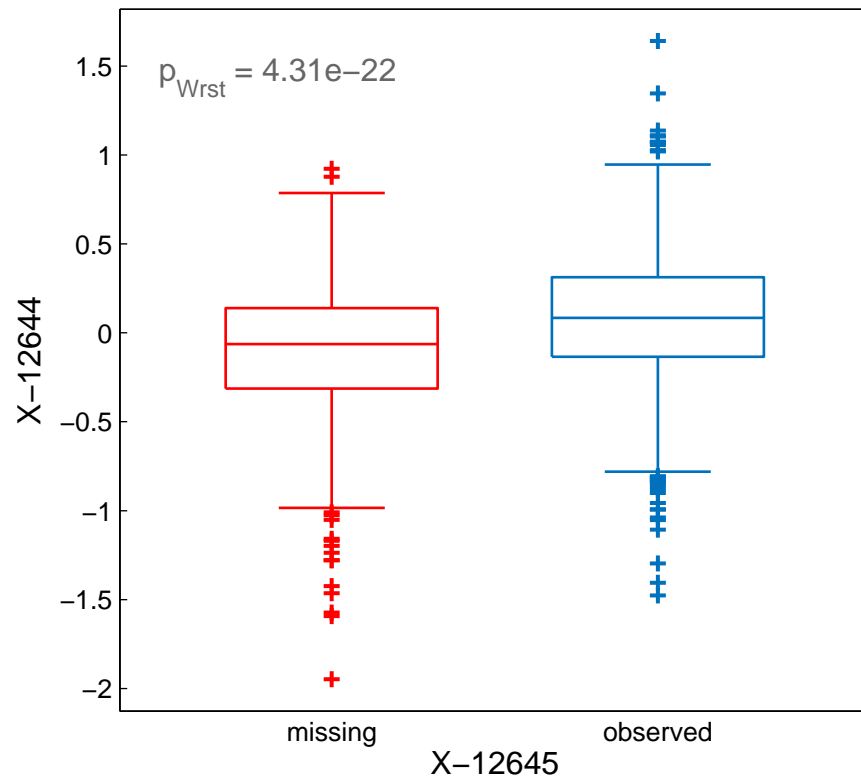
Concentrations of X-12645 in
missing and observed X-12644



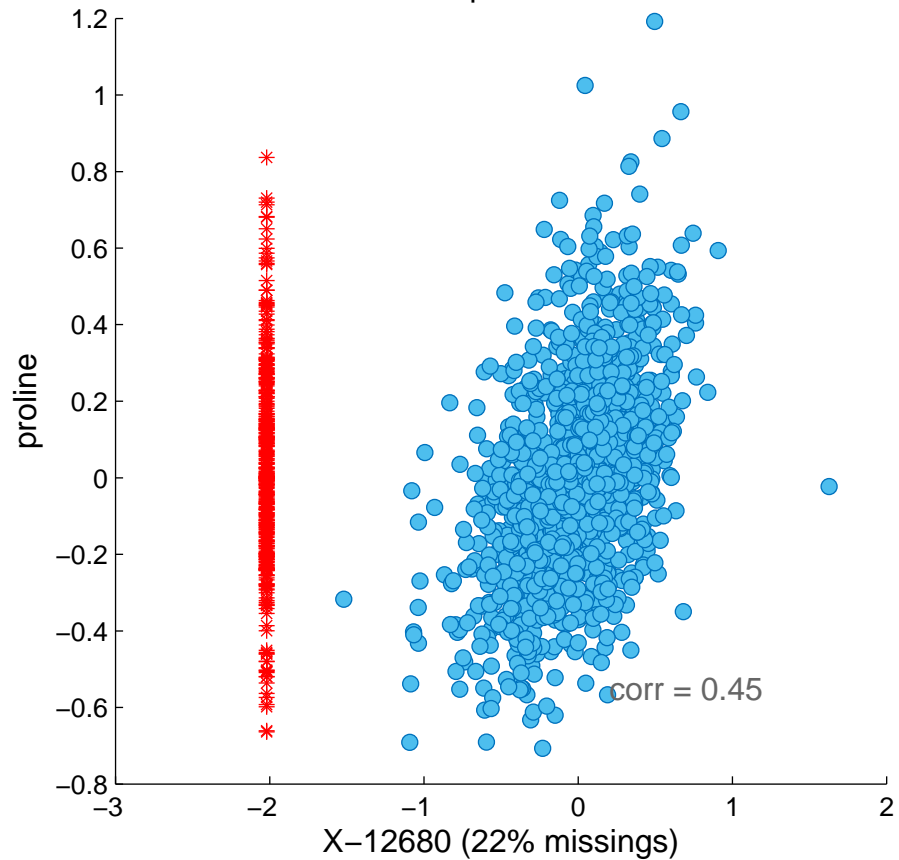
Missing values of X-12645
in X-12644



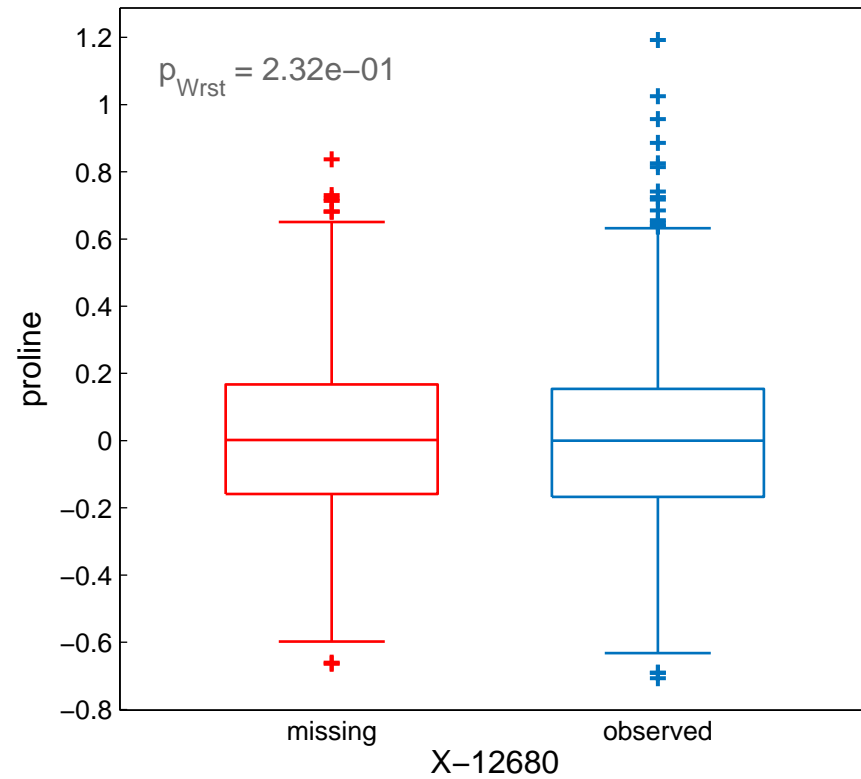
Concentrations of X-12644 in
missing and observed X-12645

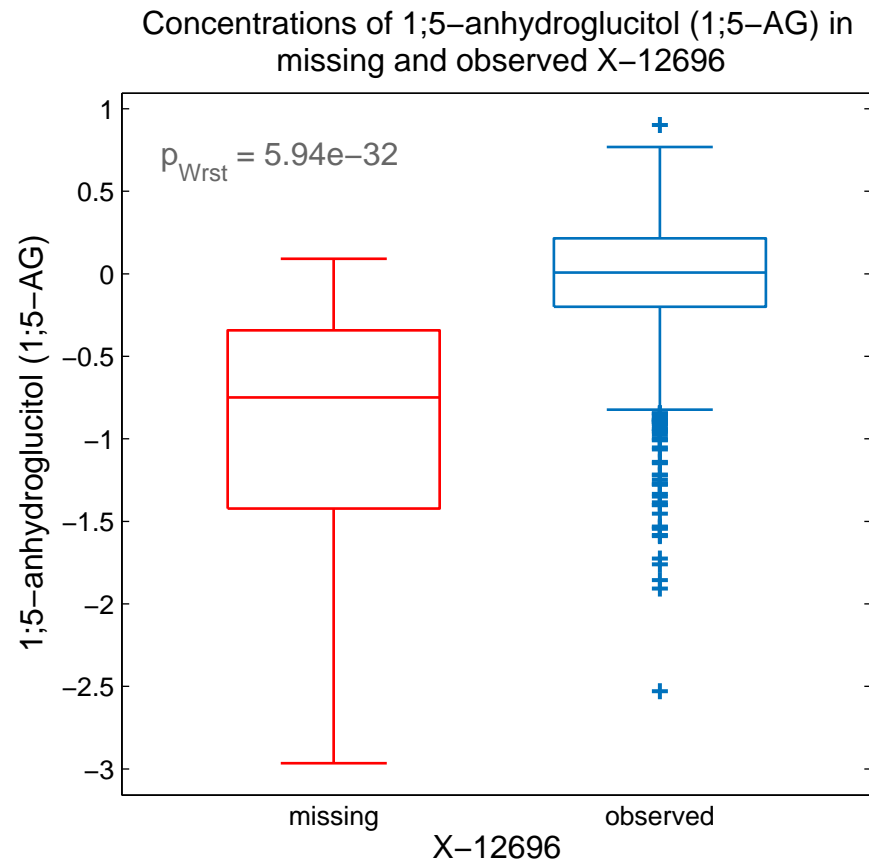
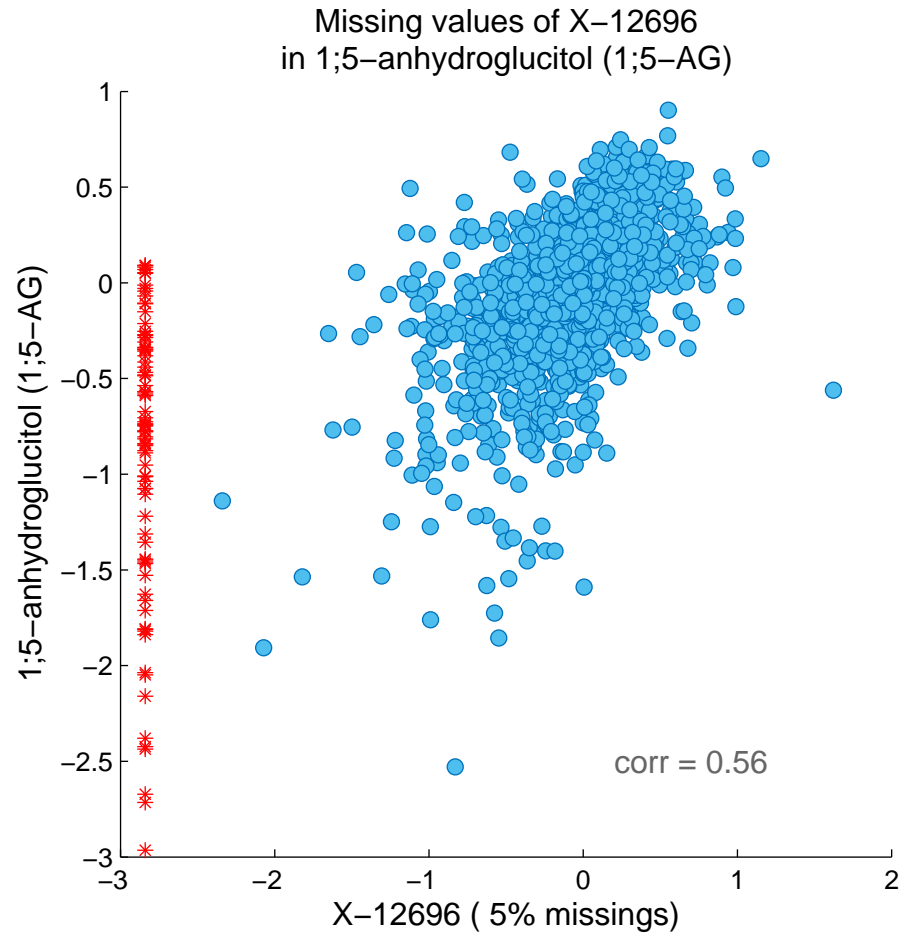


Missing values of X-12680
in proline

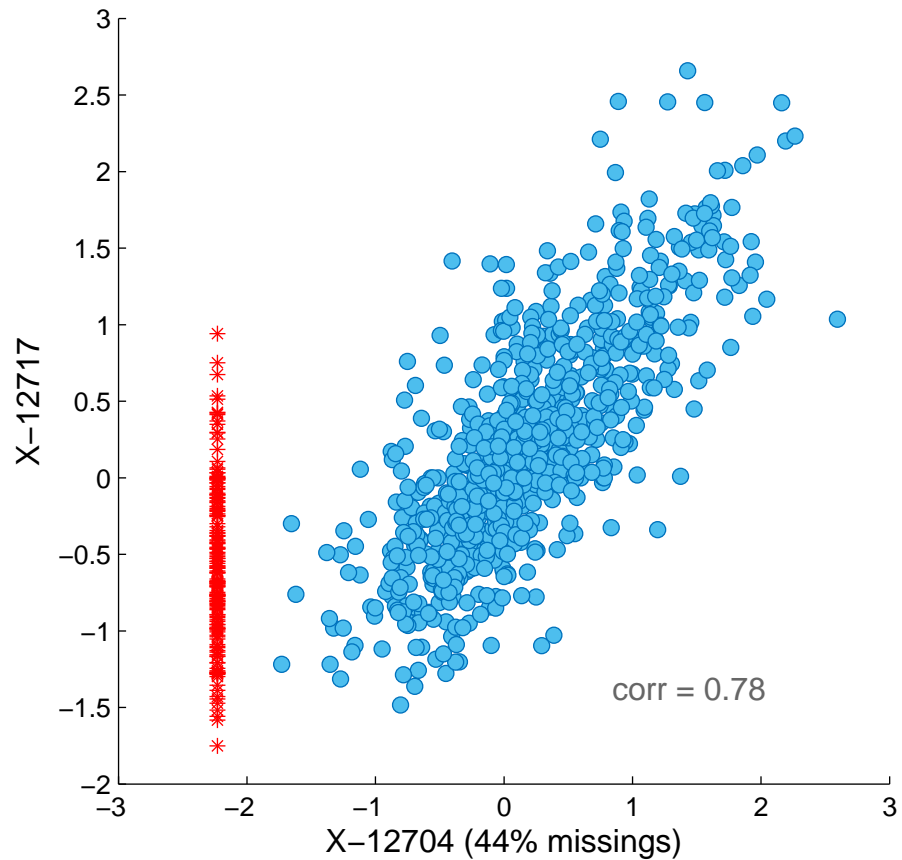


Concentrations of proline in
missing and observed X-12680

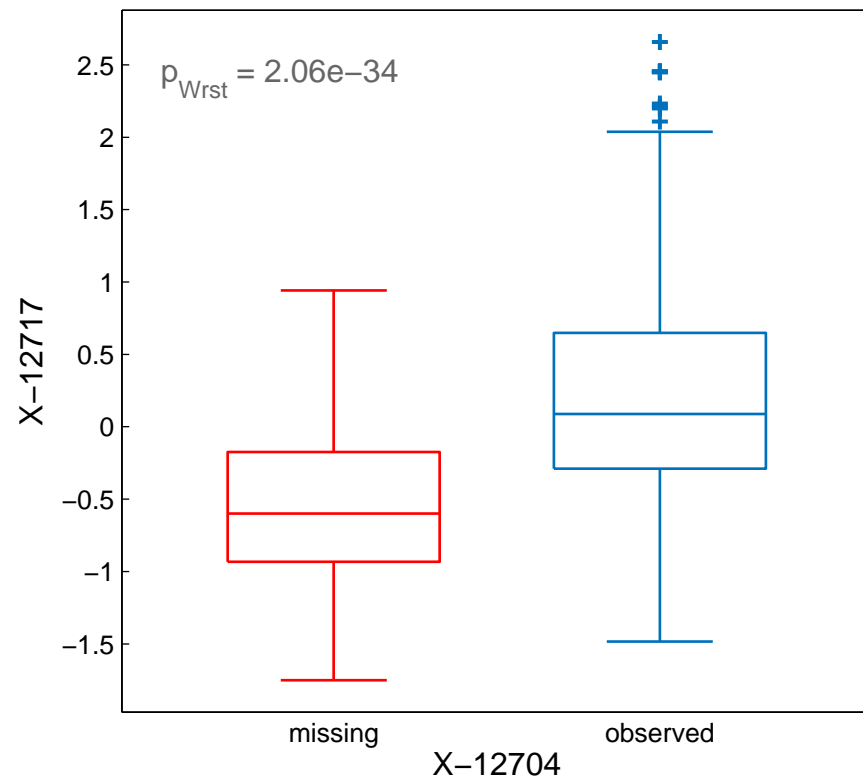




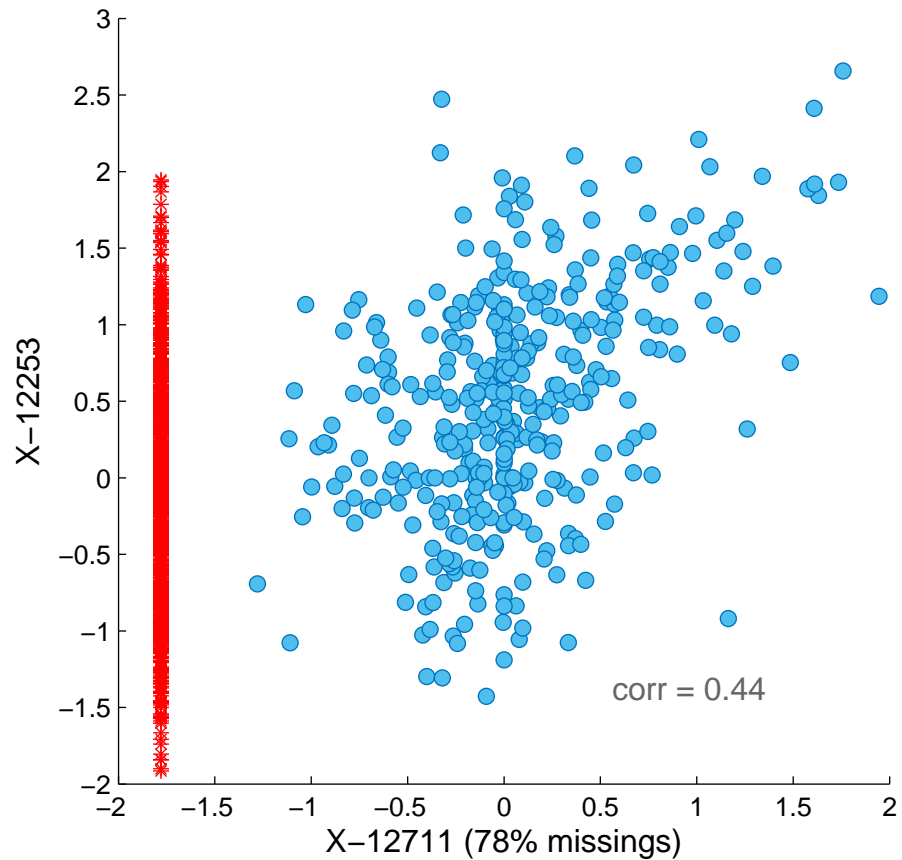
Missing values of X-12704
in X-12717



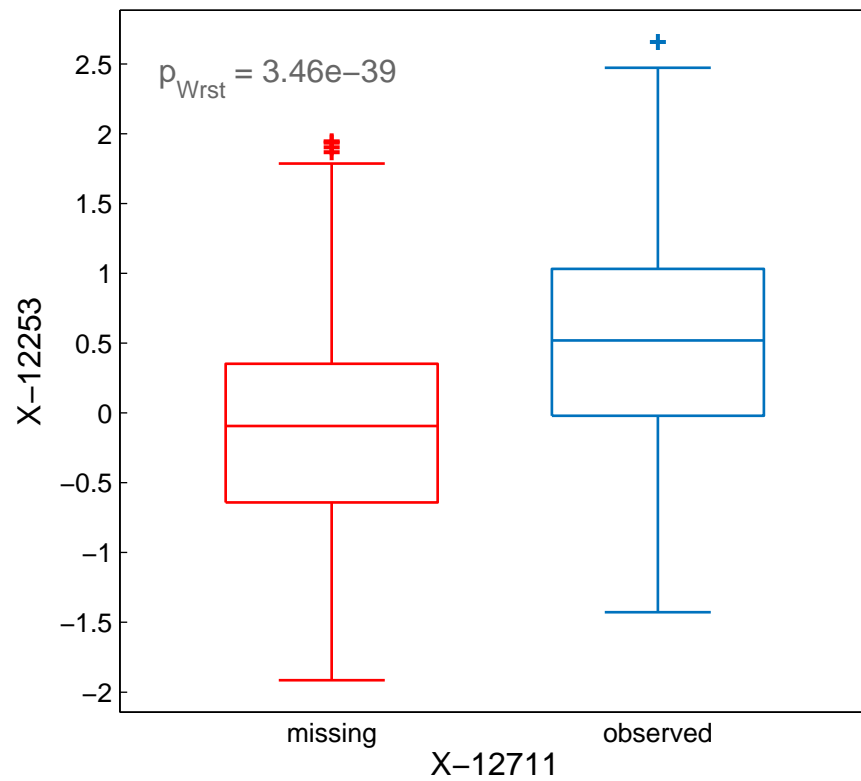
Concentrations of X-12717 in
missing and observed X-12704



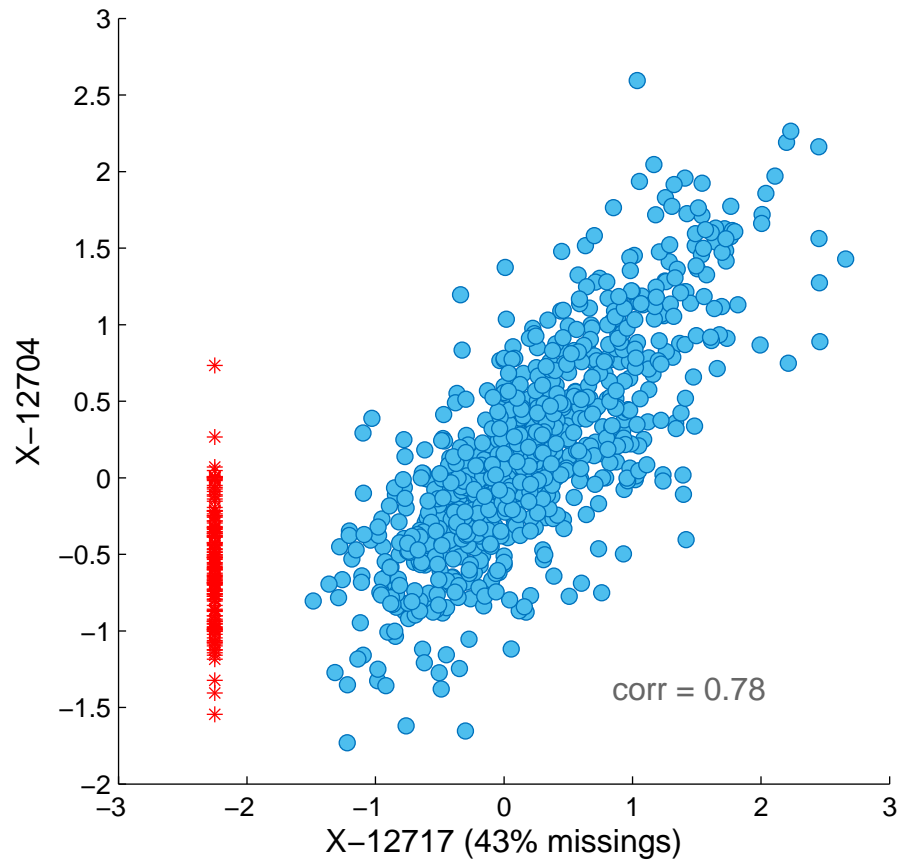
Missing values of X-12711
in X-12253



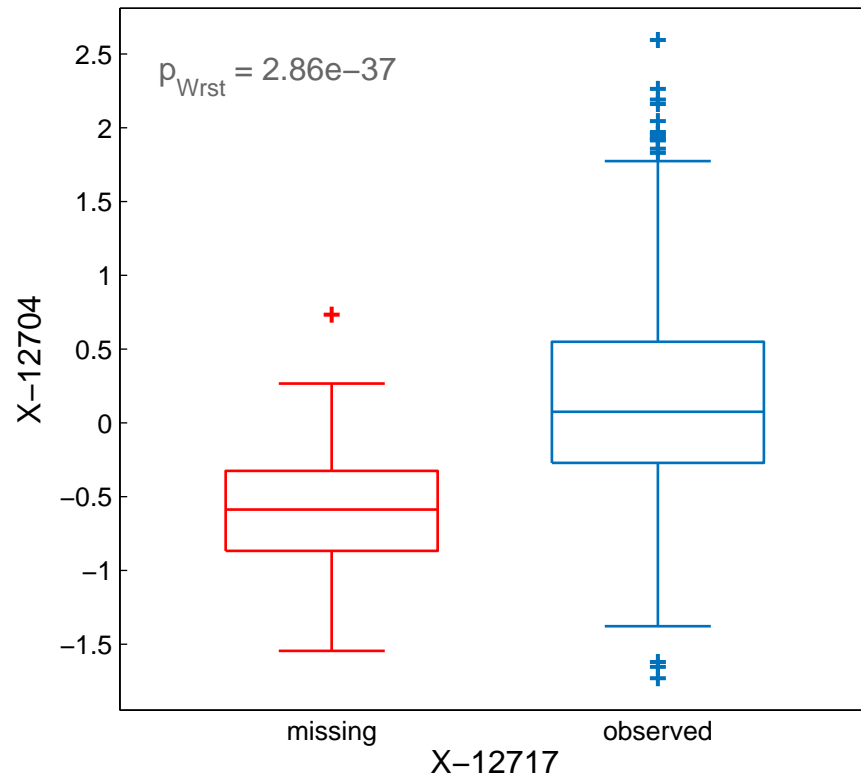
Concentrations of X-12253 in
missing and observed X-12711



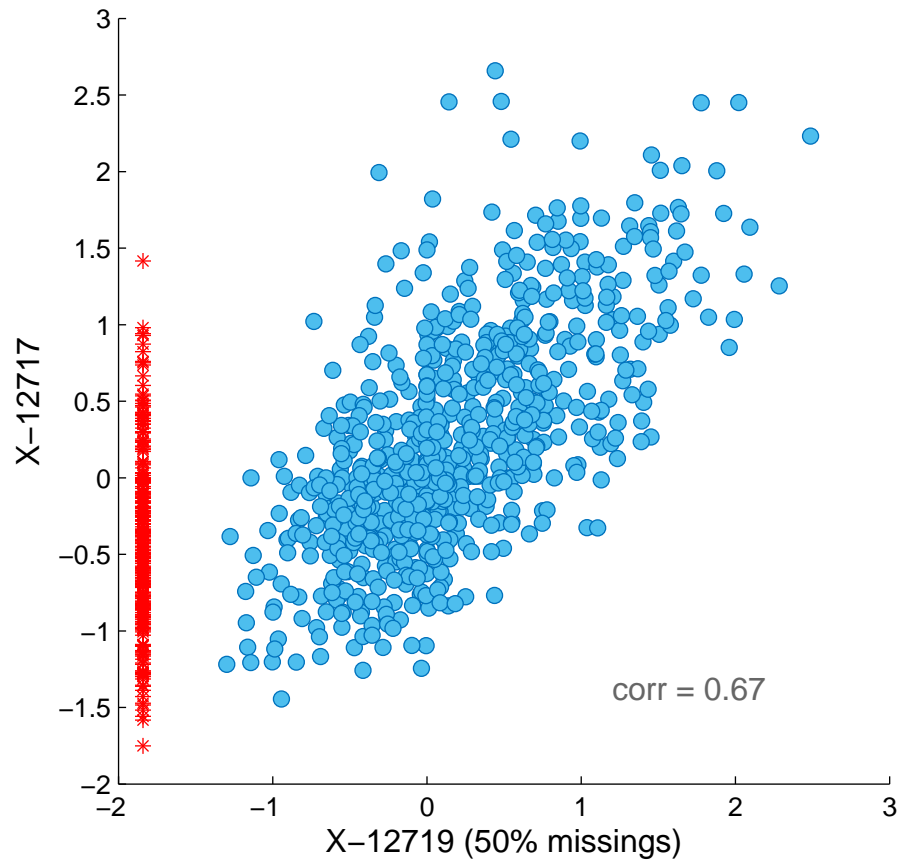
Missing values of X-12717
in X-12704



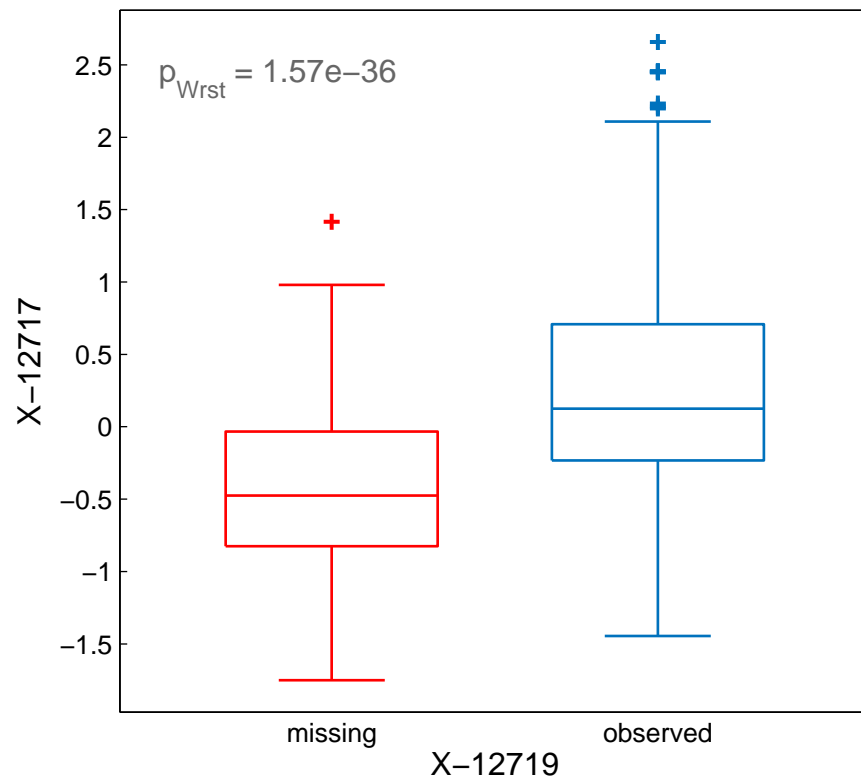
Concentrations of X-12704 in
missing and observed X-12717



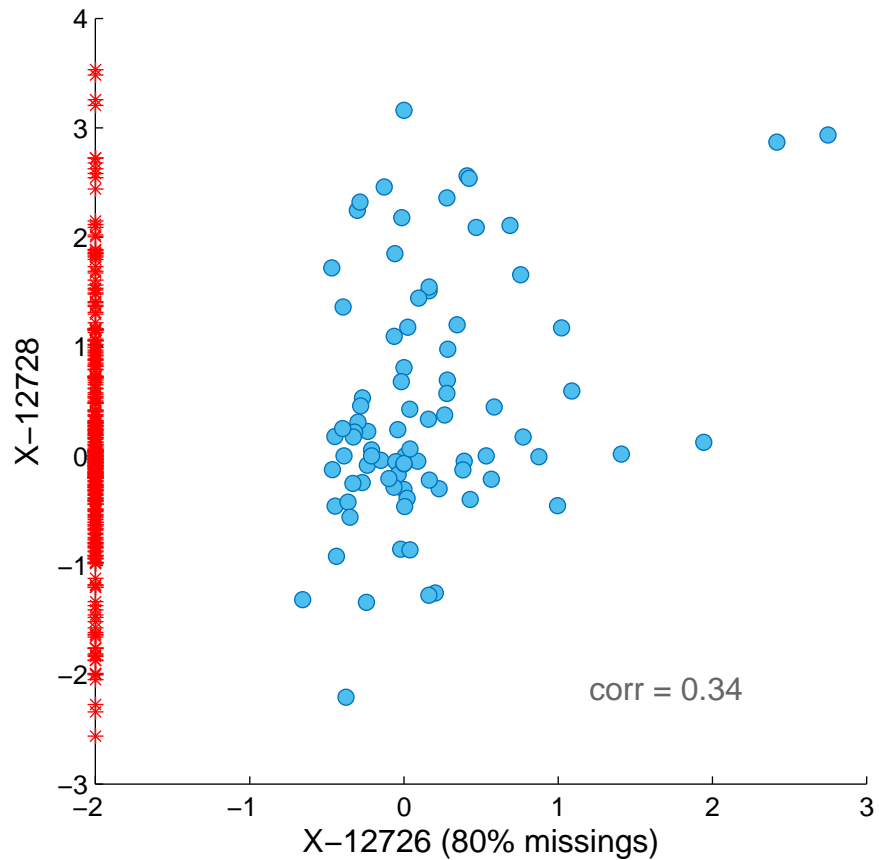
Missing values of X-12719
in X-12717



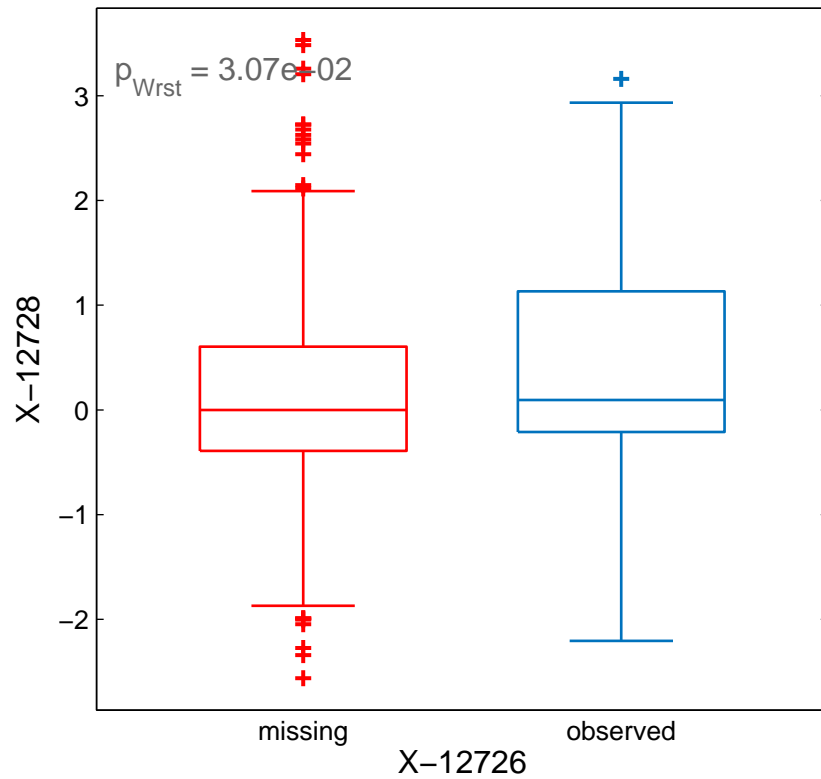
Concentrations of X-12717 in
missing and observed X-12719



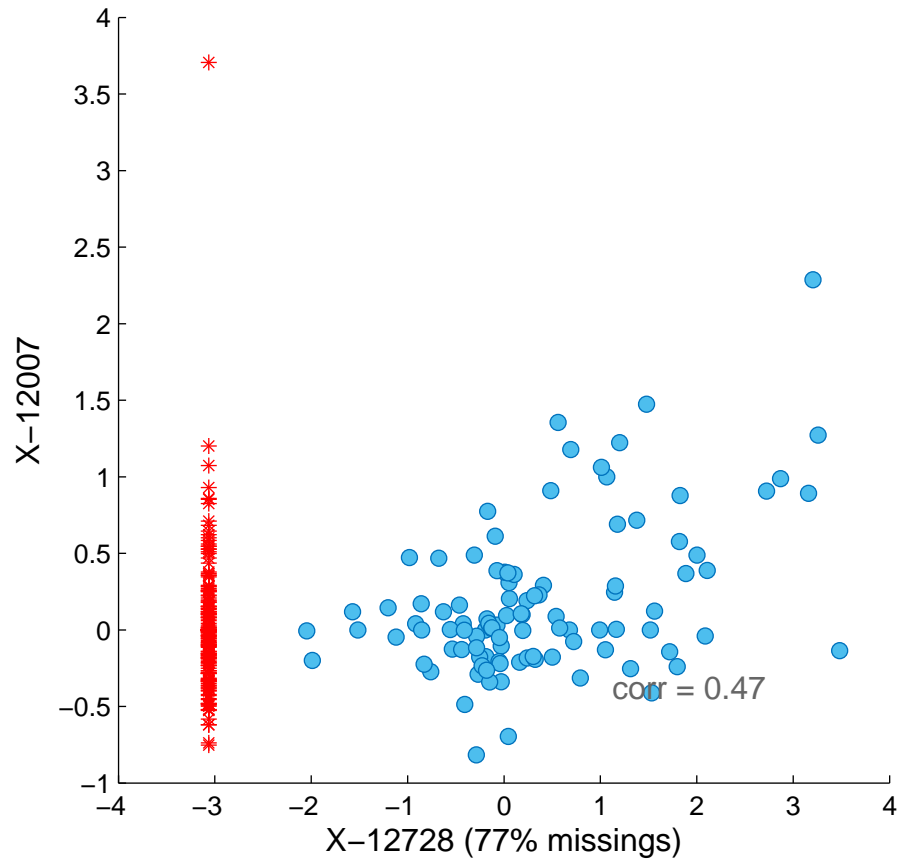
Missing values of X-12726
in X-12728



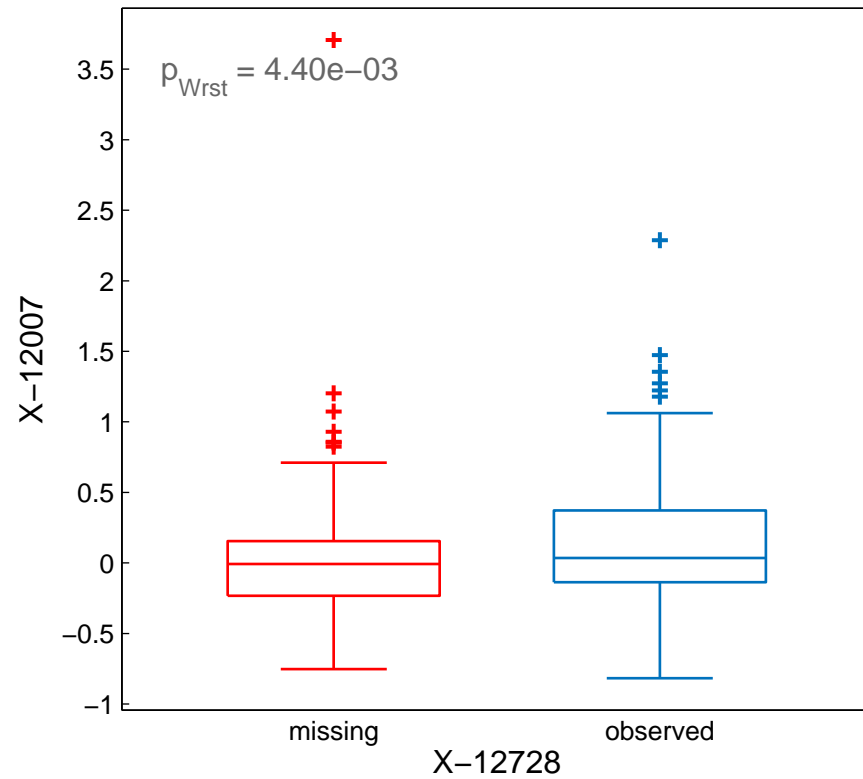
Concentrations of X-12728 in
missing and observed X-12726



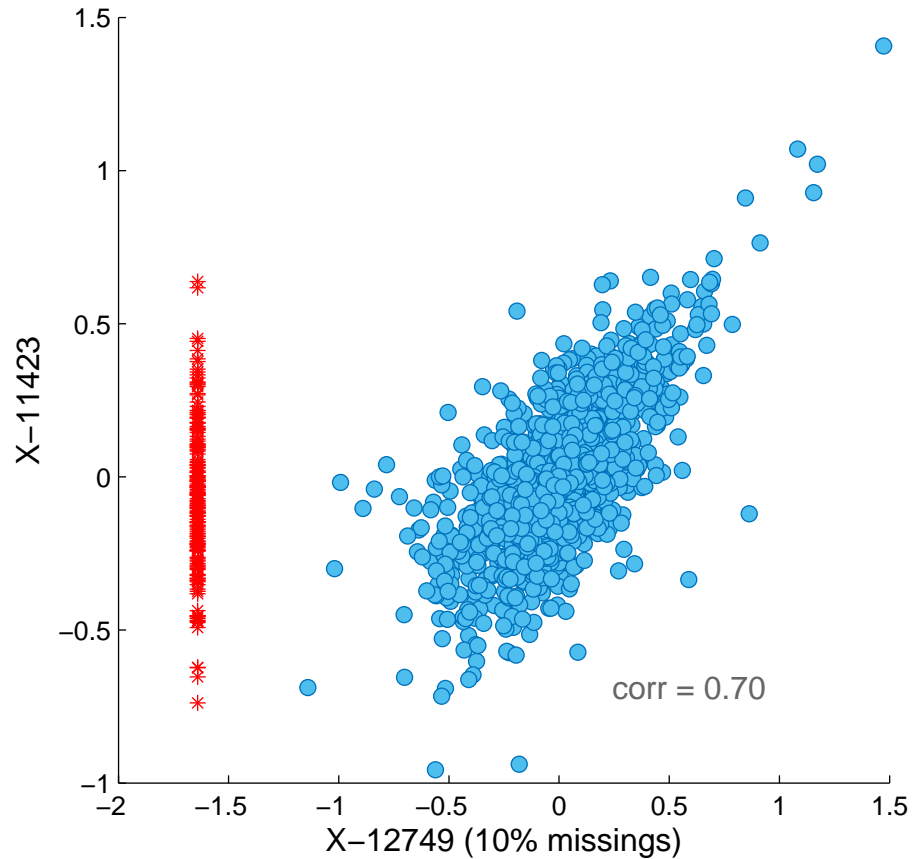
Missing values of X-12728
in X-12007



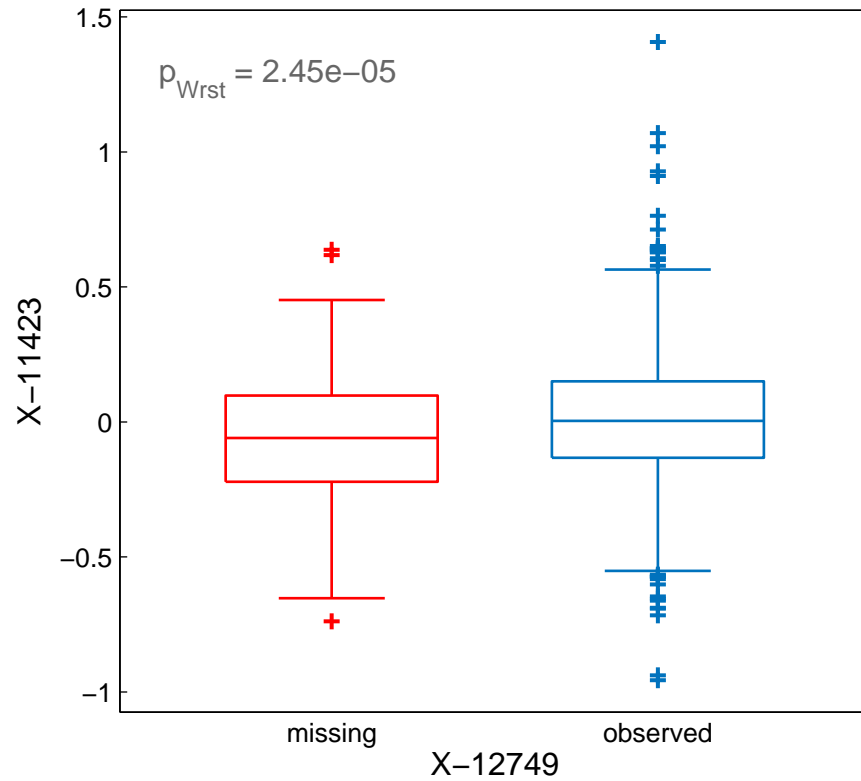
Concentrations of X-12007 in
missing and observed X-12728



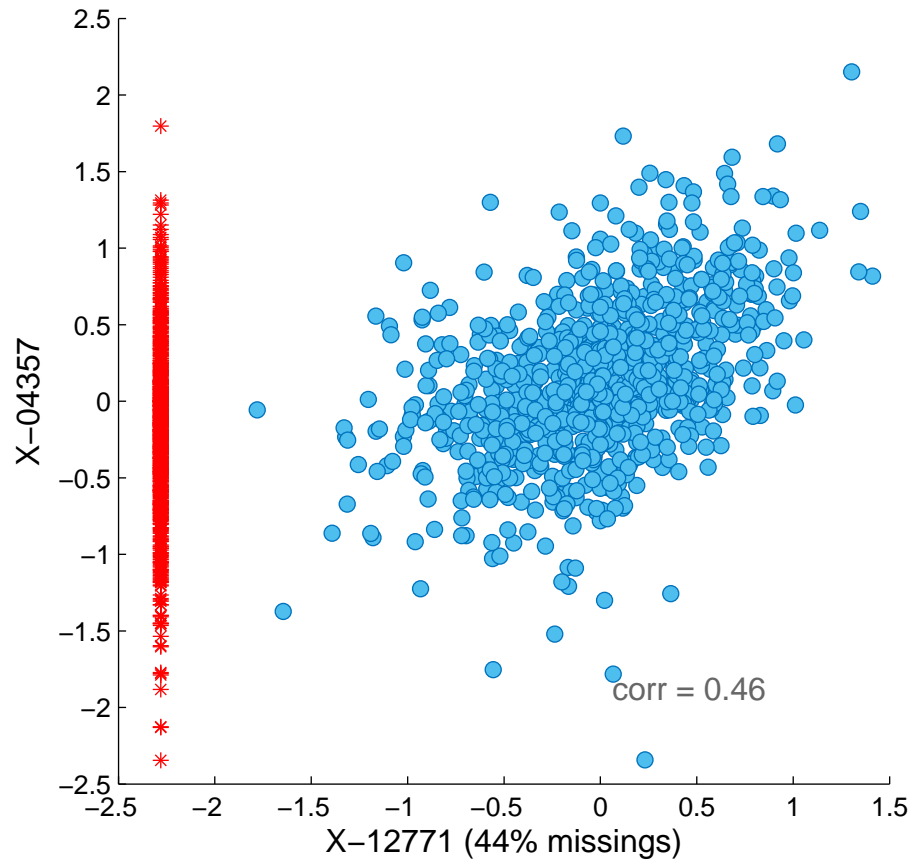
Missing values of X-12749
in X-11423



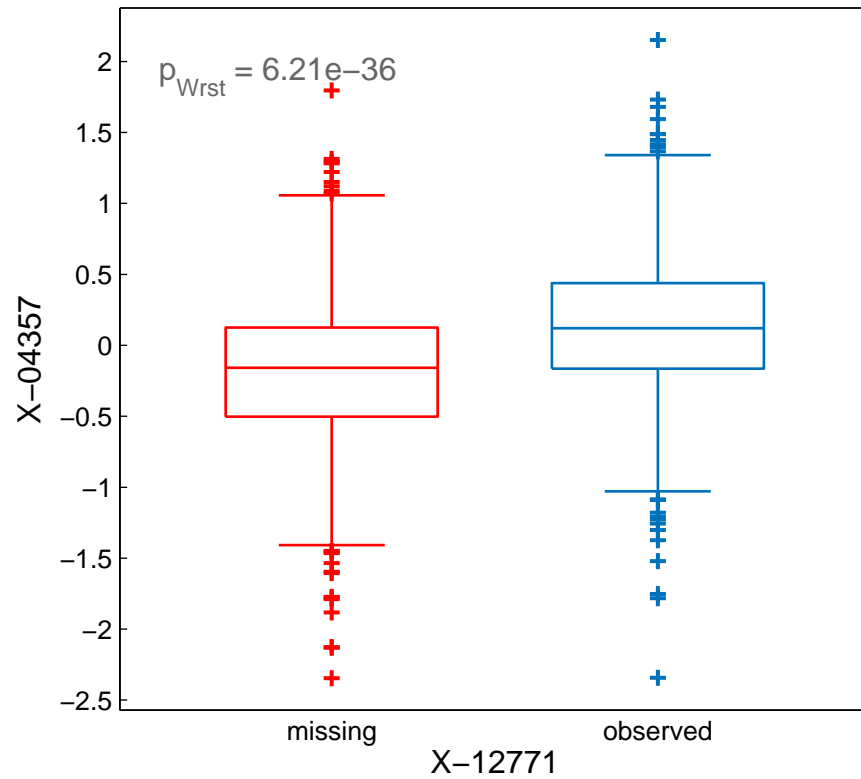
Concentrations of X-11423 in
missing and observed X-12749



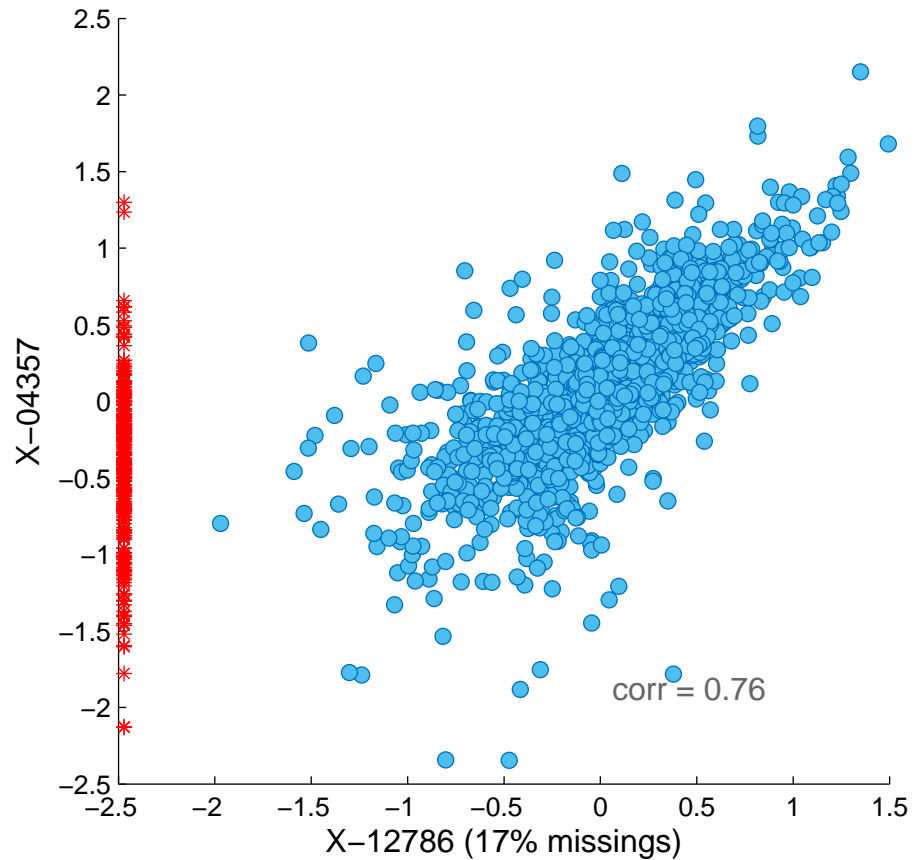
Missing values of X-12771
in X-04357



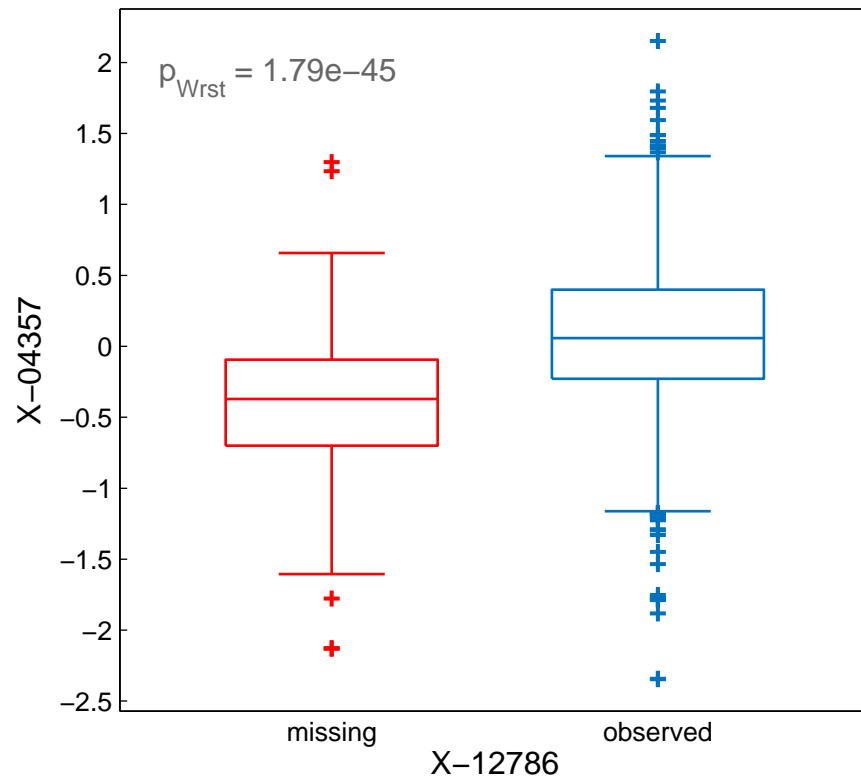
Concentrations of X-04357 in
missing and observed X-12771



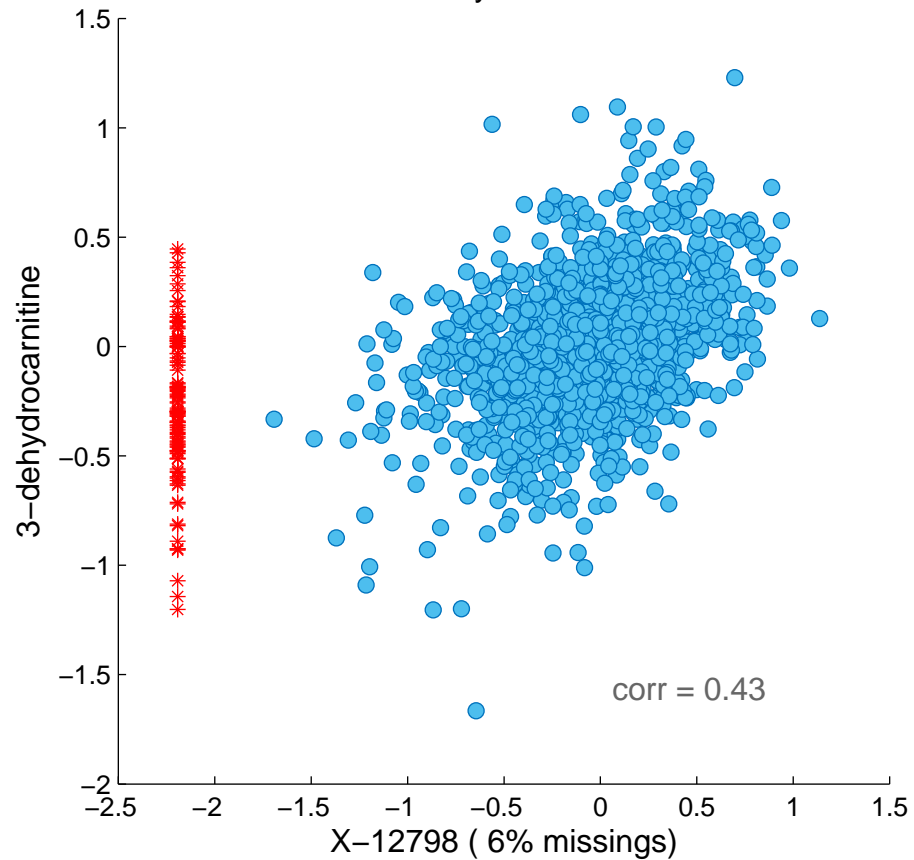
Missing values of X-12786
in X-04357



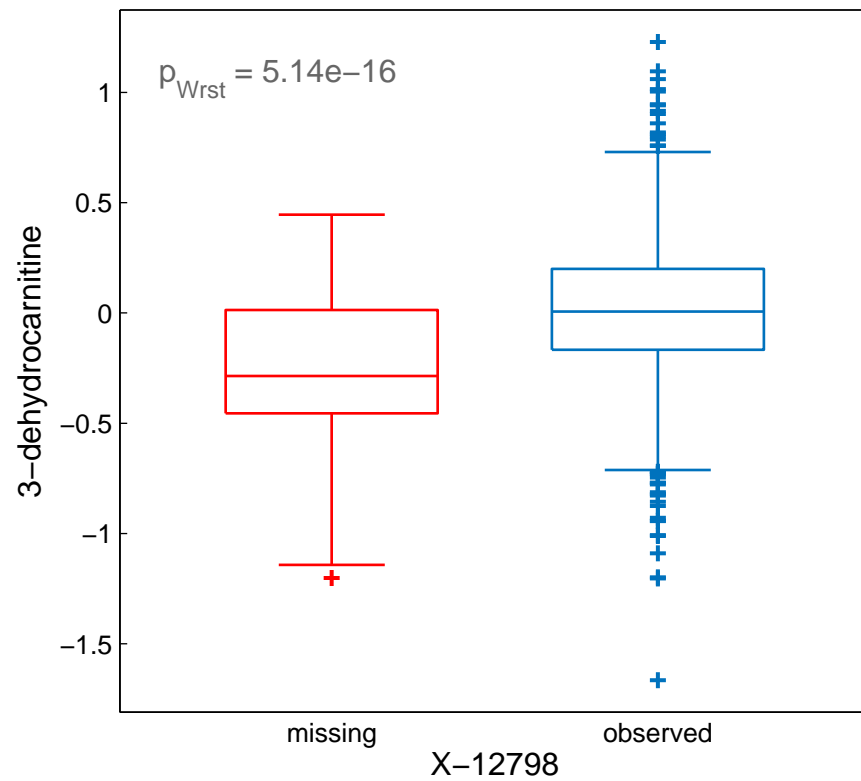
Concentrations of X-04357 in
missing and observed X-12786



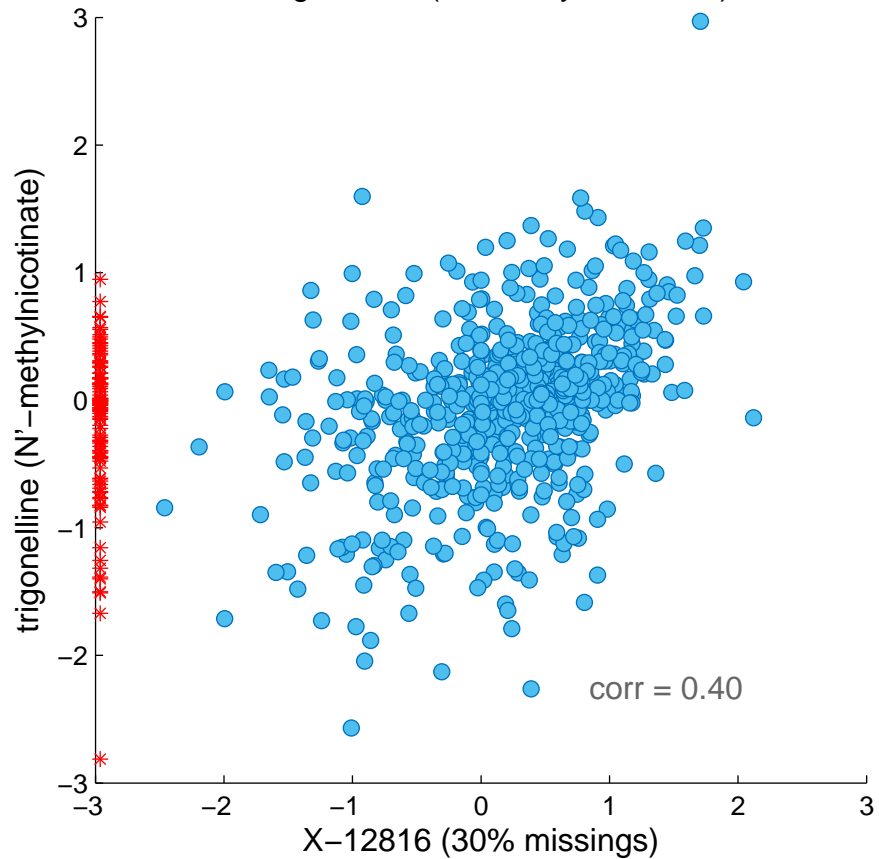
Missing values of X-12798
in 3-dehydrocarnitine



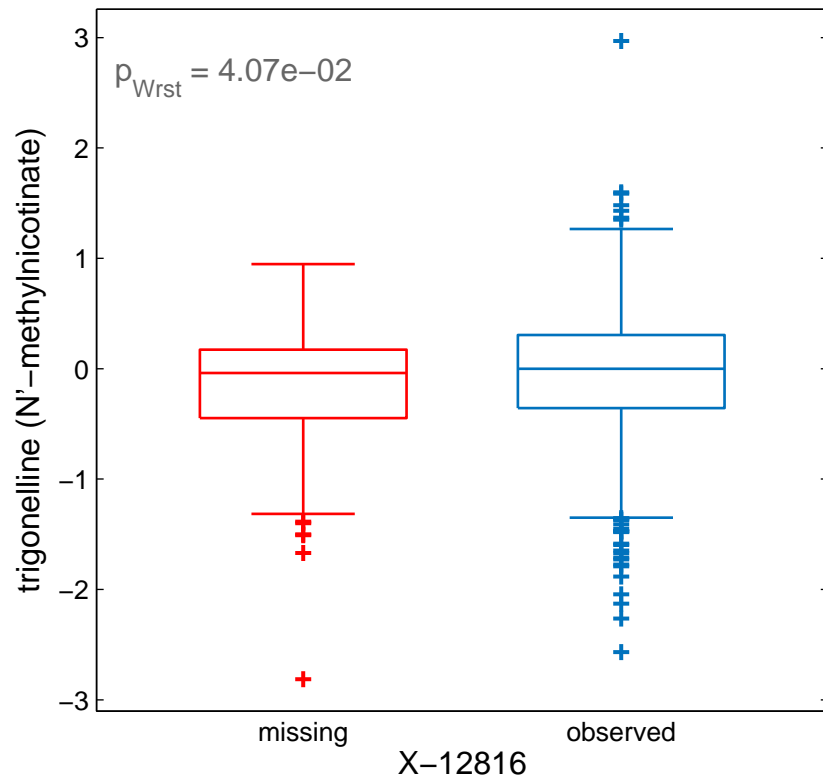
Concentrations of 3-dehydrocarnitine in
missing and observed X-12798



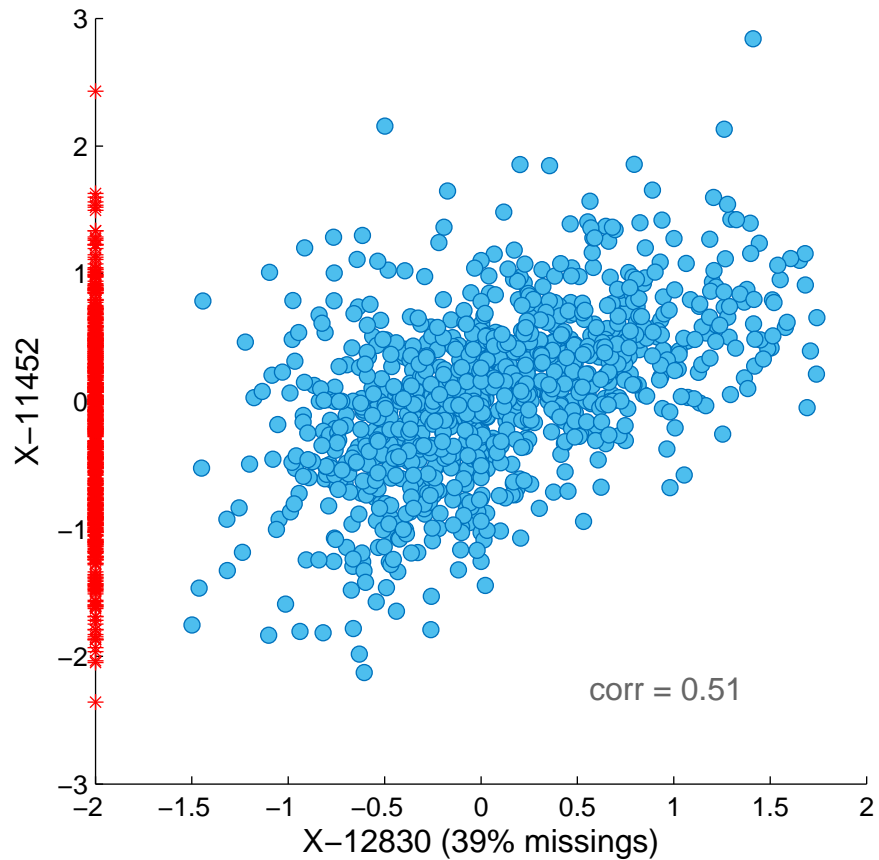
Missing values of X-12816
in trigonelline (N'-methylnicotinate)



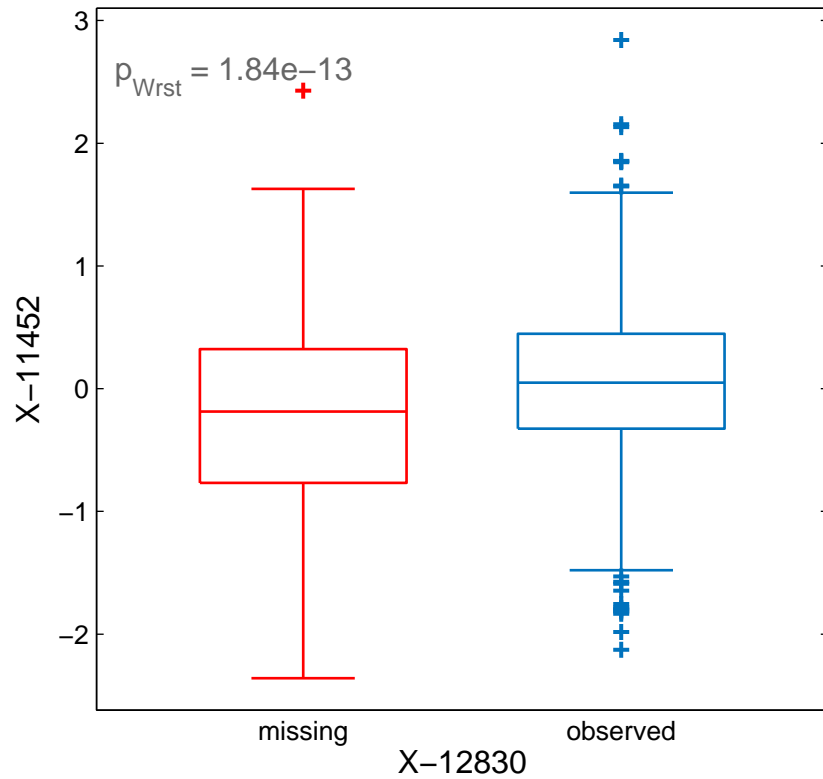
Concentrations of trigonelline (N'-methylnicotinate) in
missing and observed X-12816



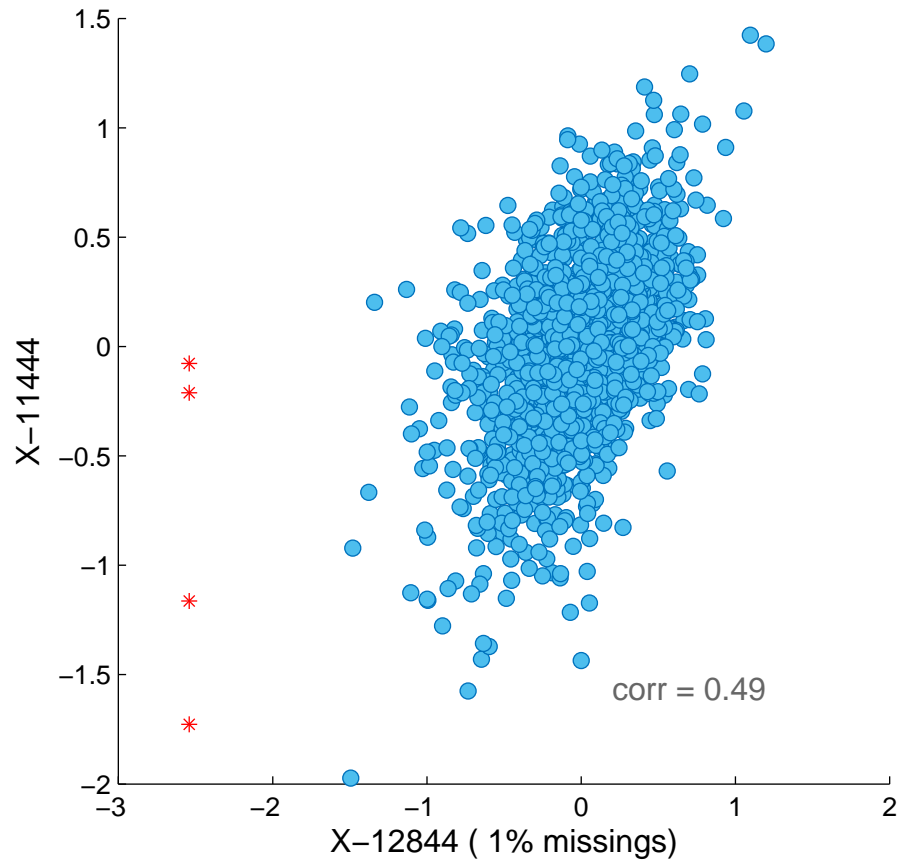
Missing values of X-12830
in X-11452



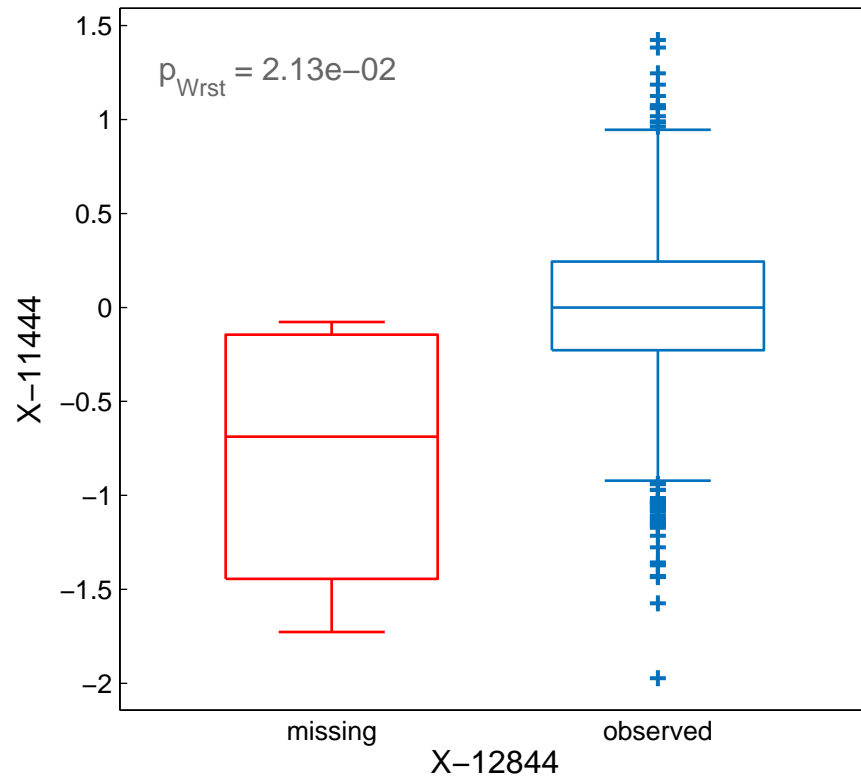
Concentrations of X-11452 in
missing and observed X-12830



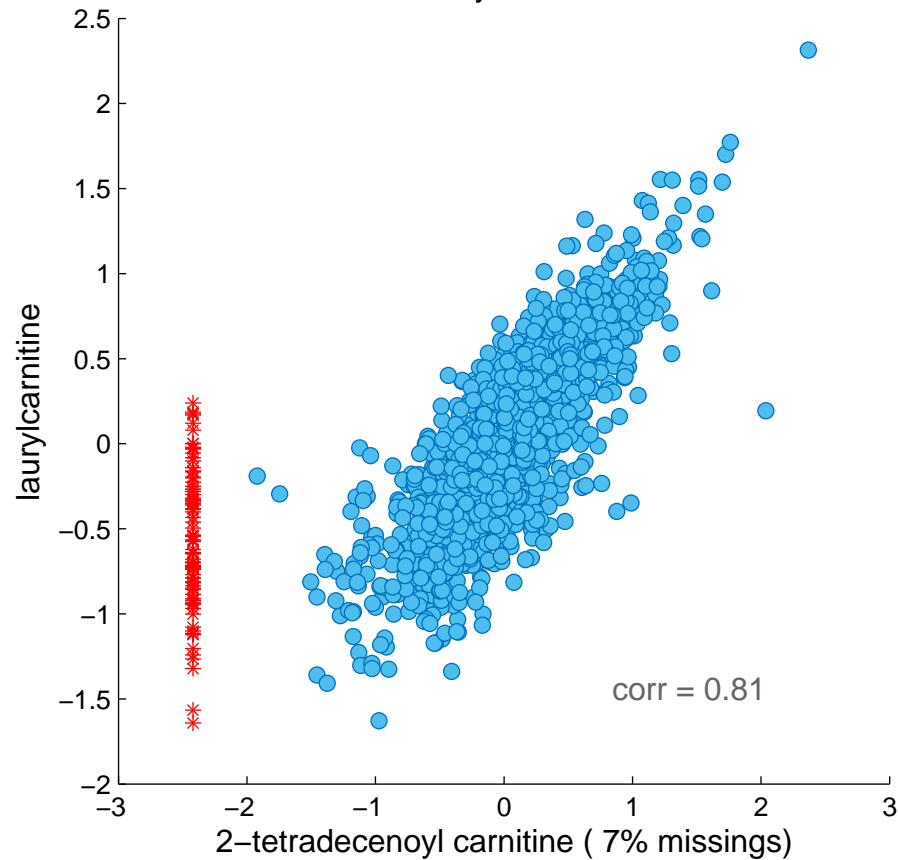
Missing values of X-12844
in X-11444



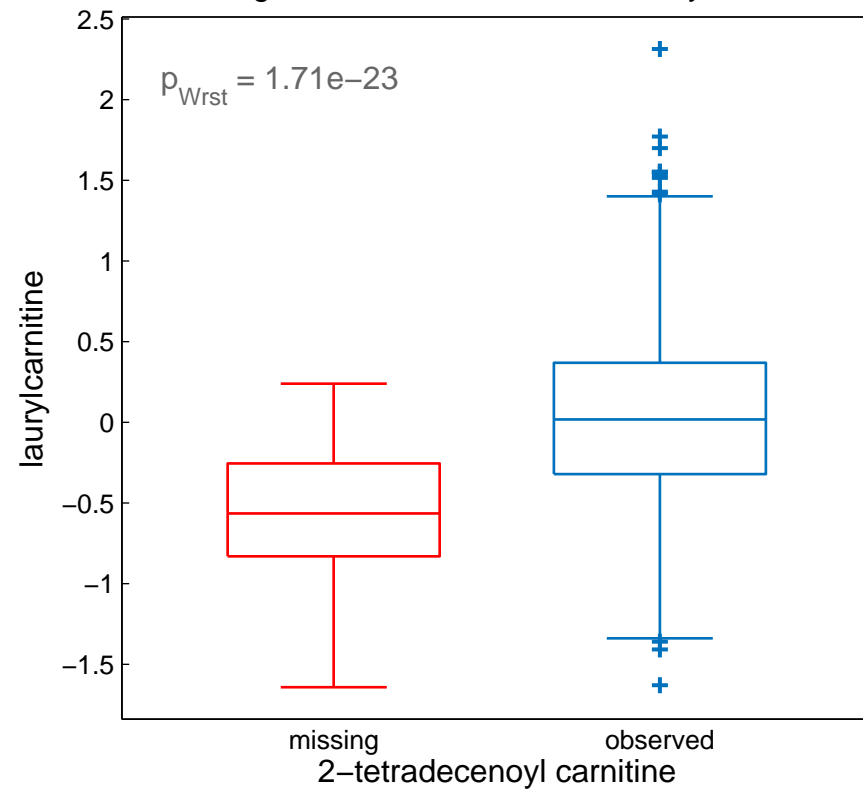
Concentrations of X-11444 in
missing and observed X-12844



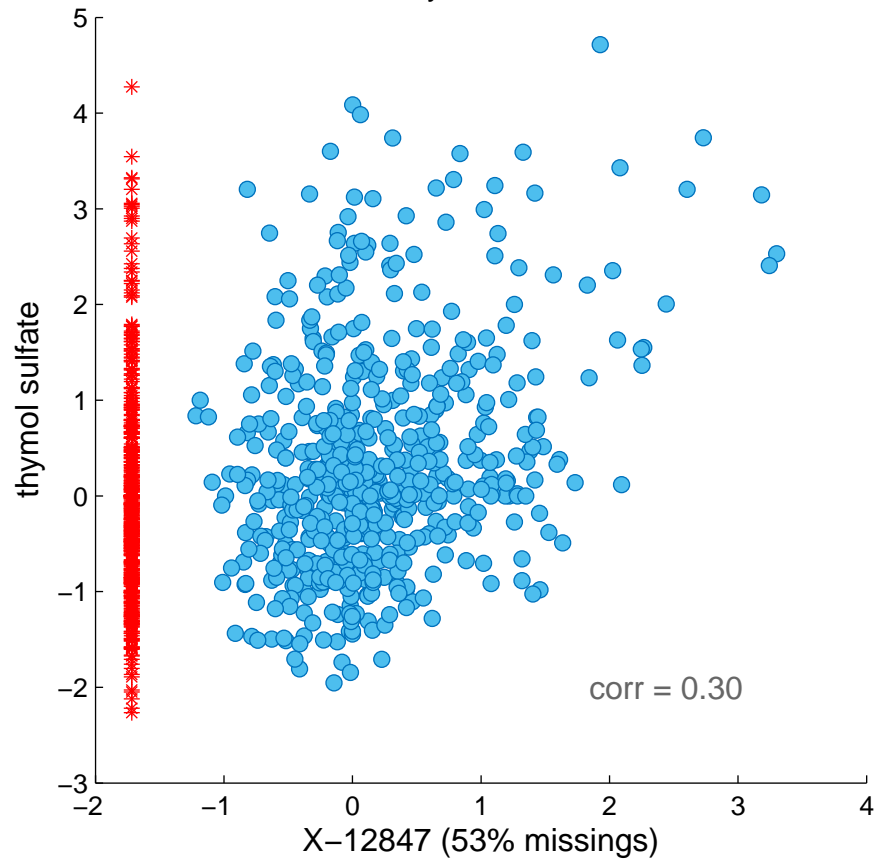
Missing values of 2-tetradecenoyl carnitine
in laurylcarnitine



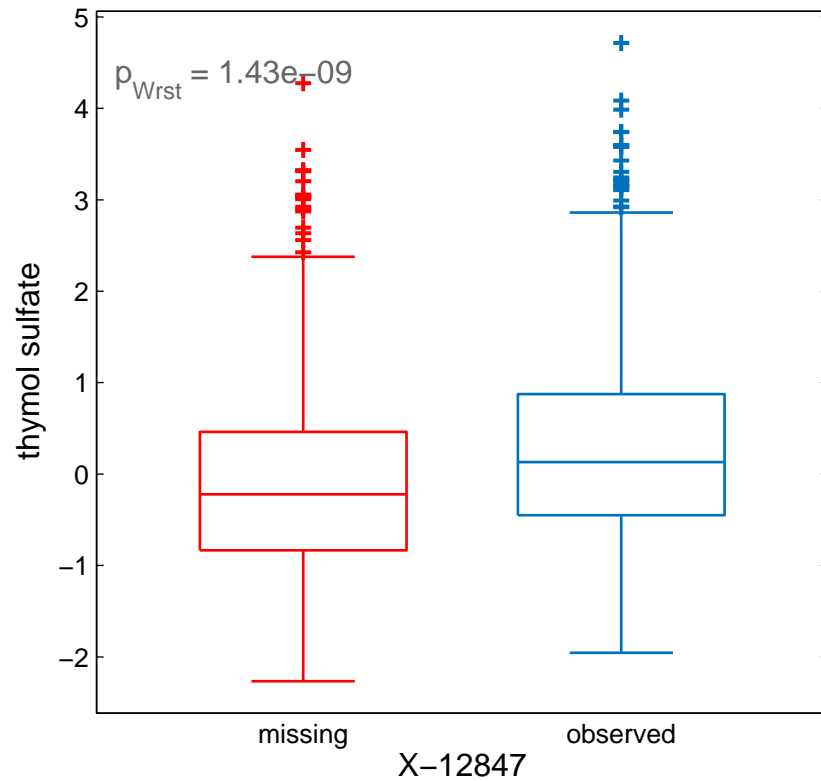
Concentrations of laurylcarnitine in
missing and observed 2-tetradecenoyl carnitine



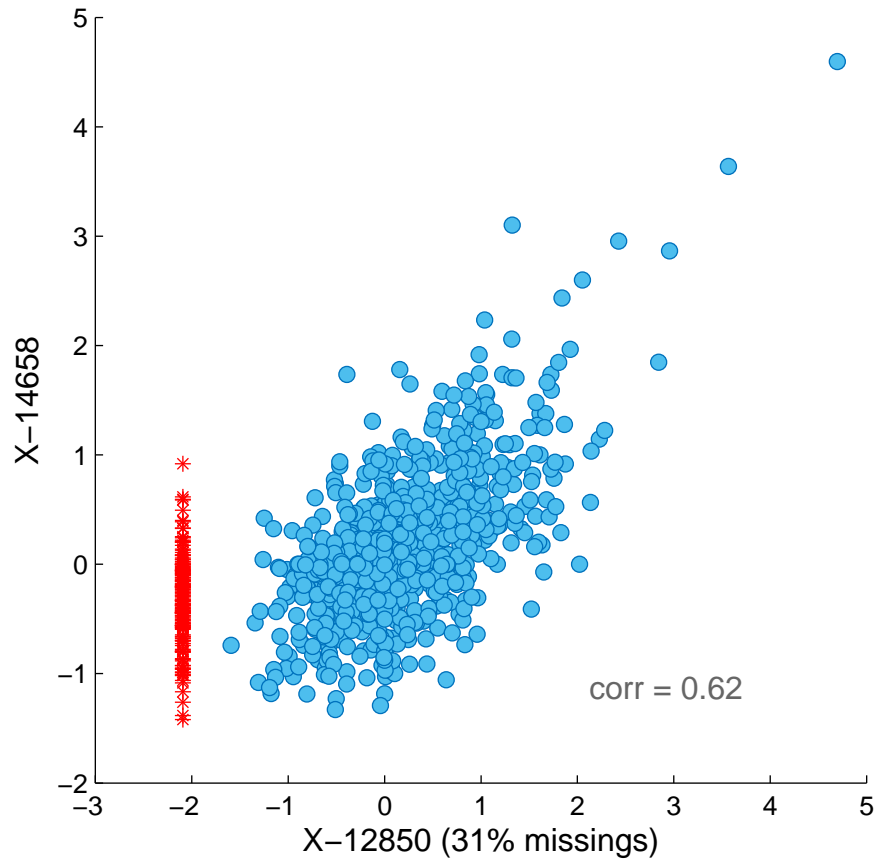
Missing values of X-12847
in thymol sulfate



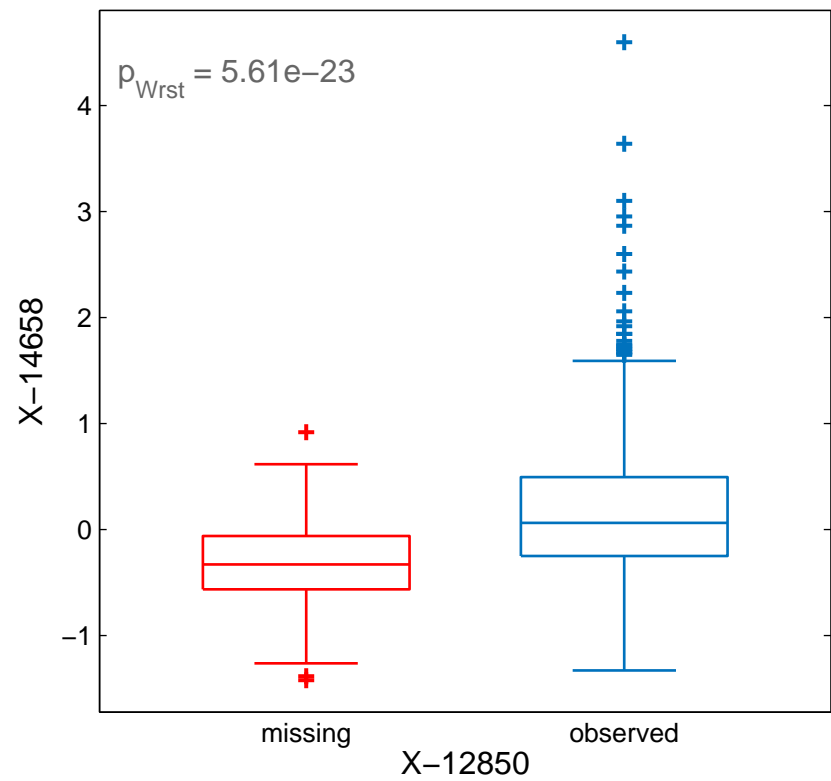
Concentrations of thymol sulfate in
missing and observed X-12847



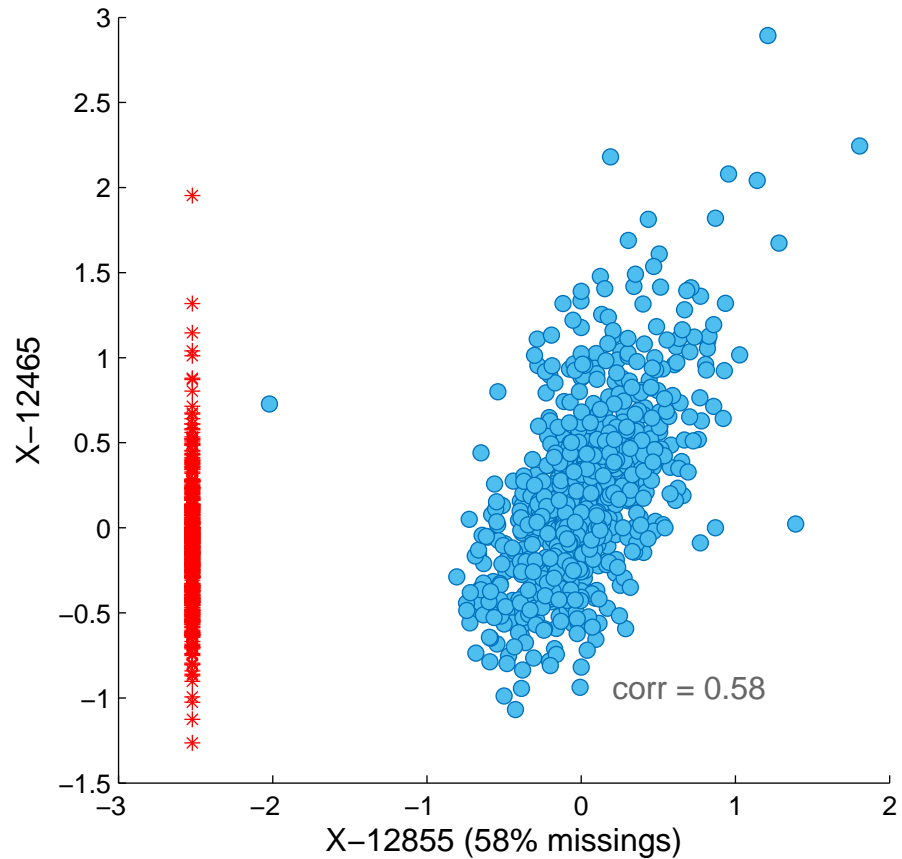
Missing values of X-12850
in X-14658



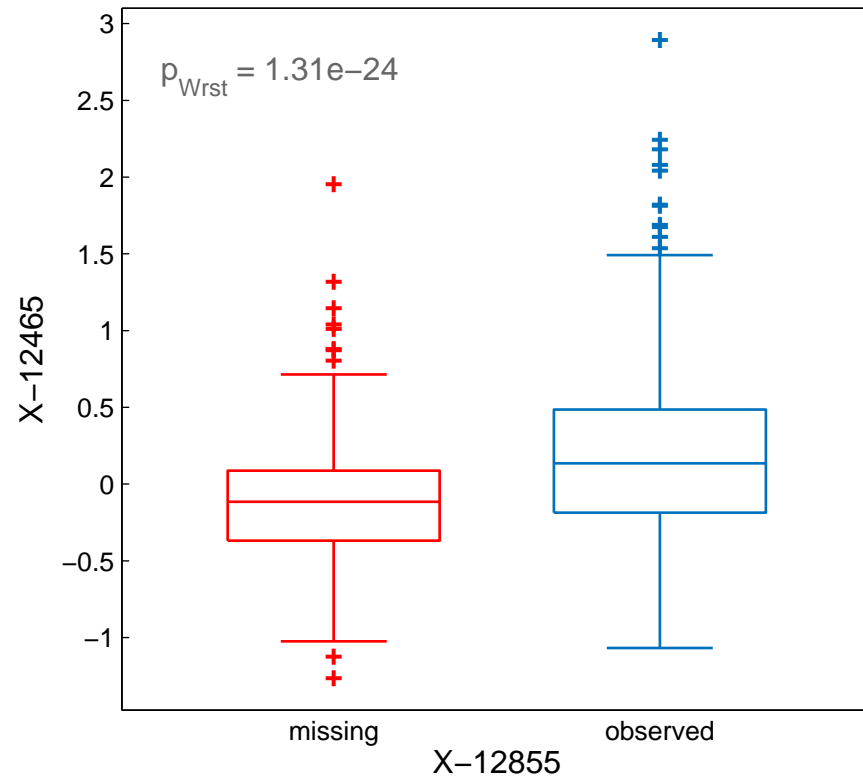
Concentrations of X-14658 in
missing and observed X-12850



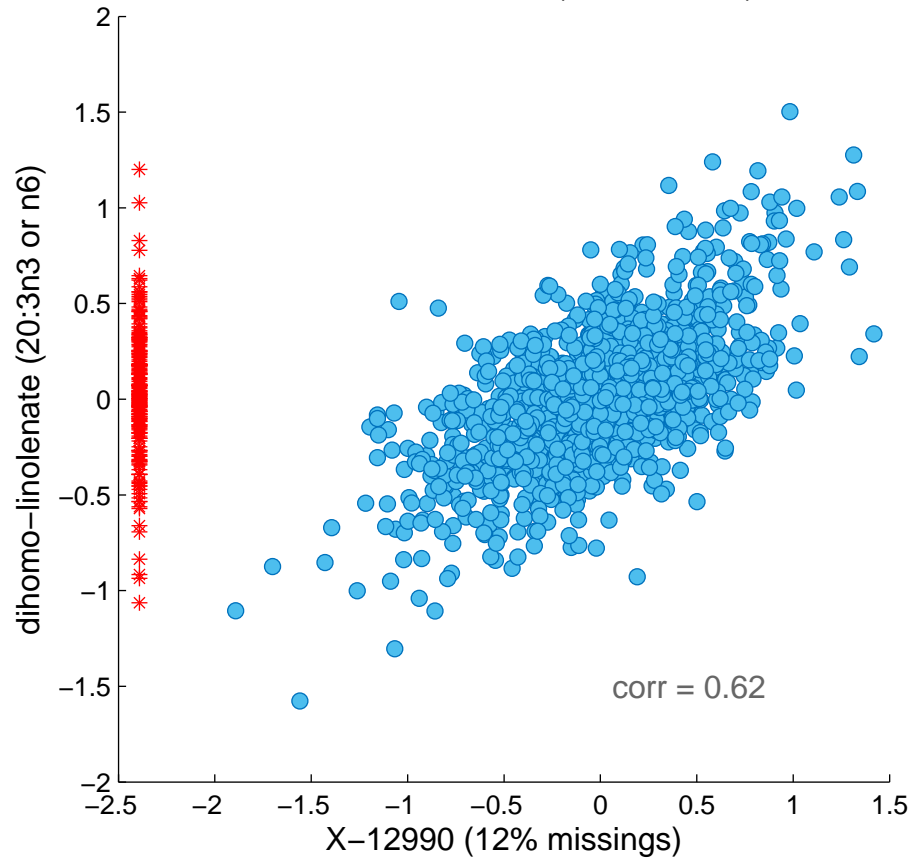
Missing values of X-12855
in X-12465



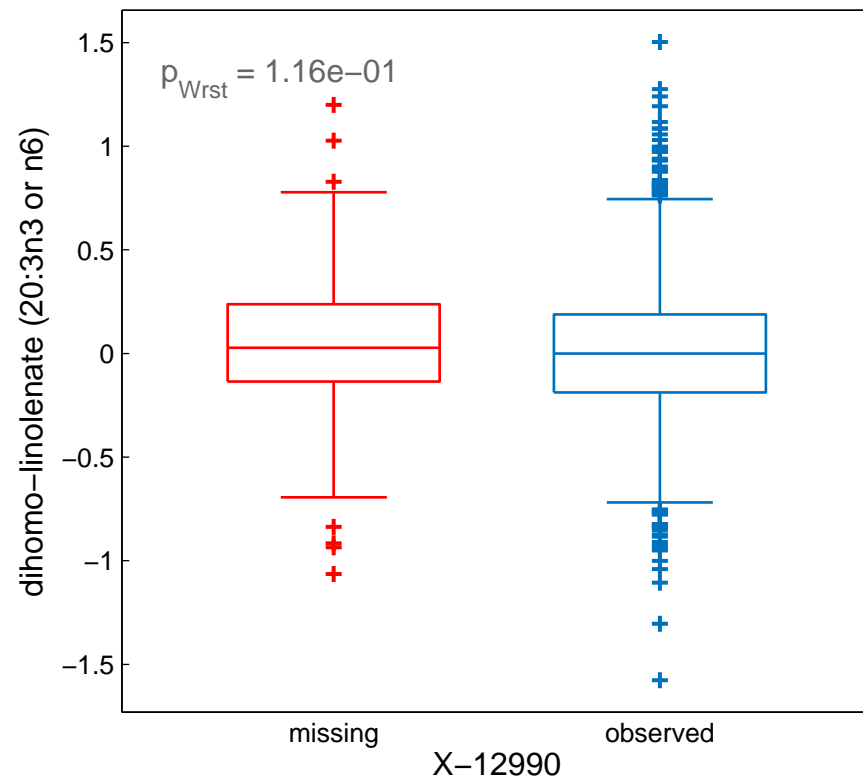
Concentrations of X-12465 in
missing and observed X-12855



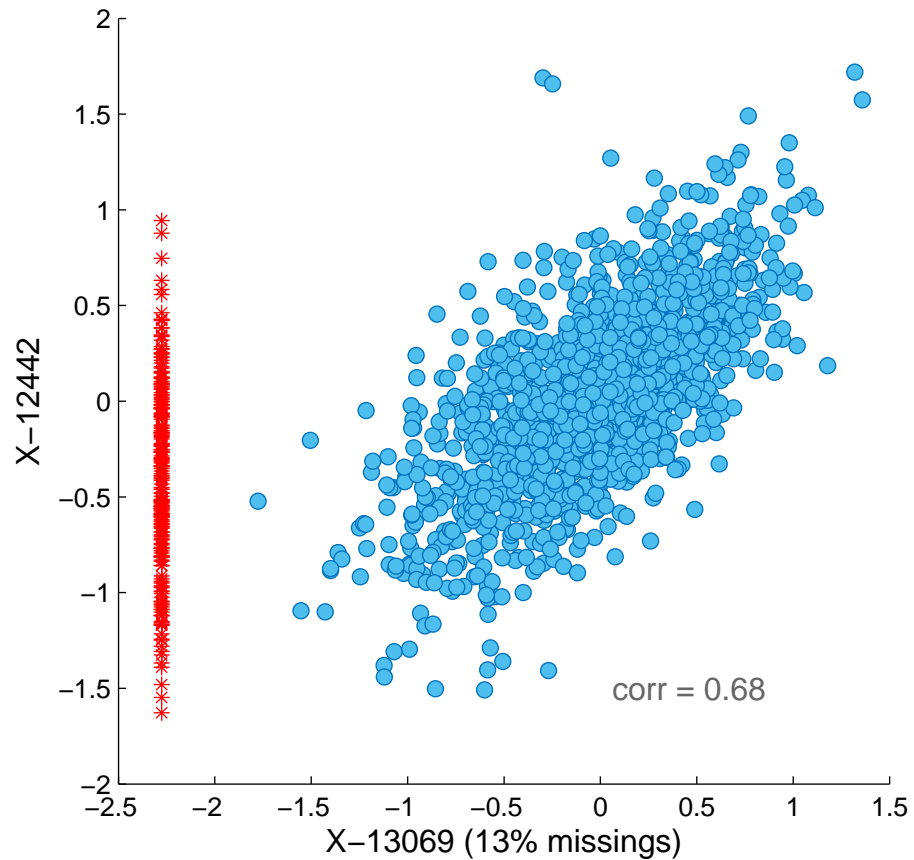
Missing values of X-12990
in dihomolinenate (20:3n3 or n6)



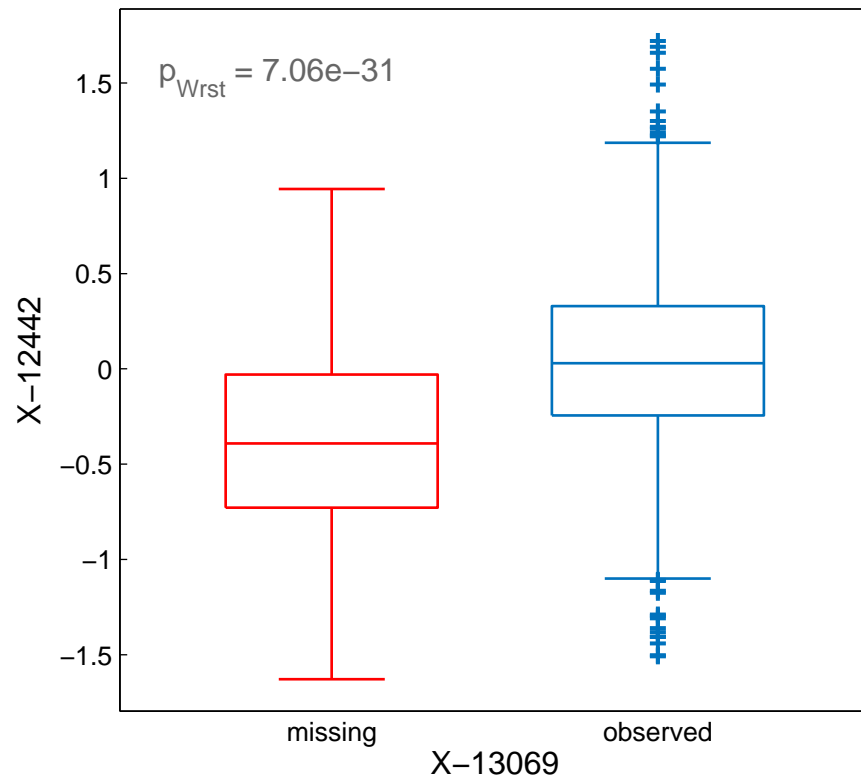
Concentrations of dihomolinenate (20:3n3 or n6)
in missing and observed X-12990



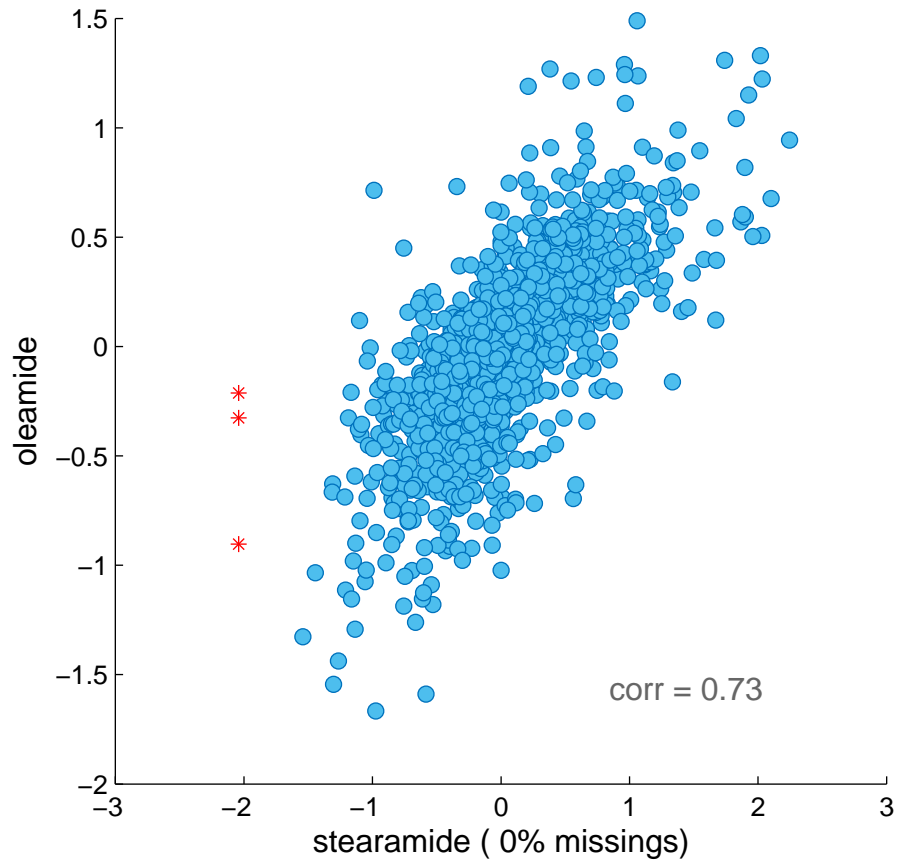
Missing values of X-13069
in X-12442



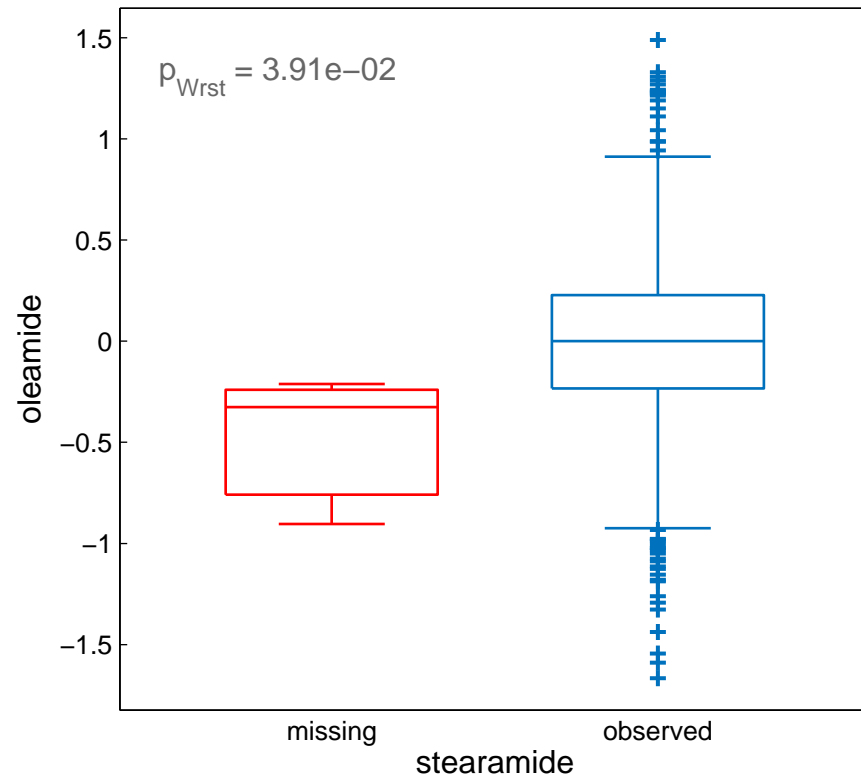
Concentrations of X-12442 in
missing and observed X-13069



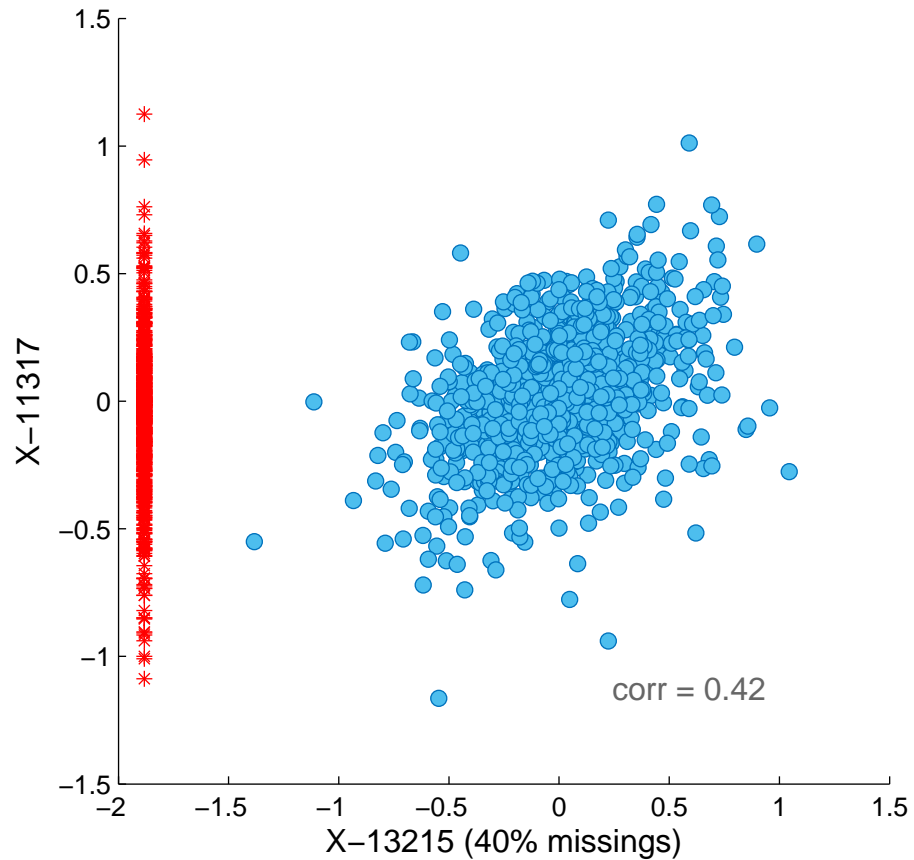
Missing values of stearamide
in oleamide



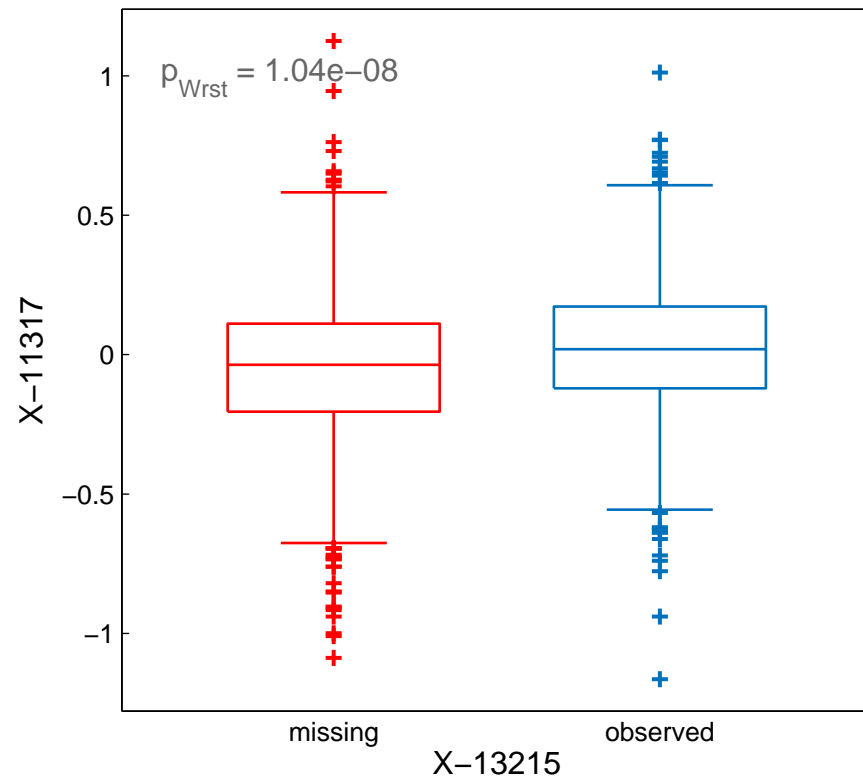
Concentrations of oleamide in
missing and observed stearamide



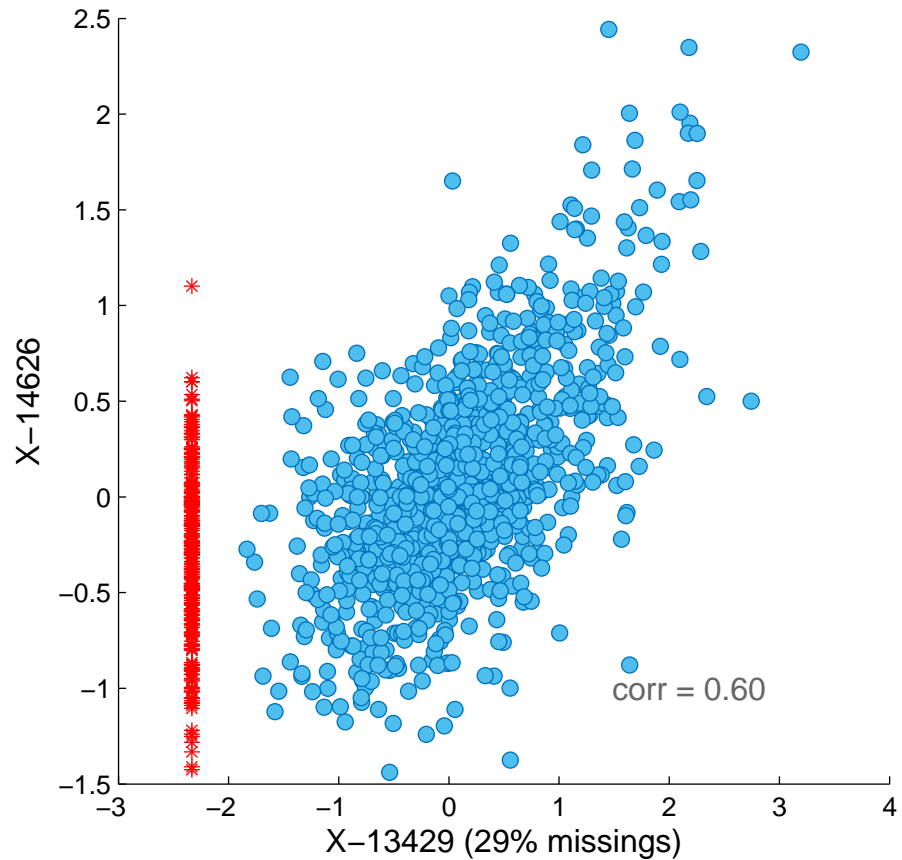
Missing values of X-13215
in X-11317



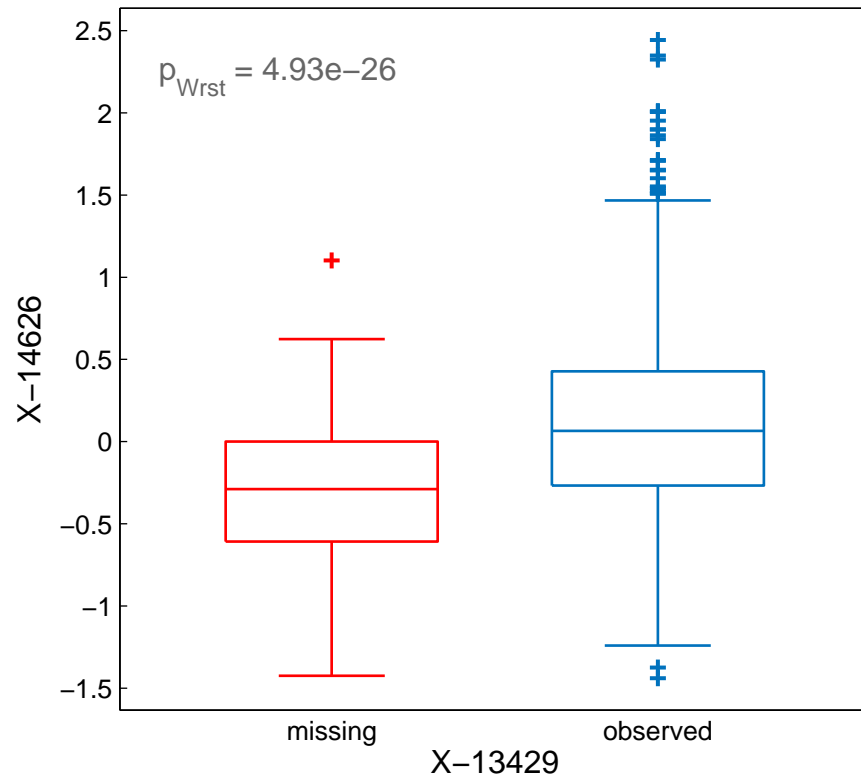
Concentrations of X-11317 in
missing and observed X-13215



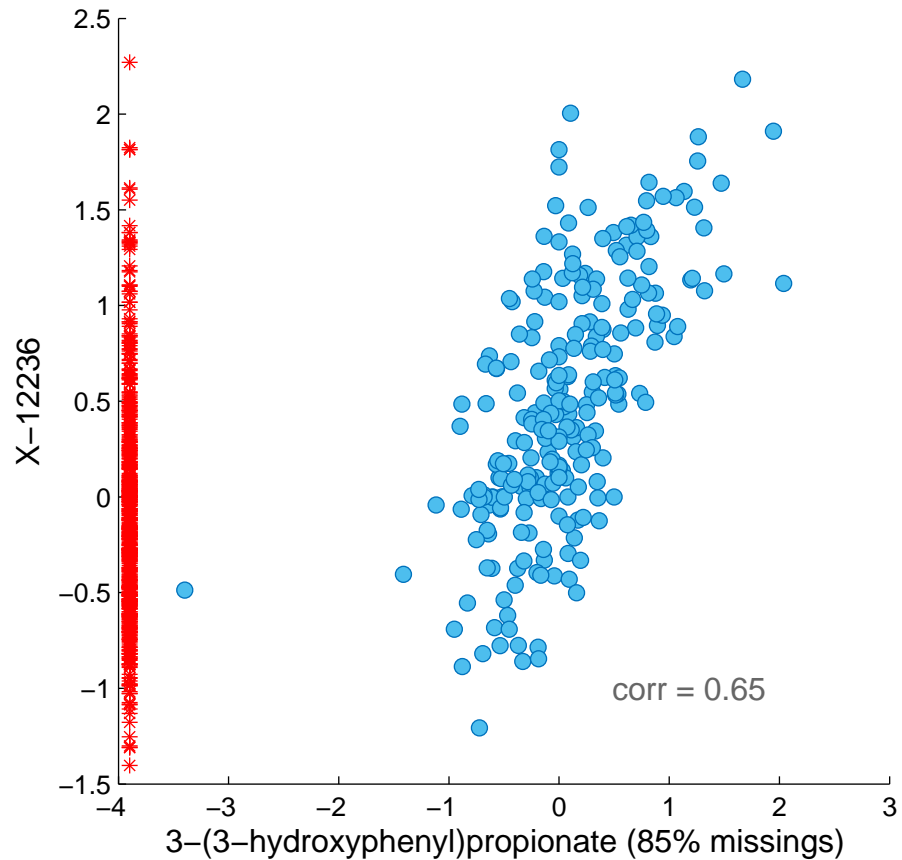
Missing values of X-13429
in X-14626



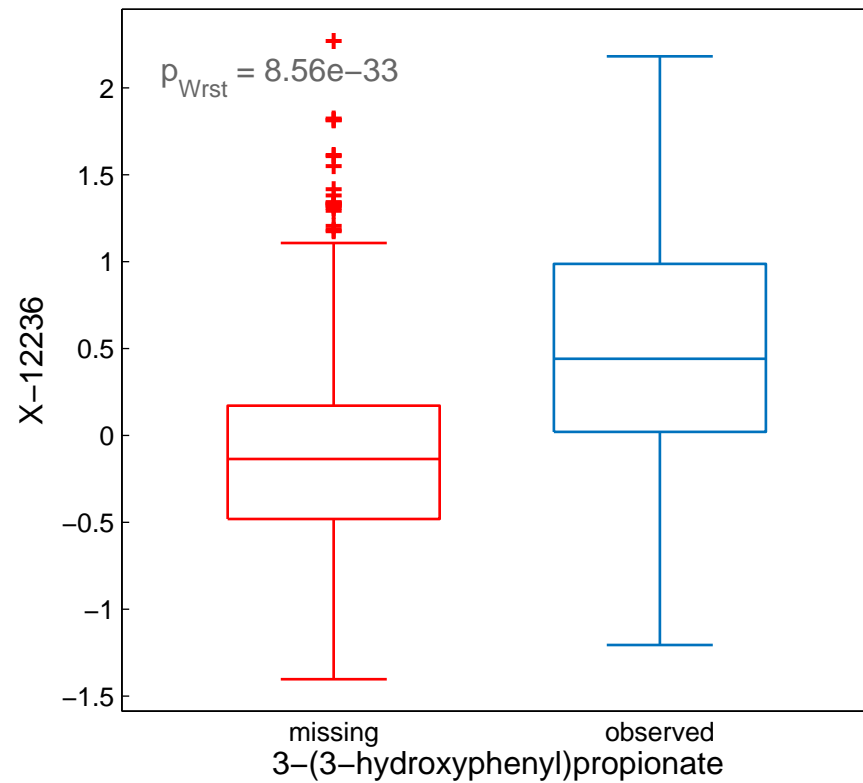
Concentrations of X-14626 in
missing and observed X-13429



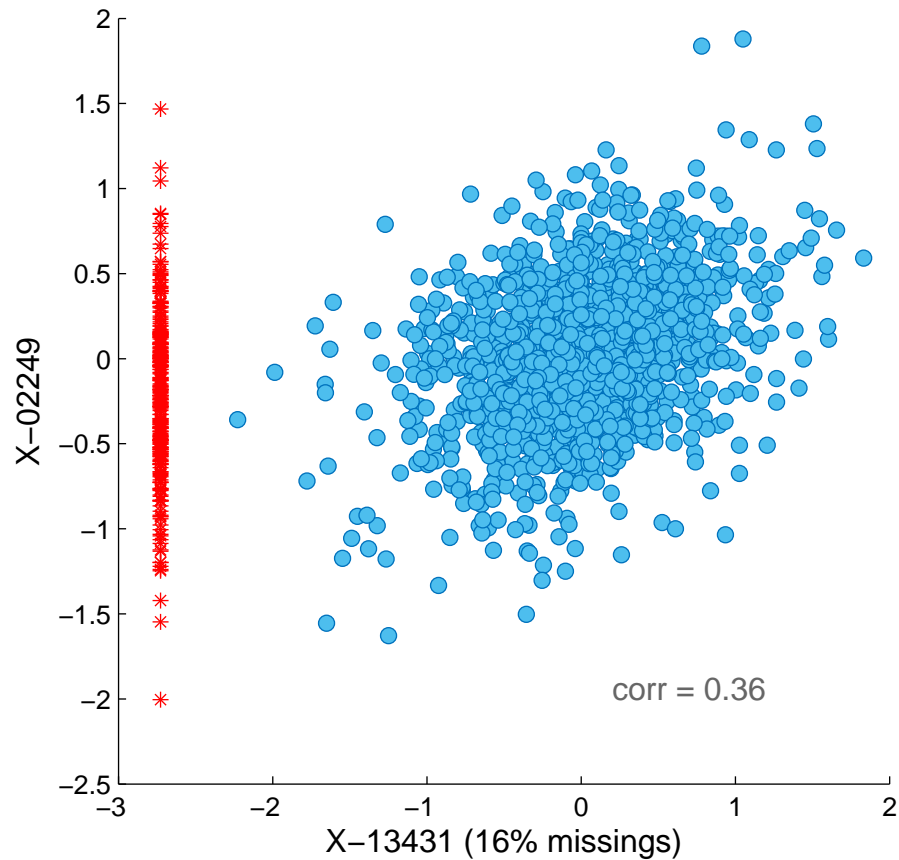
Missing values of 3-(3-hydroxyphenyl)propionate
in X-12236



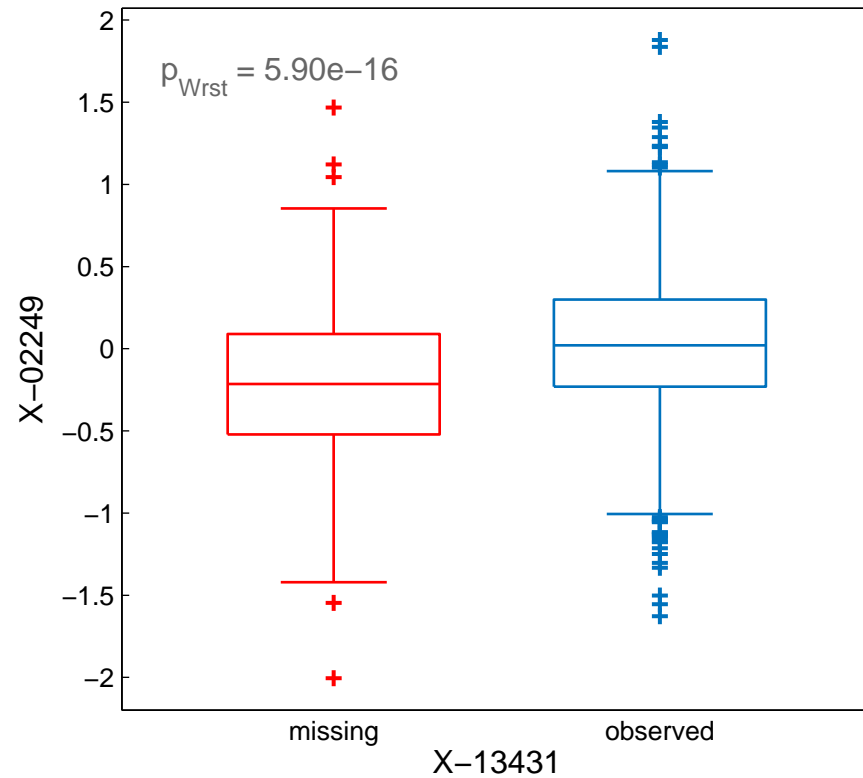
Concentrations of X-12236 in
missing and observed 3-(3-hydroxyphenyl)propionate



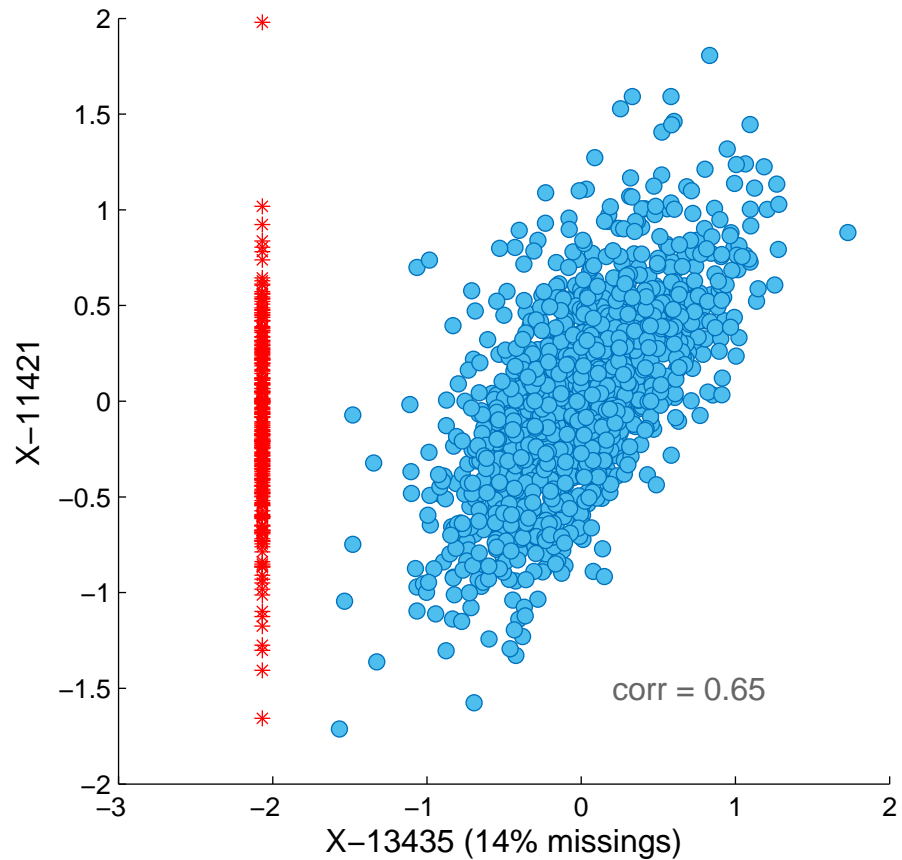
Missing values of X-13431
in X-02249



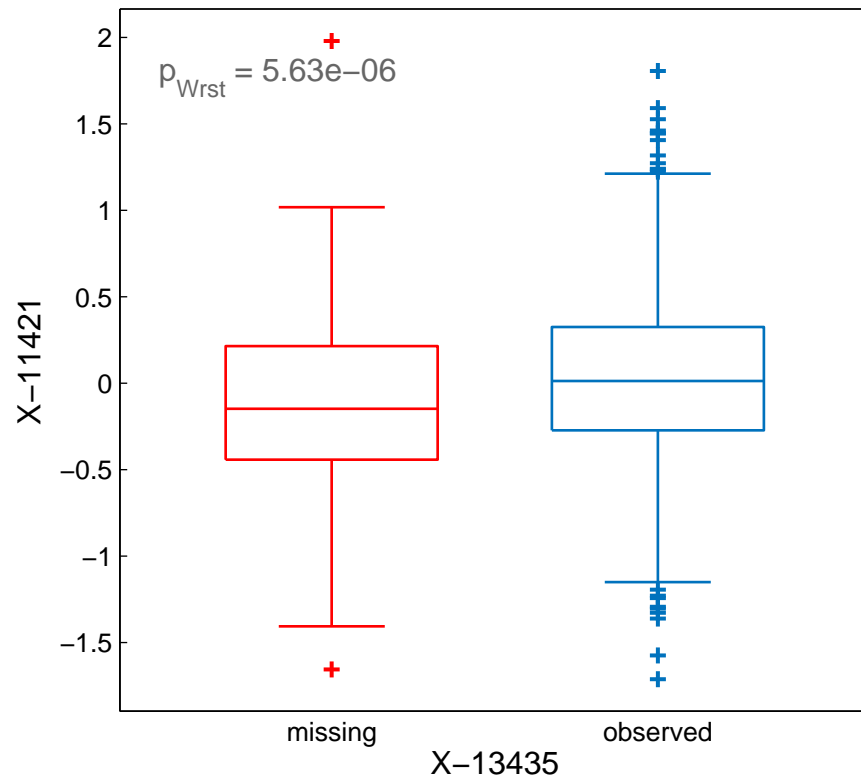
Concentrations of X-02249 in
missing and observed X-13431



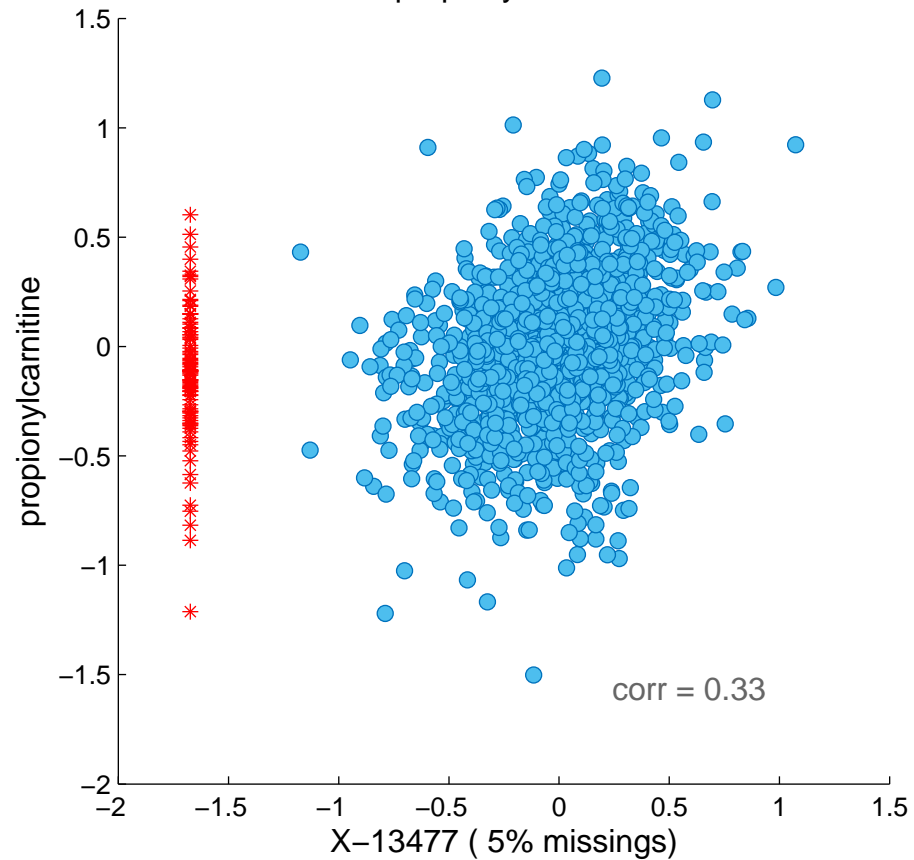
Missing values of X-13435
in X-11421



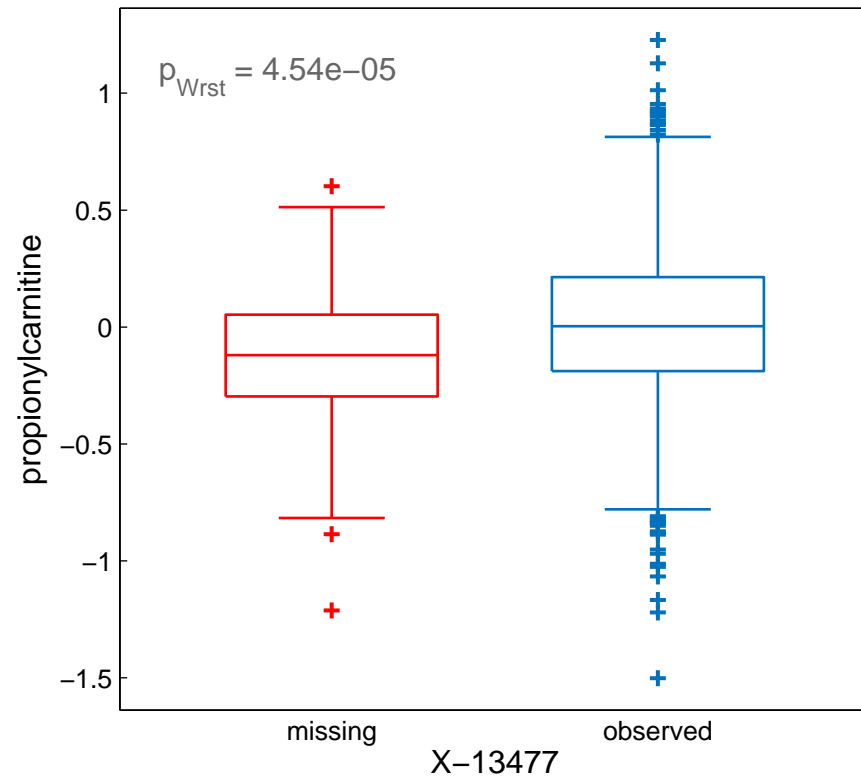
Concentrations of X-11421 in
missing and observed X-13435



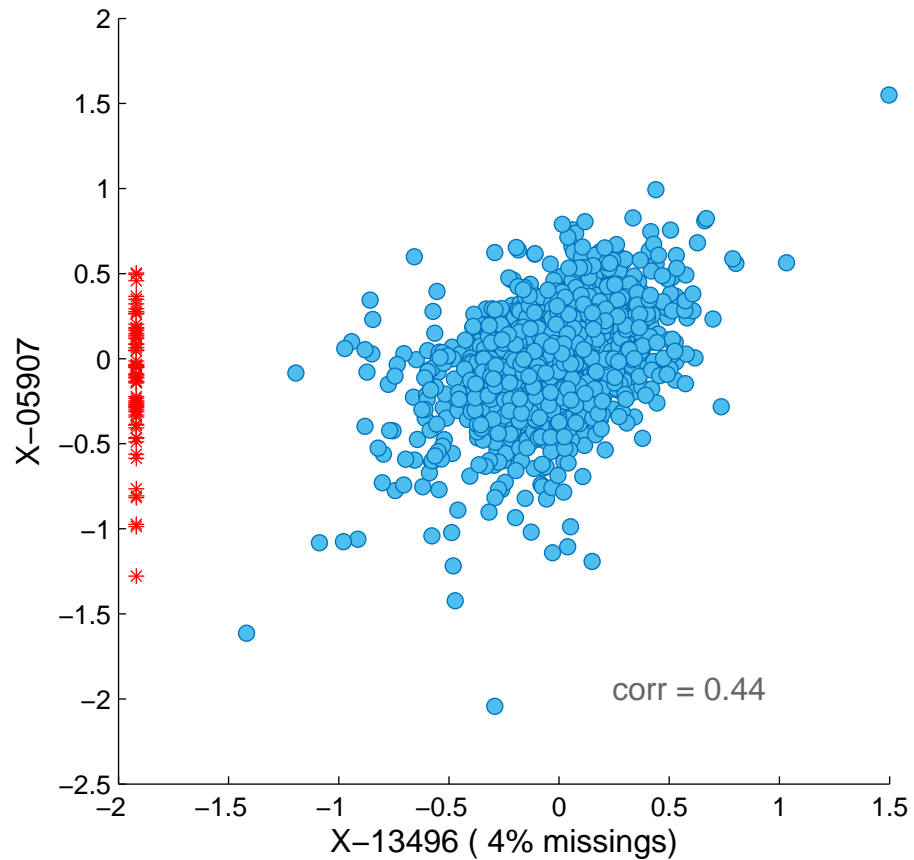
Missing values of X-13477
in propionylcarnitine



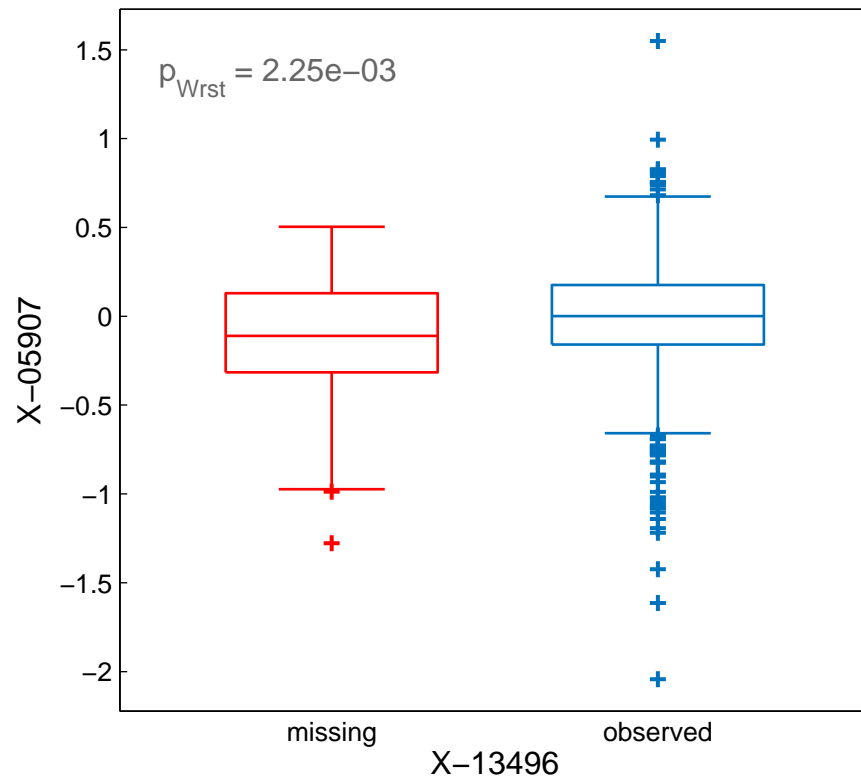
Concentrations of propionylcarnitine in
missing and observed X-13477



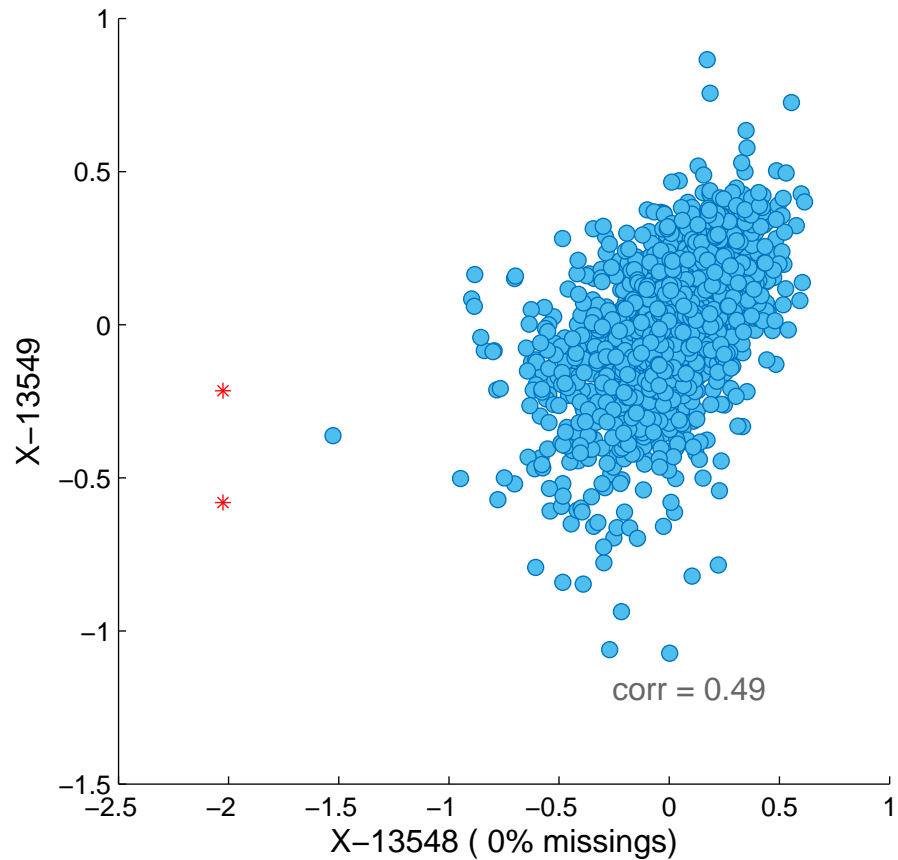
Missing values of X-13496
in X-05907



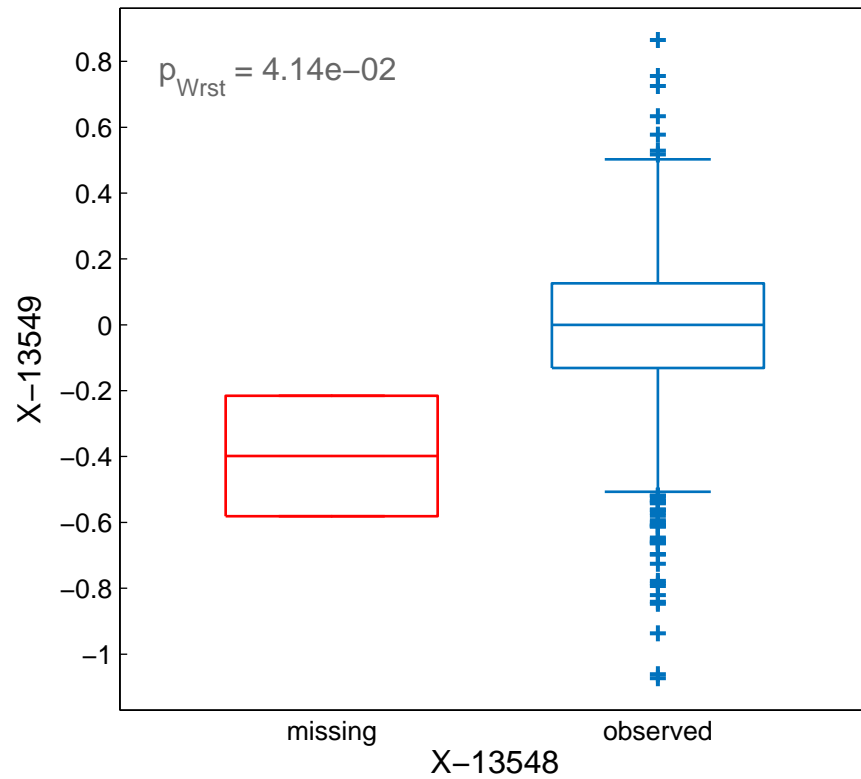
Concentrations of X-05907 in
missing and observed X-13496



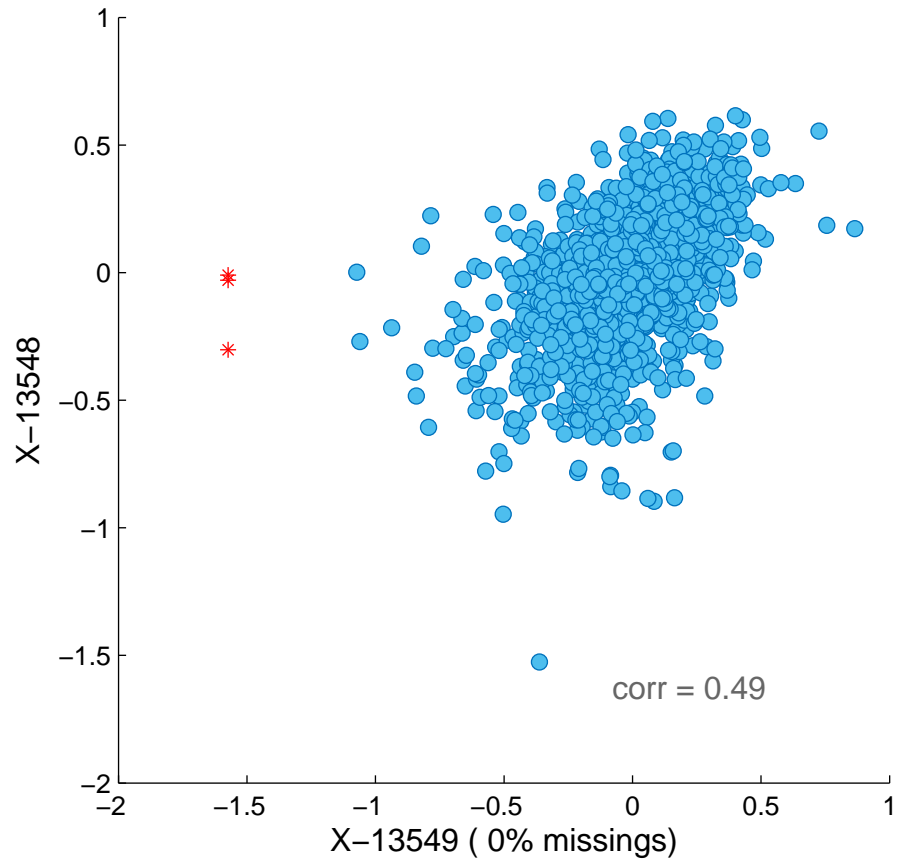
Missing values of X-13548
in X-13549



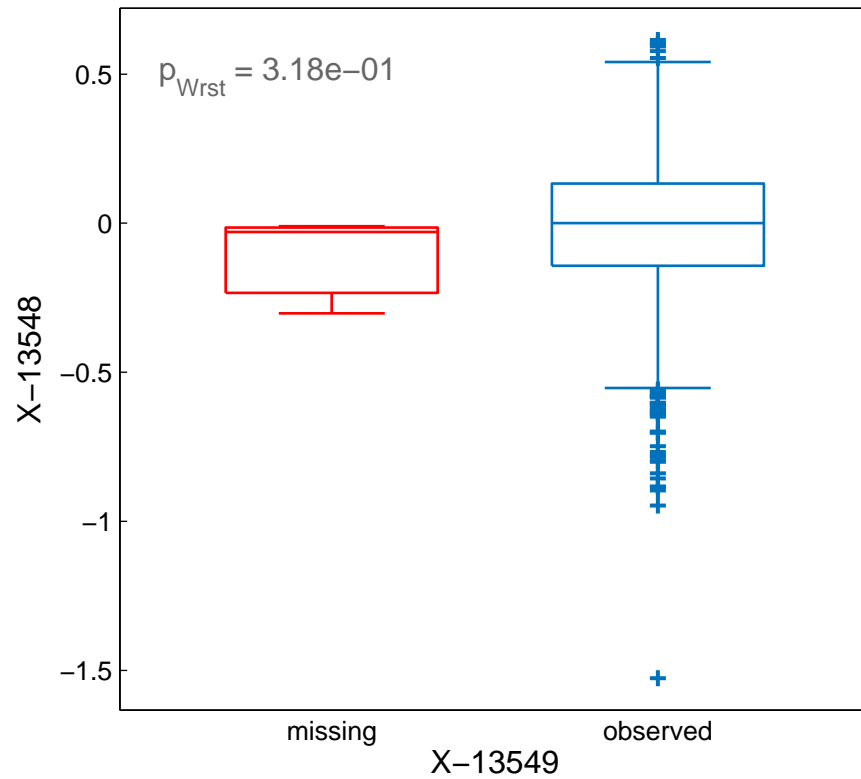
Concentrations of X-13549 in
missing and observed X-13548



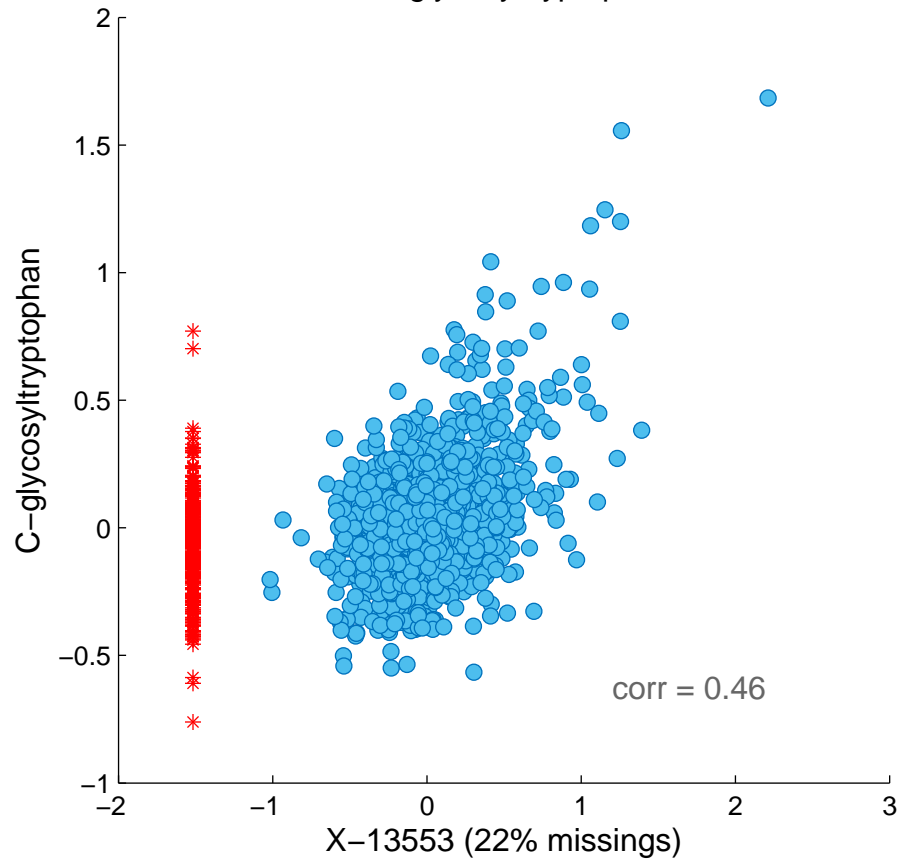
Missing values of X-13549
in X-13548



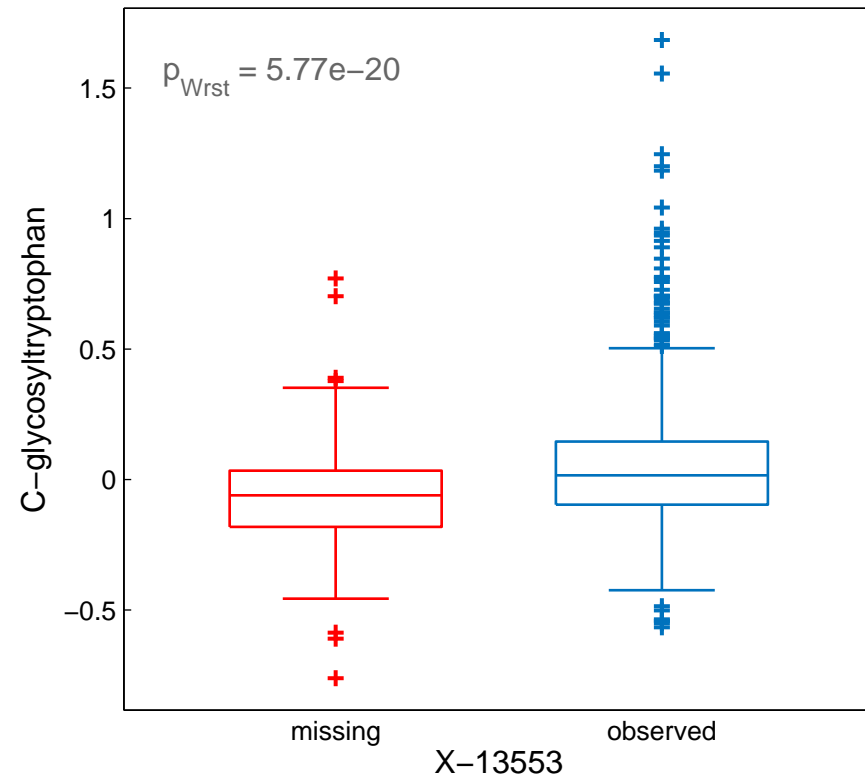
Concentrations of X-13548 in
missing and observed X-13549



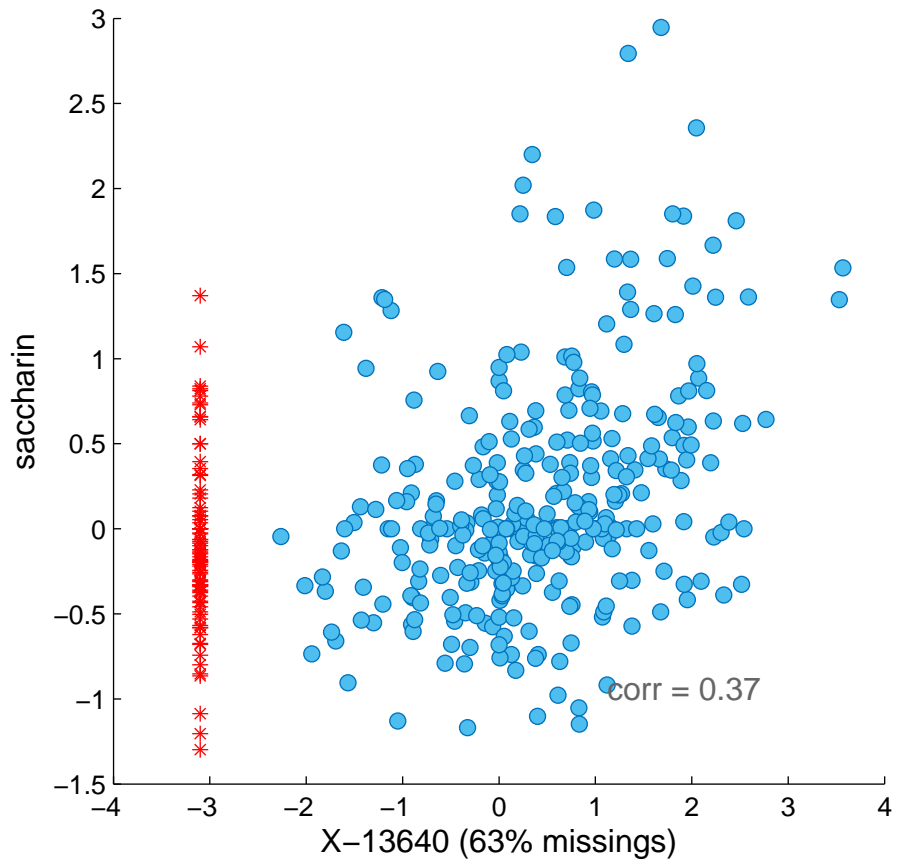
Missing values of X-13553
in C-glycosyltryptophan



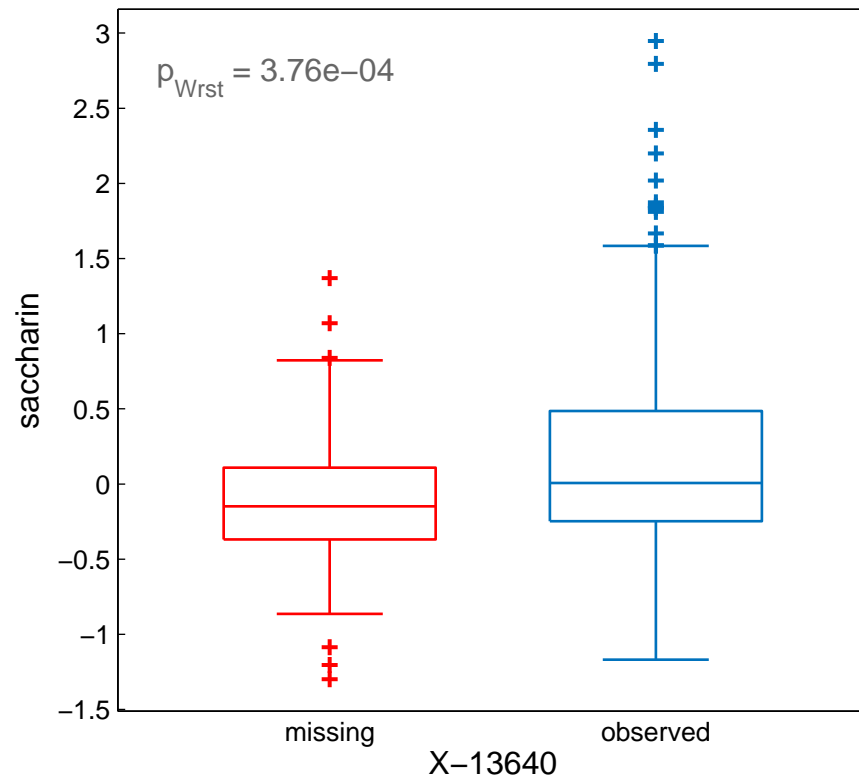
Concentrations of C-glycosyltryptophan in
missing and observed X-13553



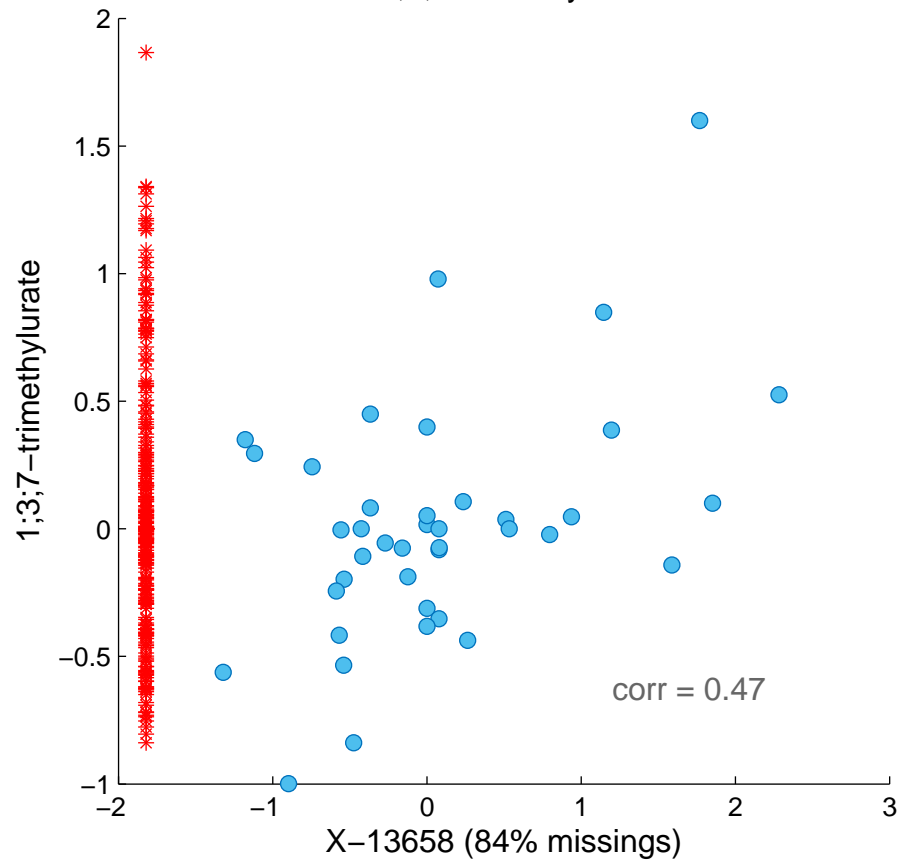
Missing values of X-13640
in saccharin



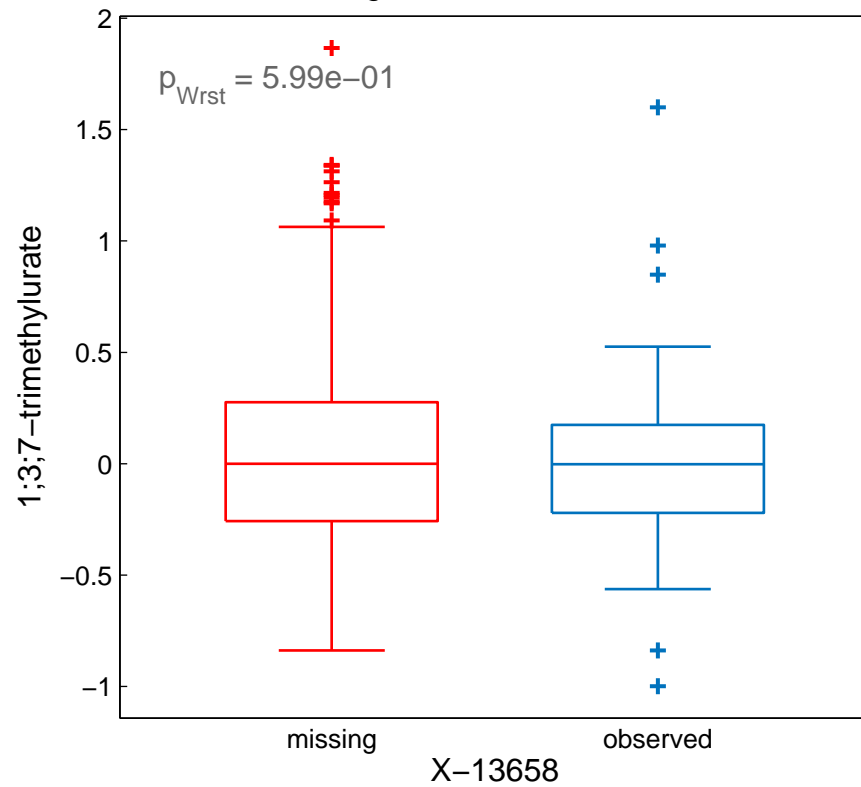
Concentrations of saccharin in
missing and observed X-13640



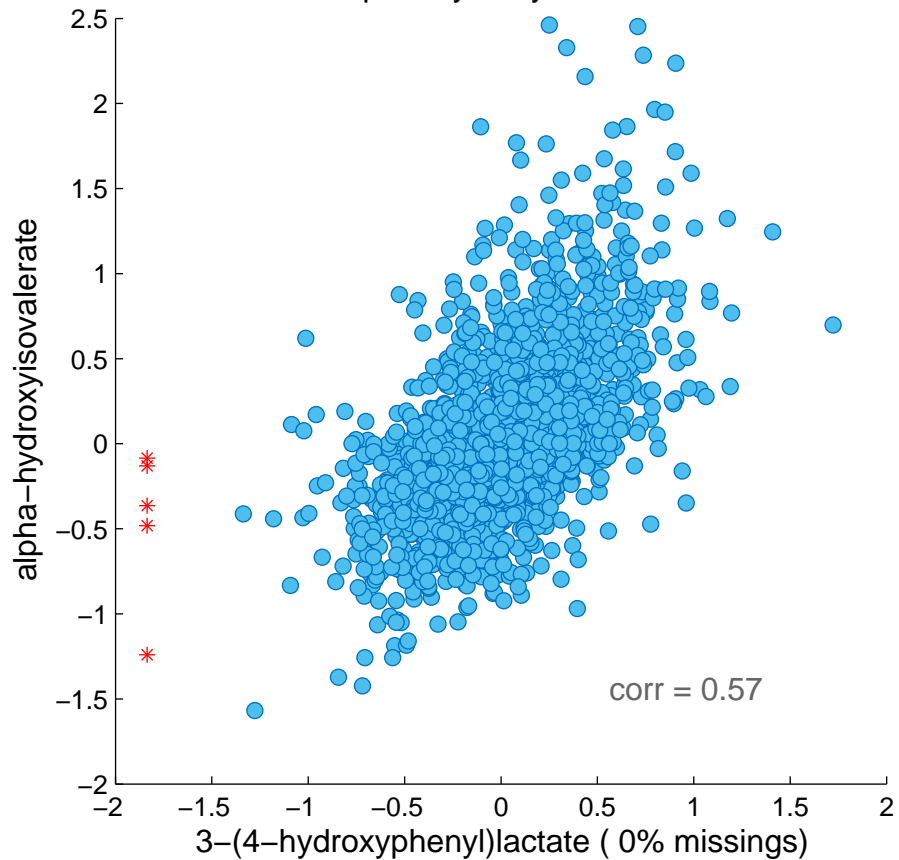
Missing values of X-13658
in 1;3;7-trimethylurate



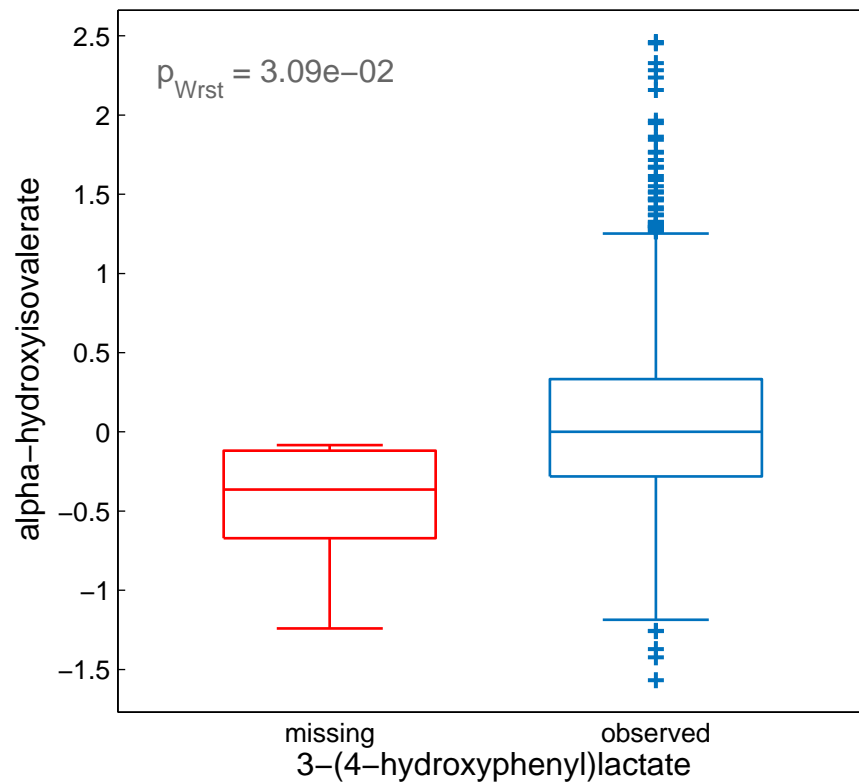
Concentrations of 1;3;7-trimethylurate in
missing and observed X-13658



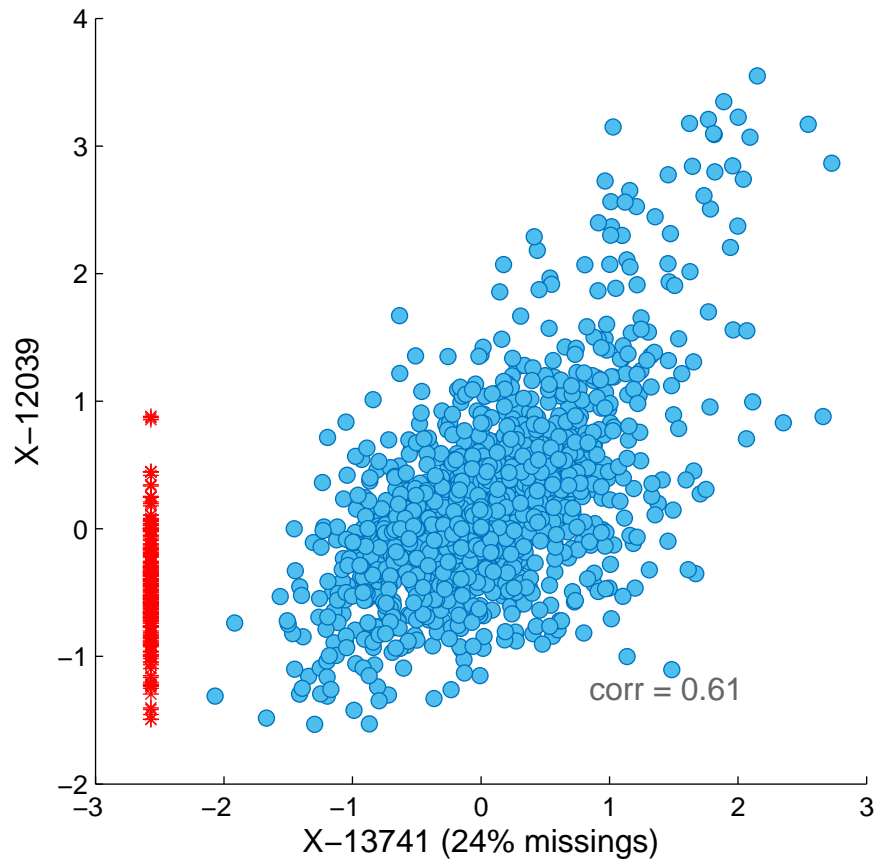
Missing values of 3-(4-hydroxyphenyl)lactate
in alpha-hydroxyisovalerate



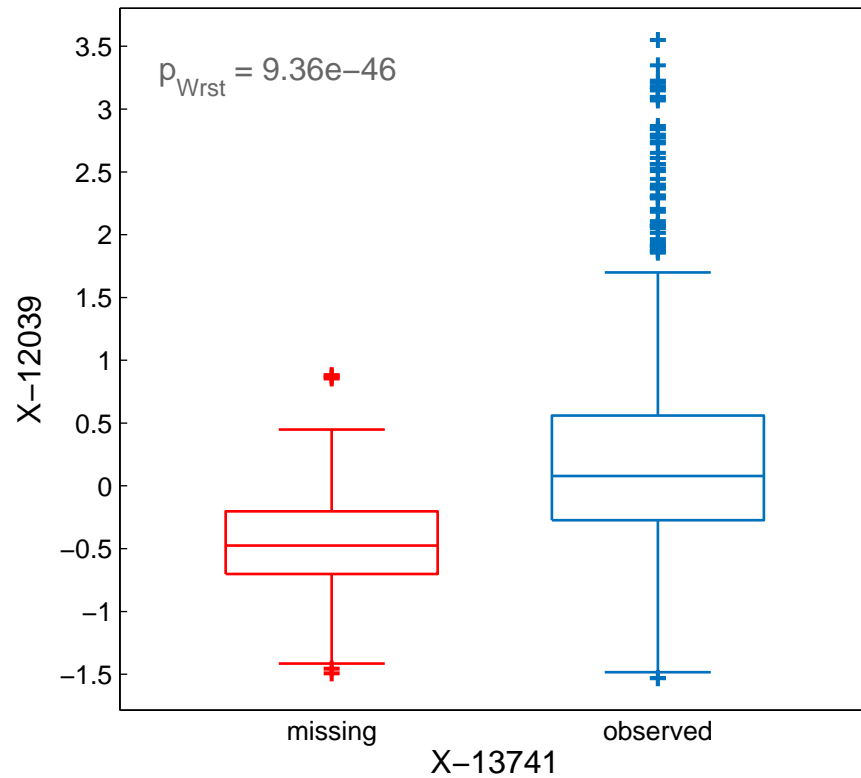
Concentrations of alpha-hydroxyisovalerate in
missing and observed 3-(4-hydroxyphenyl)lactate



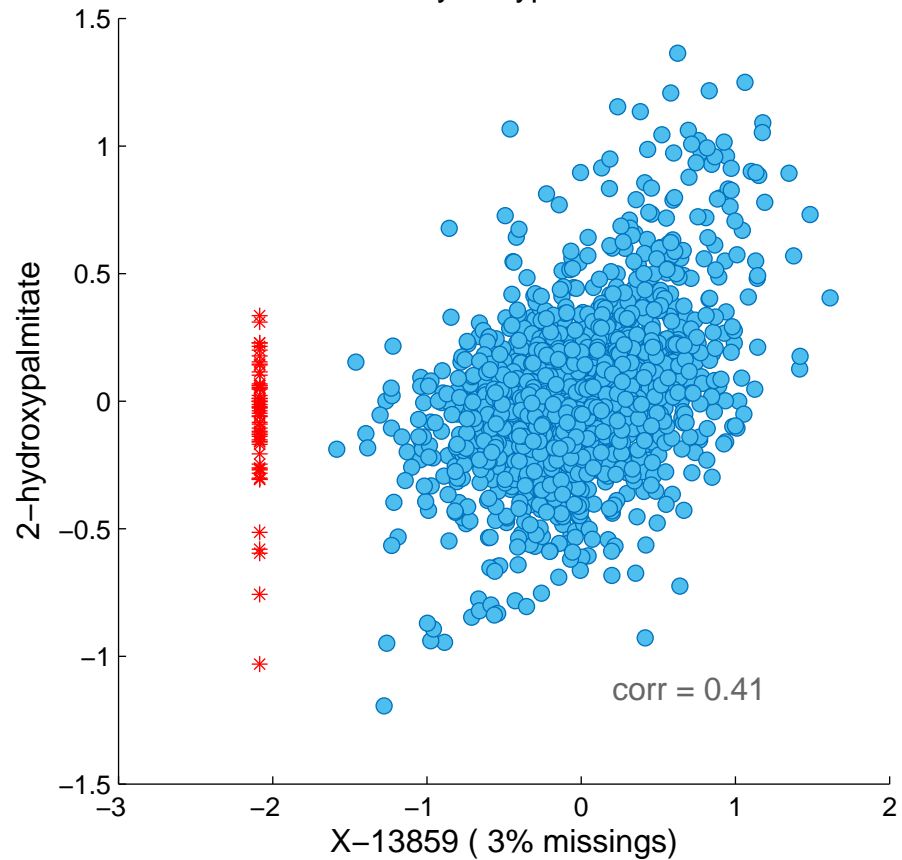
Missing values of X-13741
in X-12039



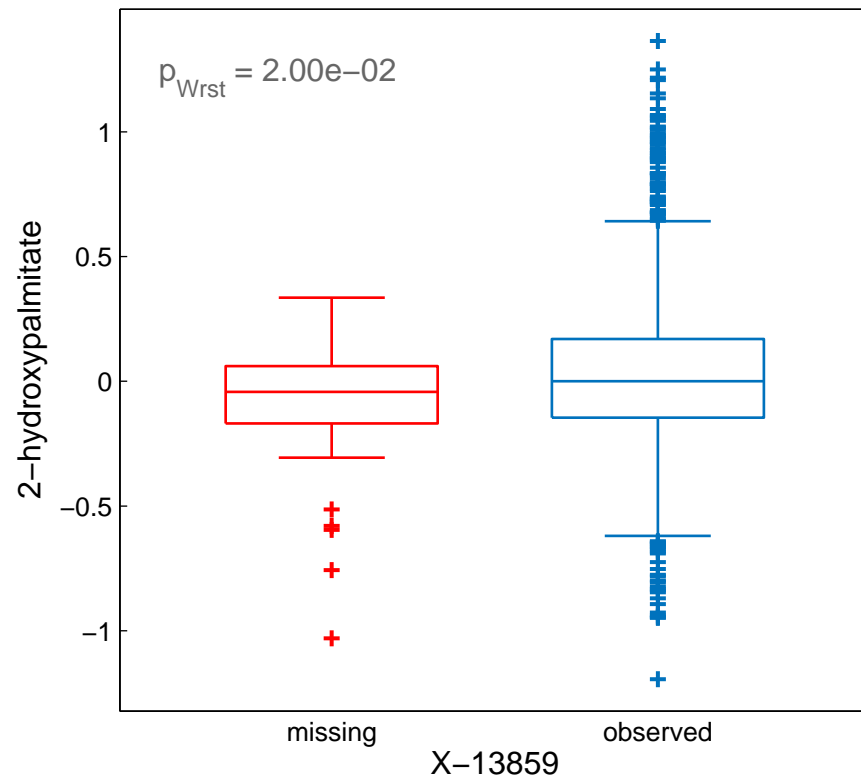
Concentrations of X-12039 in
missing and observed X-13741



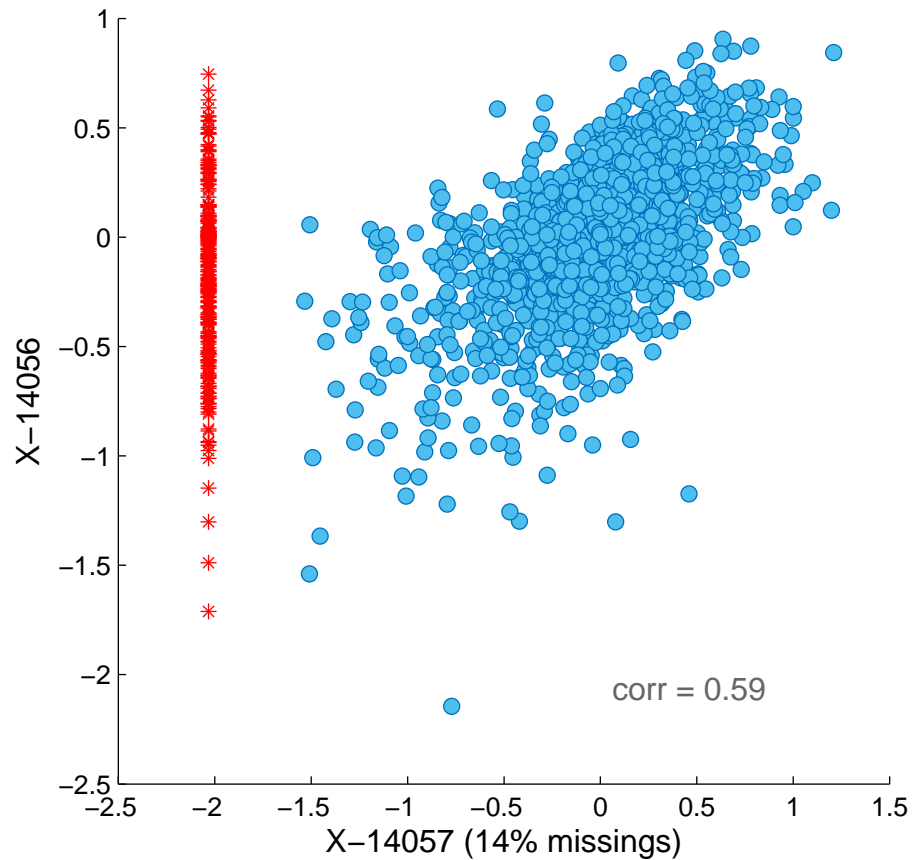
Missing values of X-13859
in 2-hydroxypalmitate



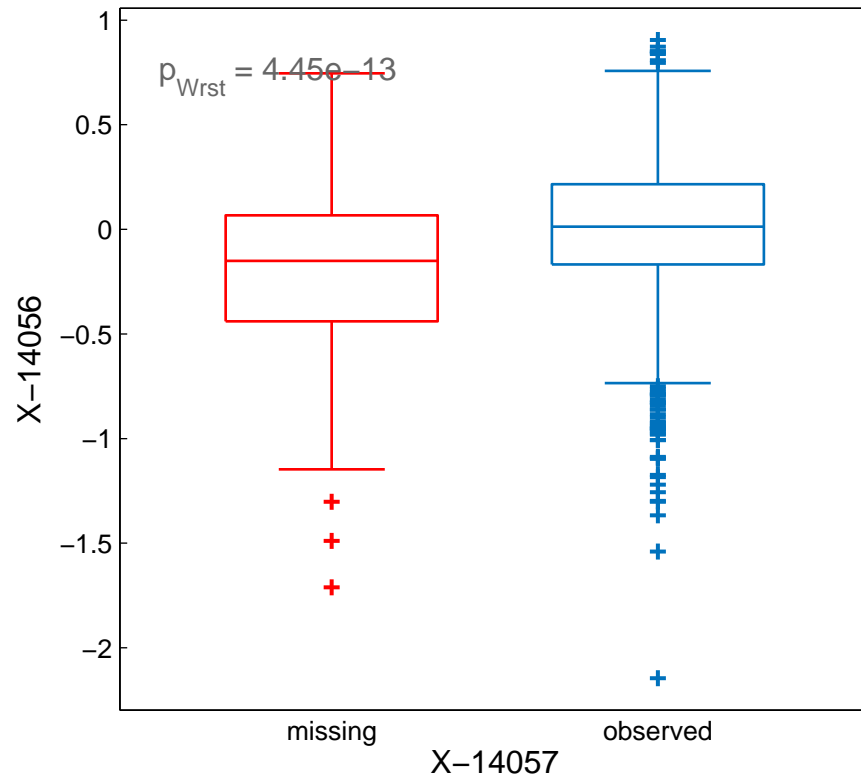
Concentrations of 2-hydroxypalmitate in
missing and observed X-13859



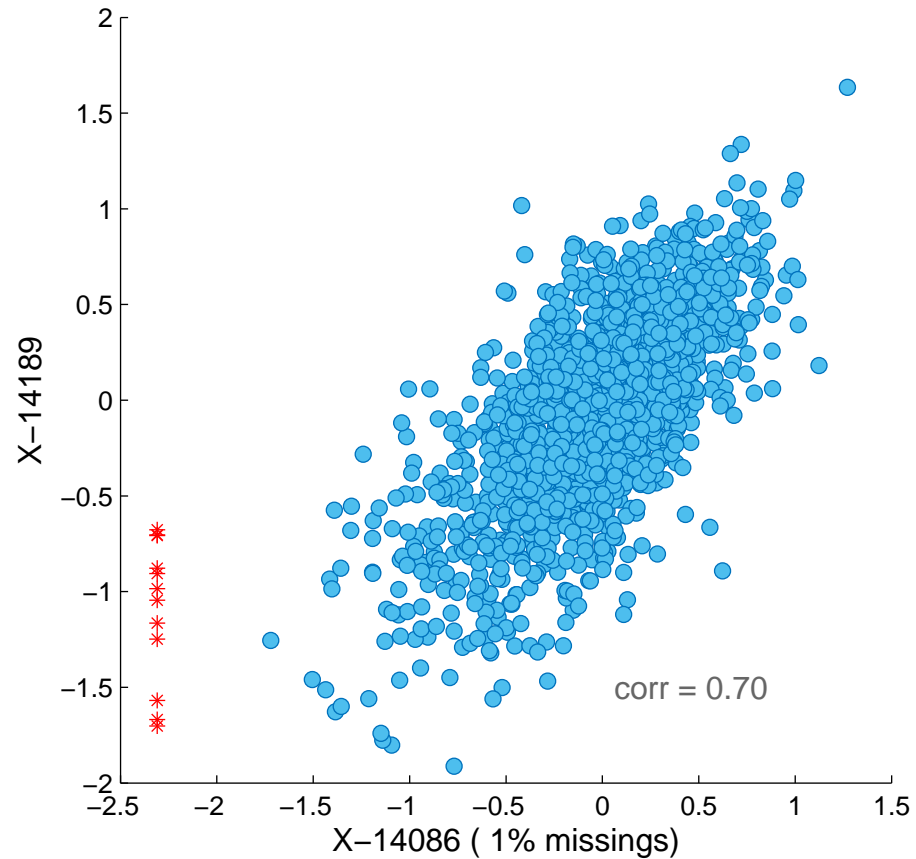
Missing values of X-14057
in X-14056



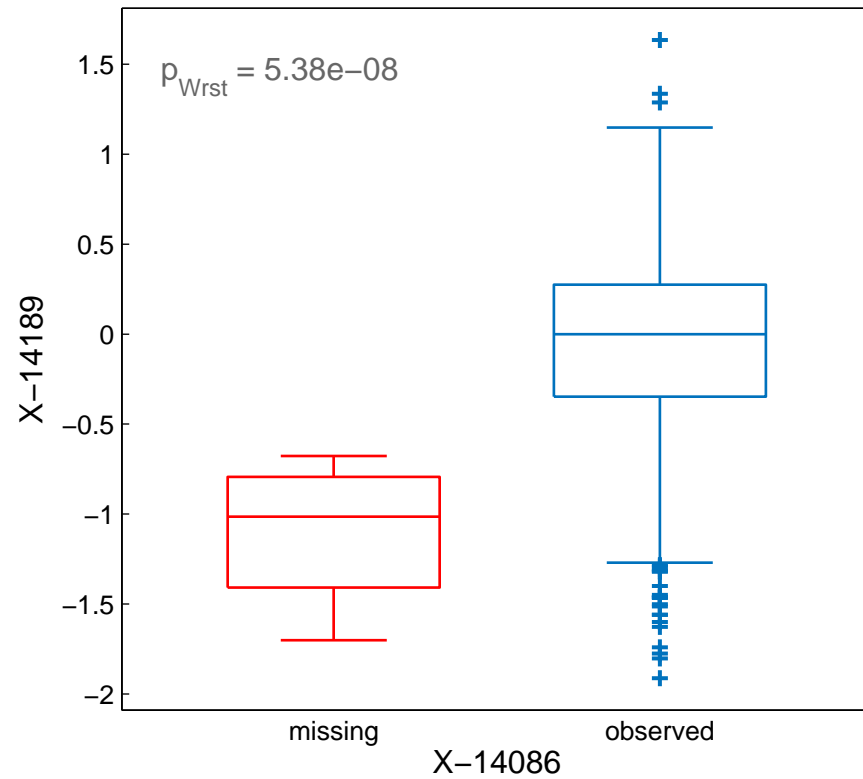
Concentrations of X-14056 in
missing and observed X-14057



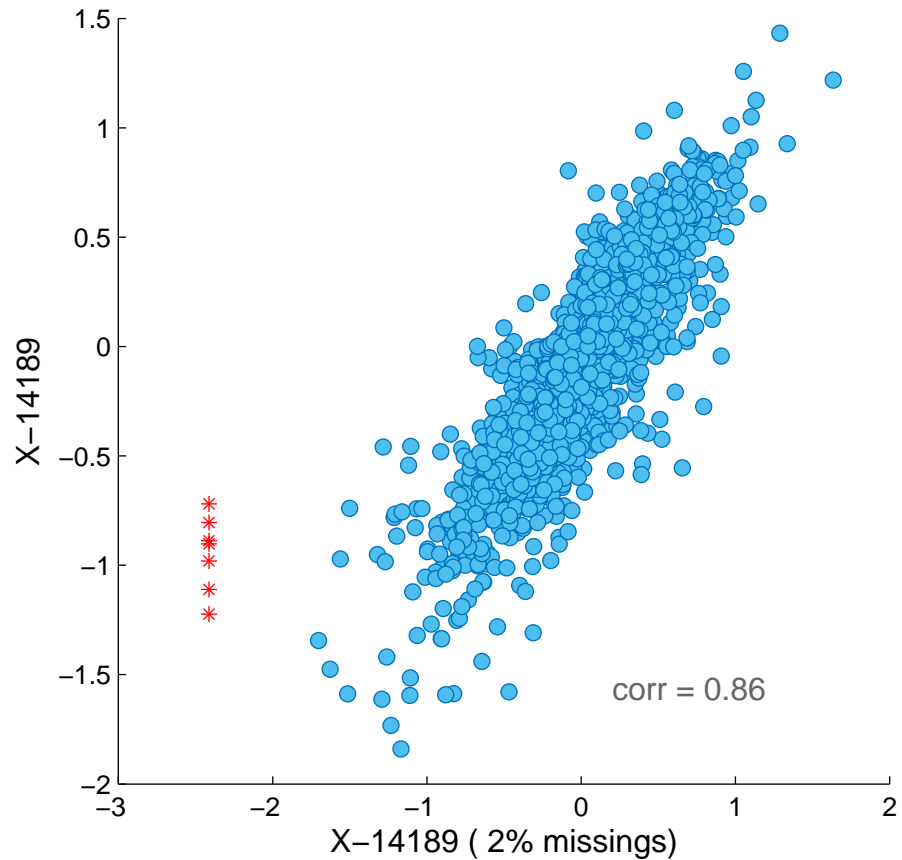
Missing values of X-14086
in X-14189



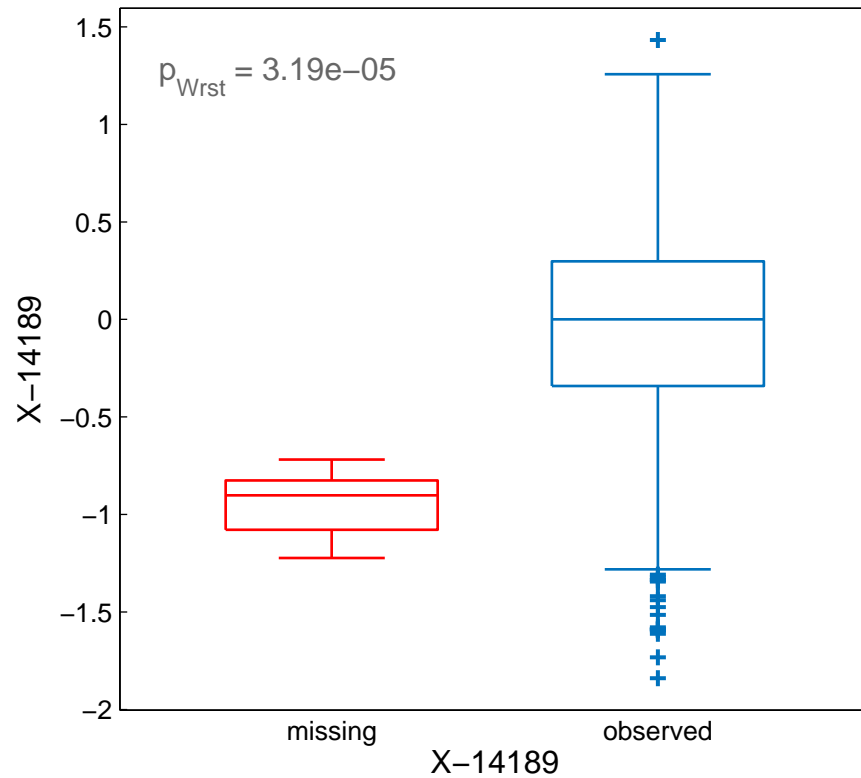
Concentrations of X-14189 in
missing and observed X-14086



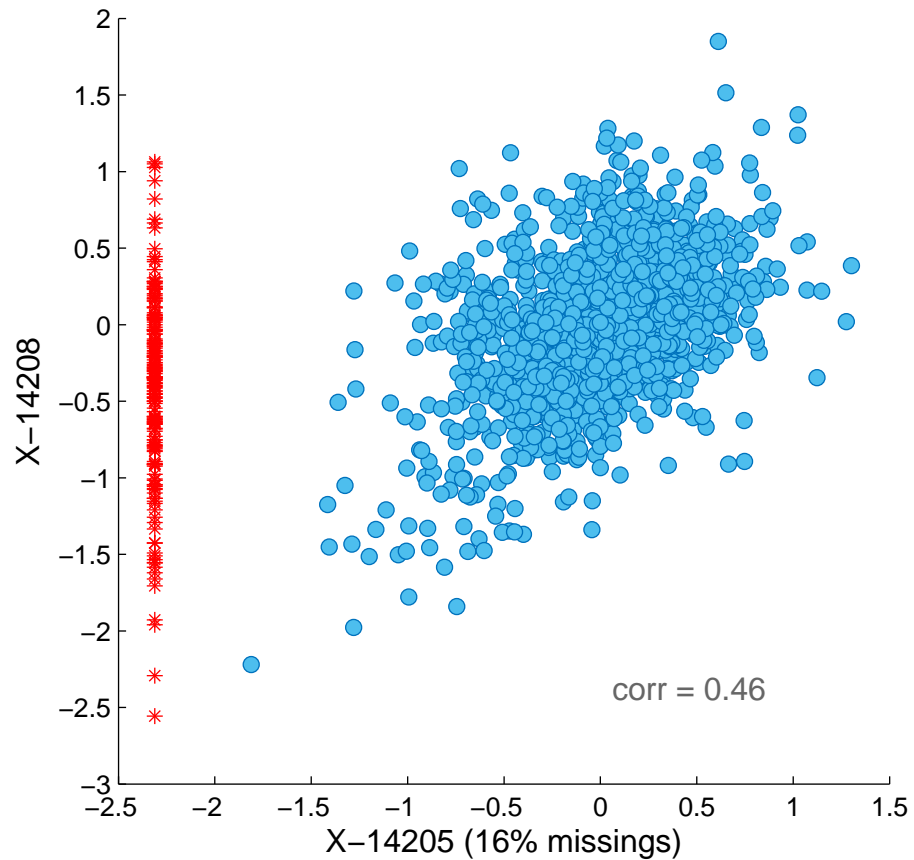
Missing values of X-14189
in X-14189



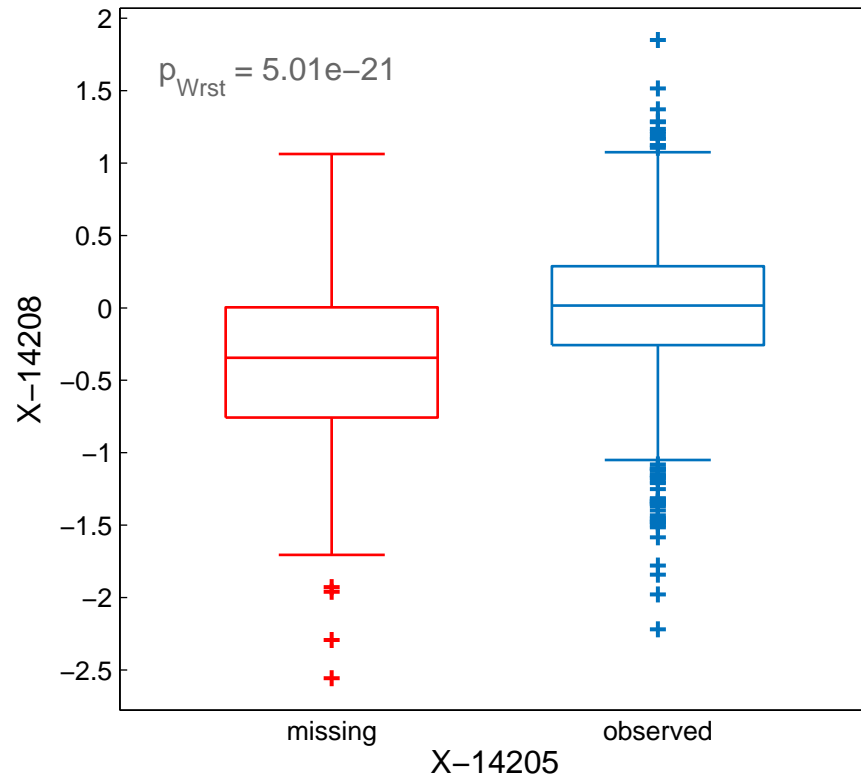
Concentrations of X-14189 in
missing and observed X-14189



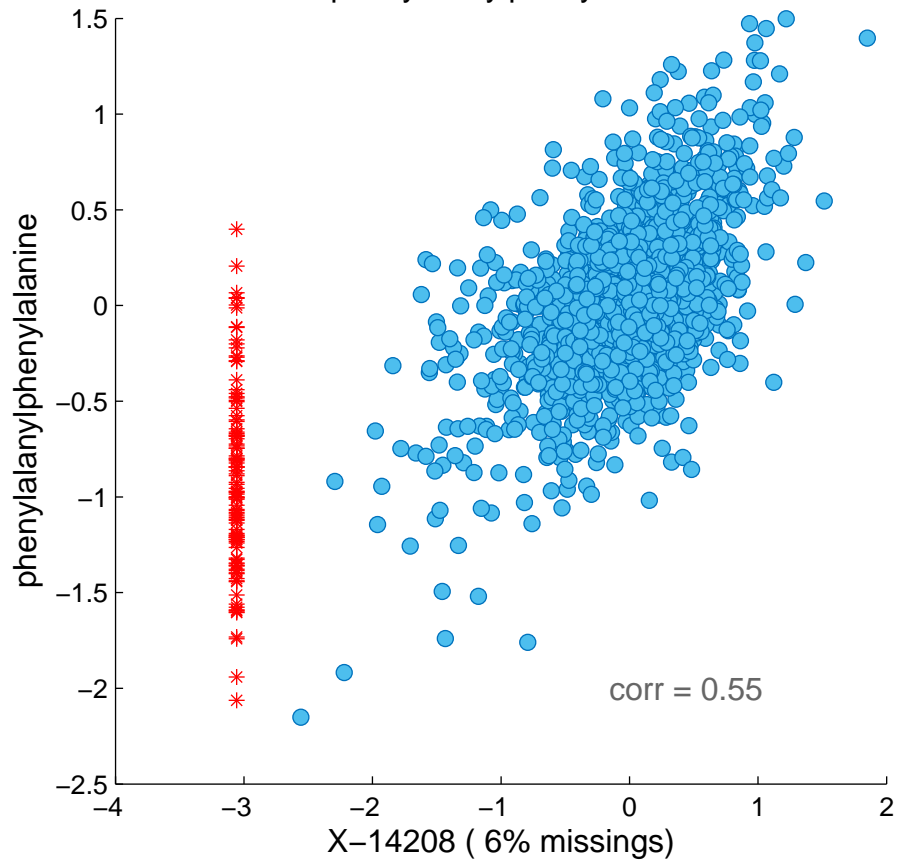
Missing values of X-14205
in X-14208



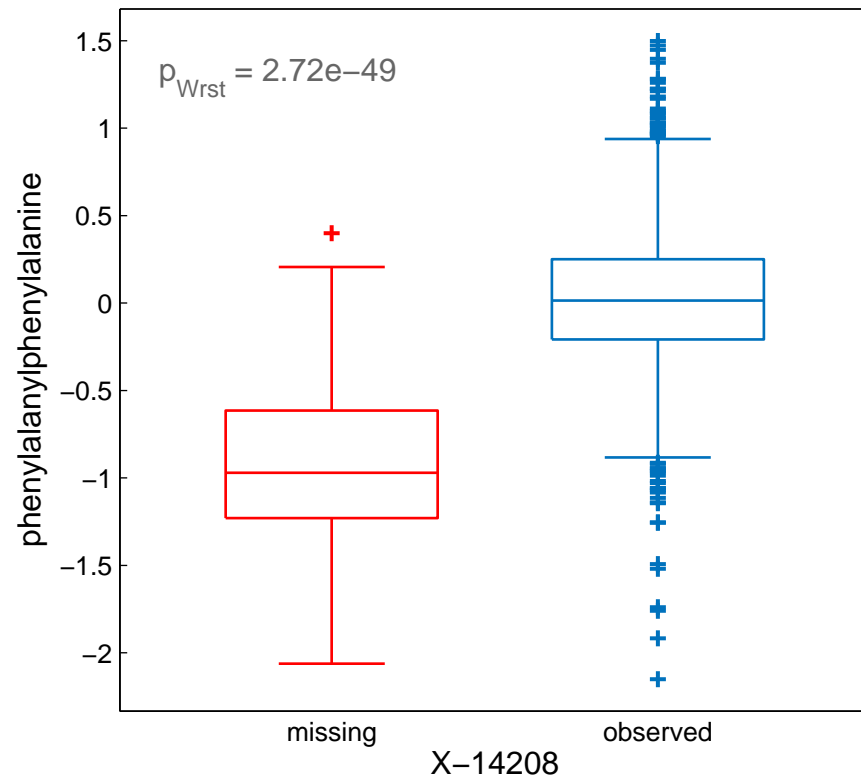
Concentrations of X-14208 in
missing and observed X-14205



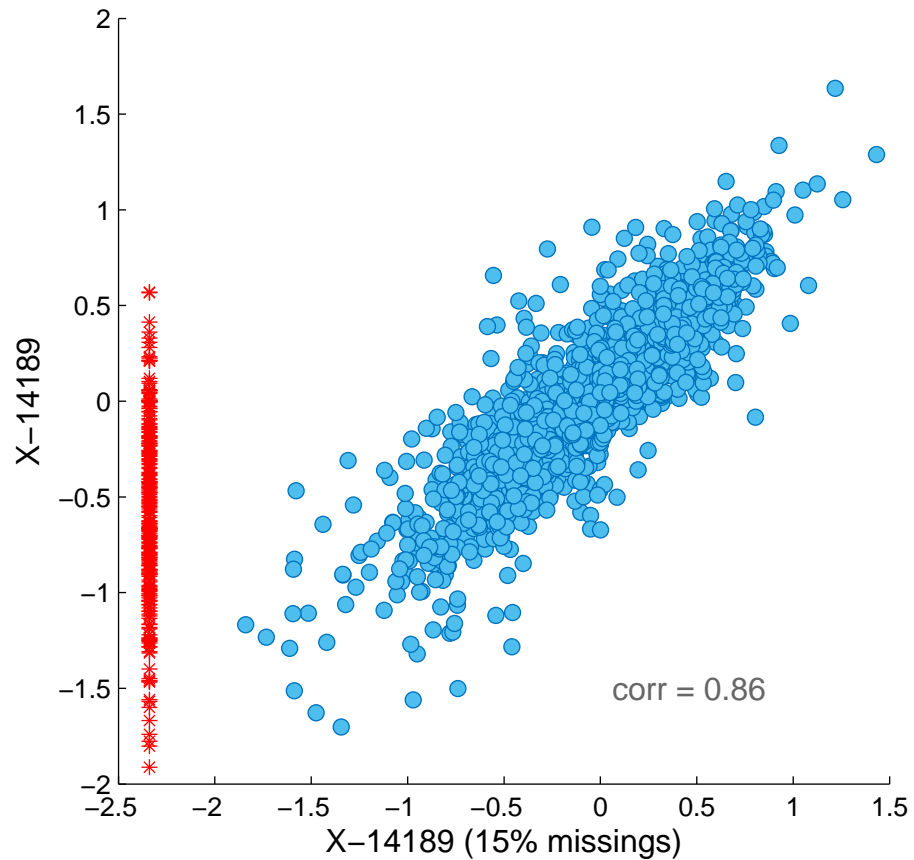
Missing values of X-14208
in phenylalanylphenylalanine



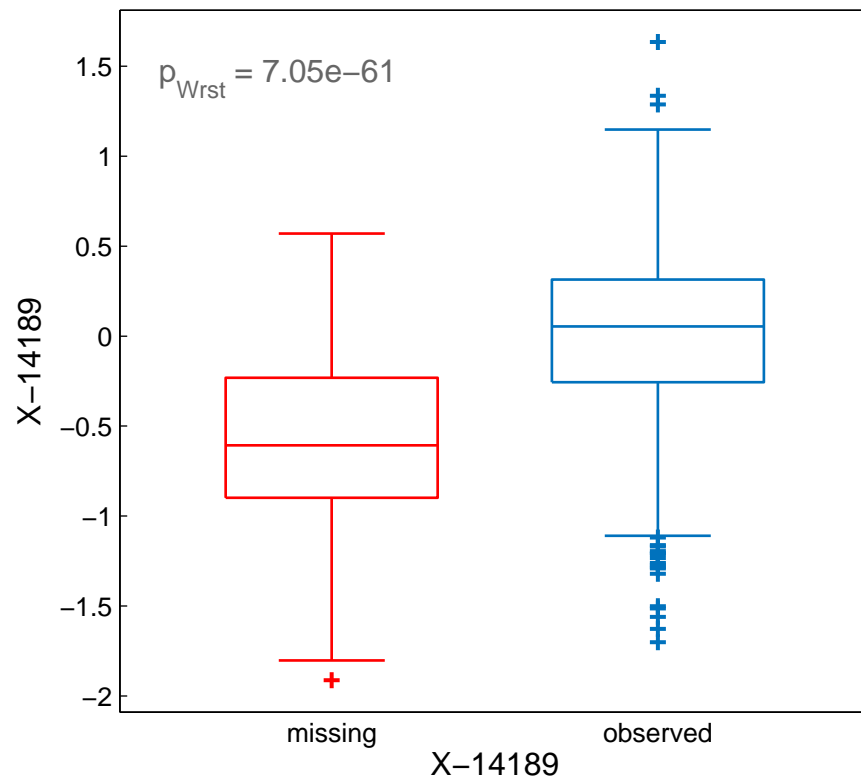
Concentrations of phenylalanylphenylalanine in
missing and observed X-14208



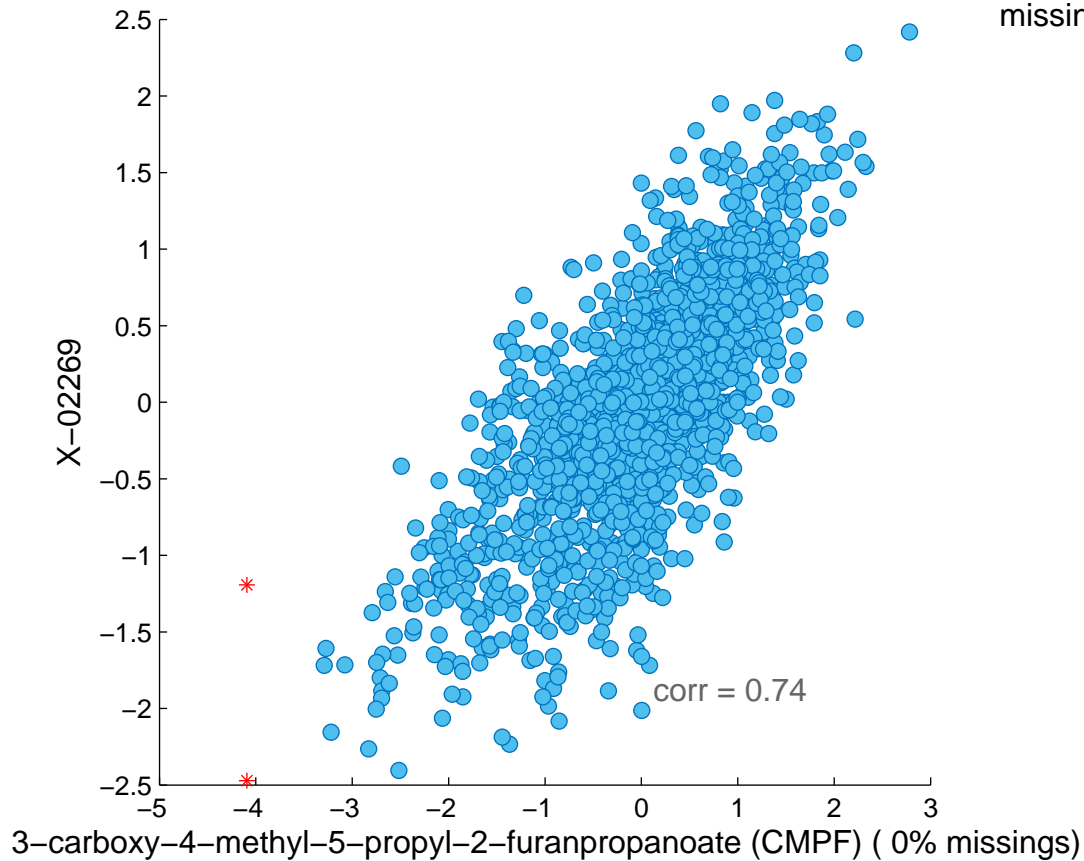
Missing values of X-14189
in X-14189



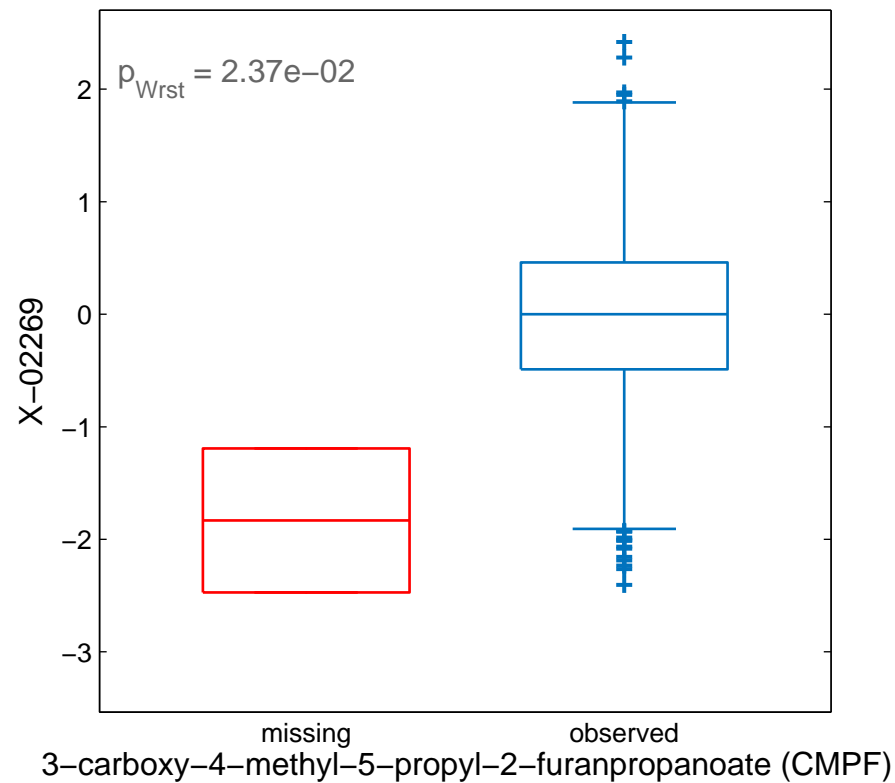
Concentrations of X-14189 in
missing and observed X-14189



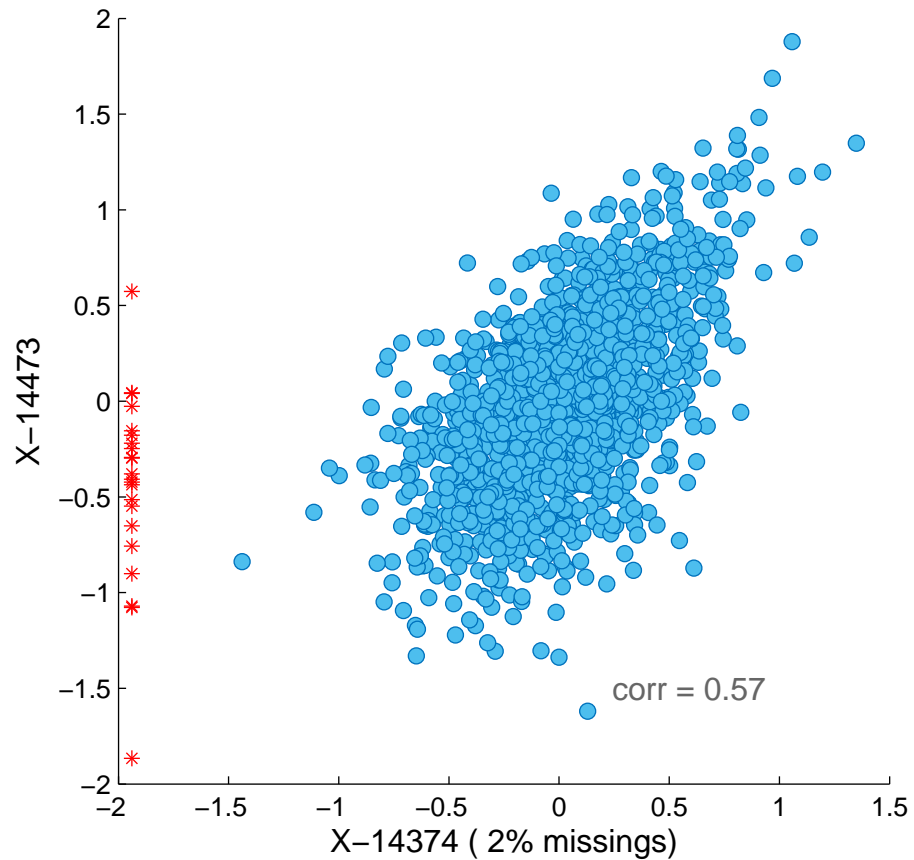
Missing values of 3-carboxy-4-methyl-5-propyl-2-furanpropanoate (CMPF) in X-02269



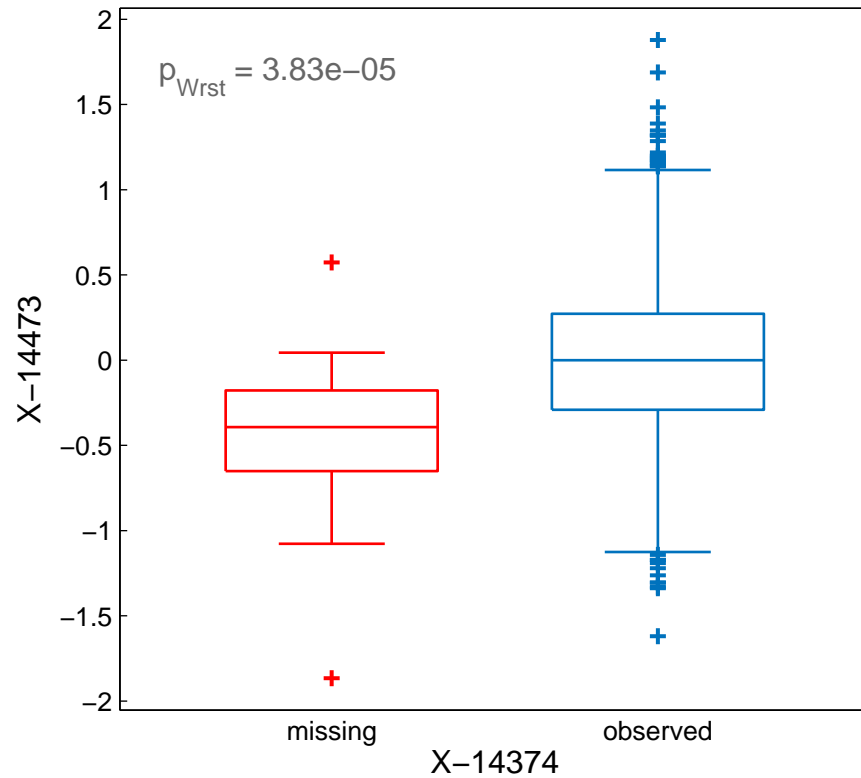
Concentrations of X-02269 in missing and observed 3-carboxy-4-methyl-5-propyl-2-furanpropanoate (CMPF)



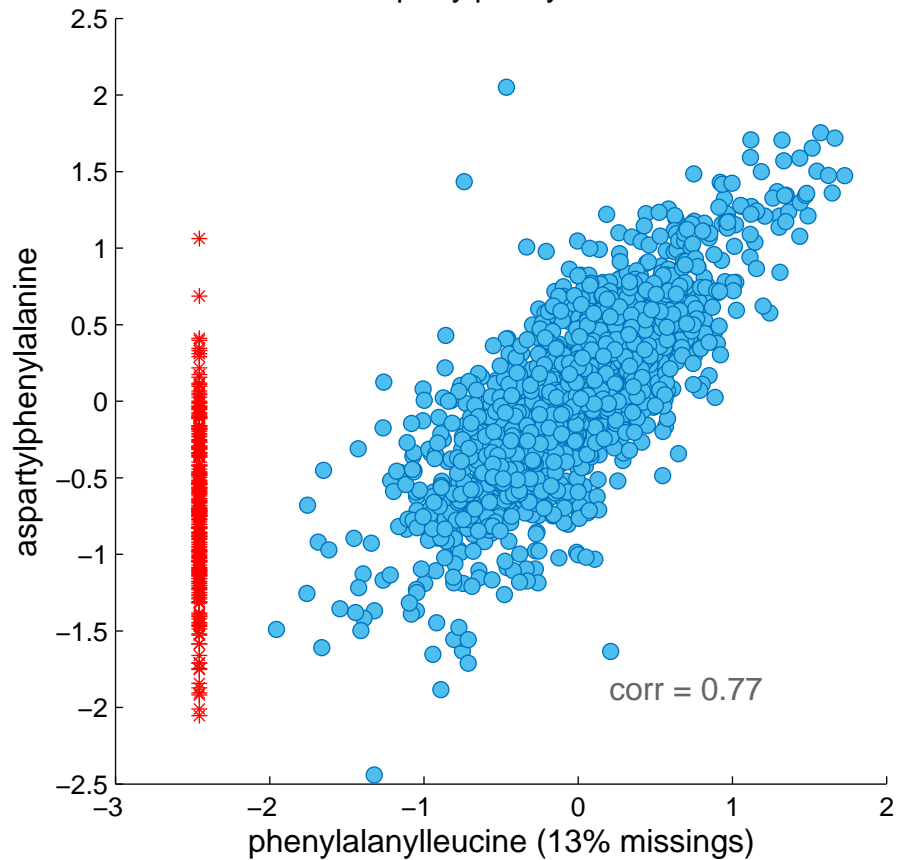
Missing values of X-14374
in X-14473



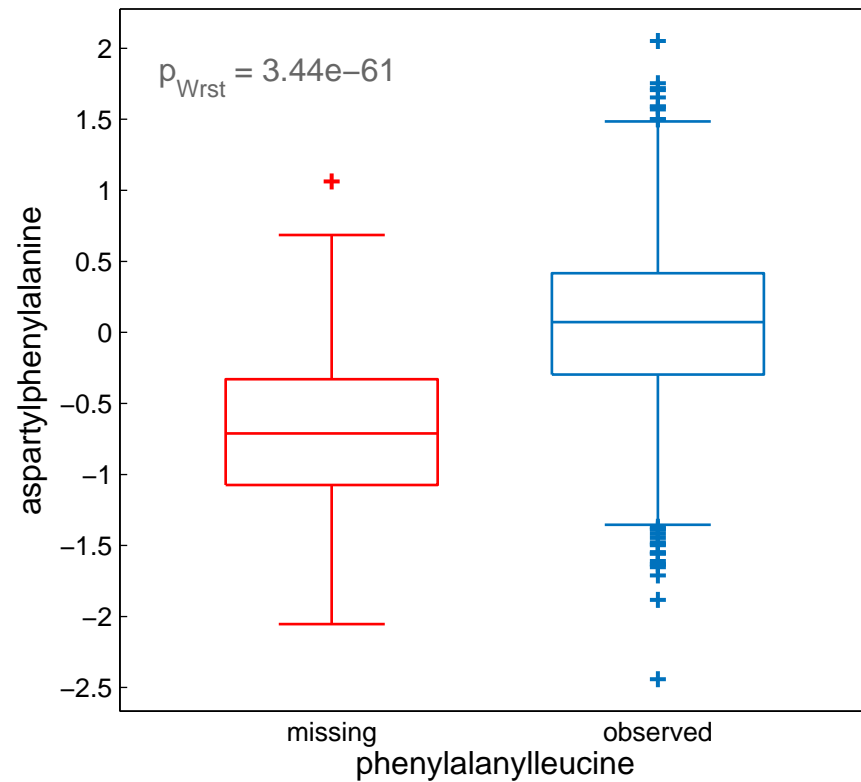
Concentrations of X-14473 in
missing and observed X-14374



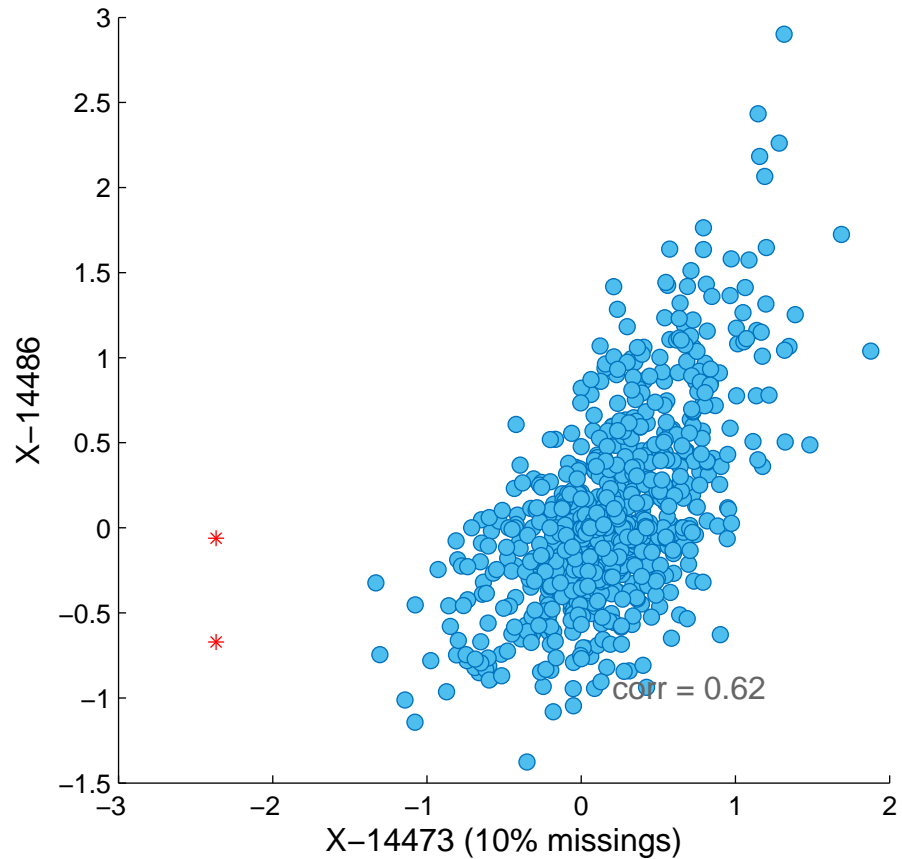
Missing values of phenylalanylleucine
in aspartylphenylalanine



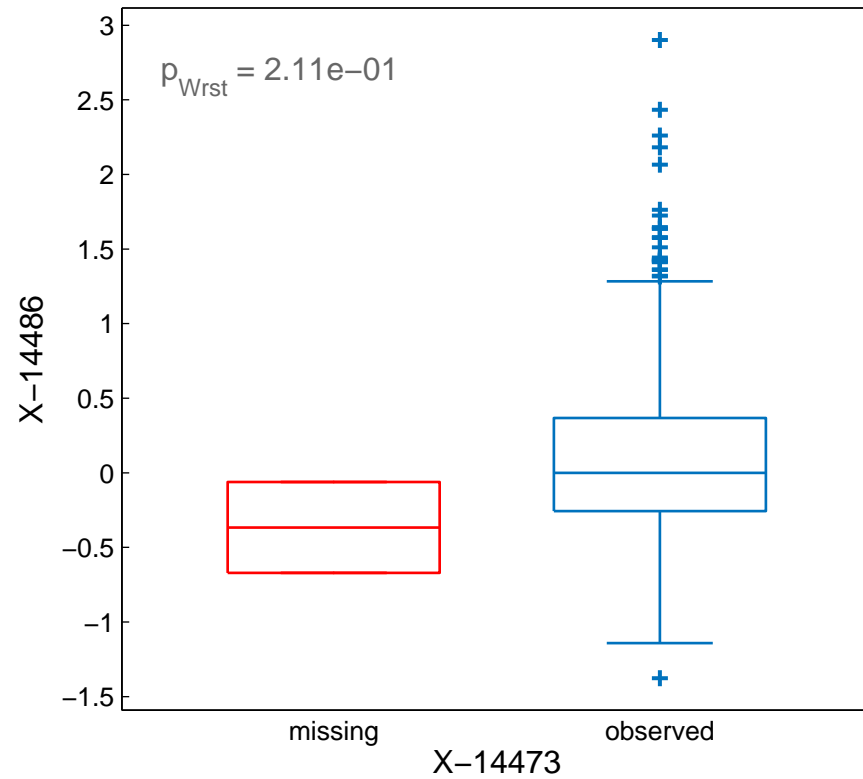
Concentrations of aspartylphenylalanine in
missing and observed phenylalanylleucine

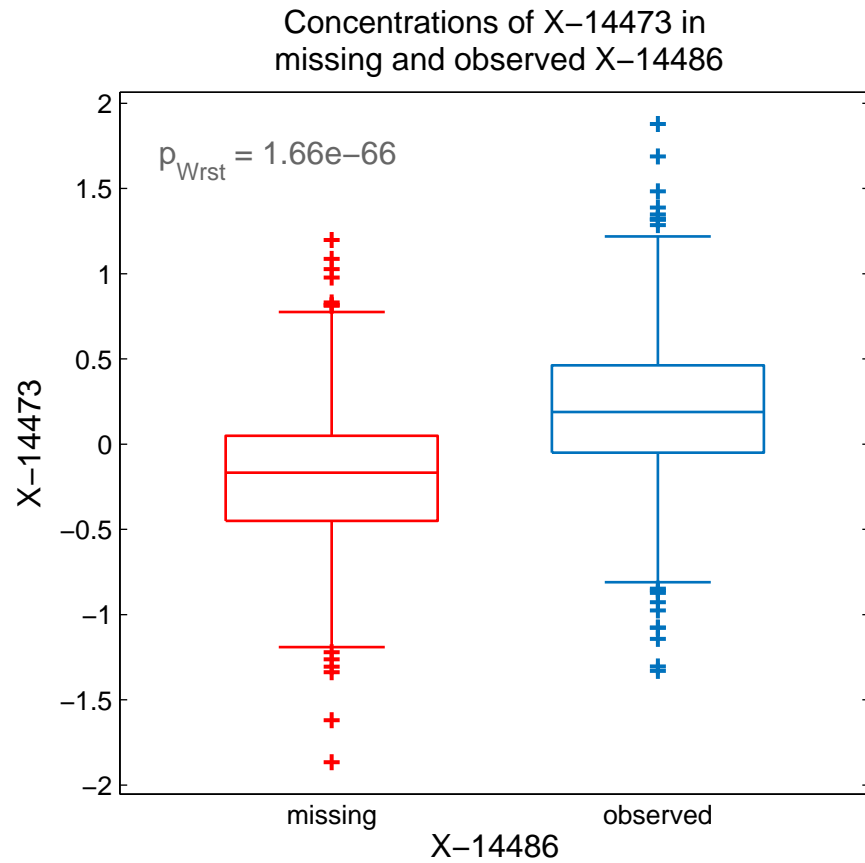
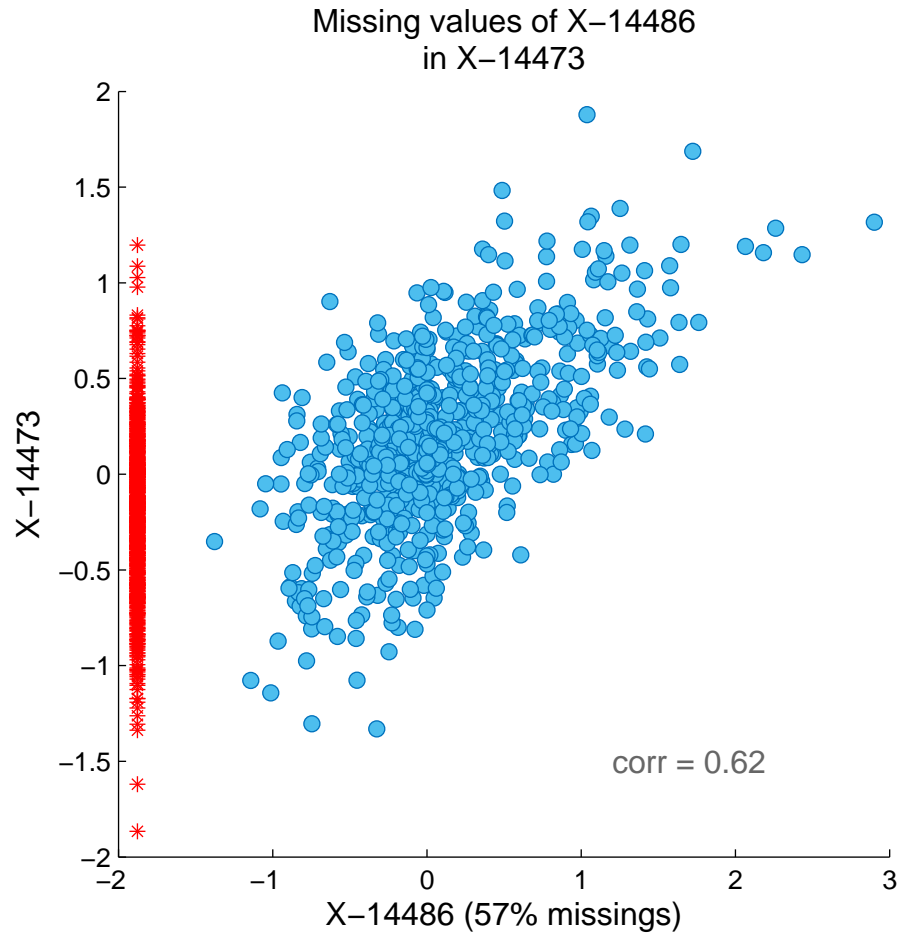


Missing values of X-14473
in X-14486

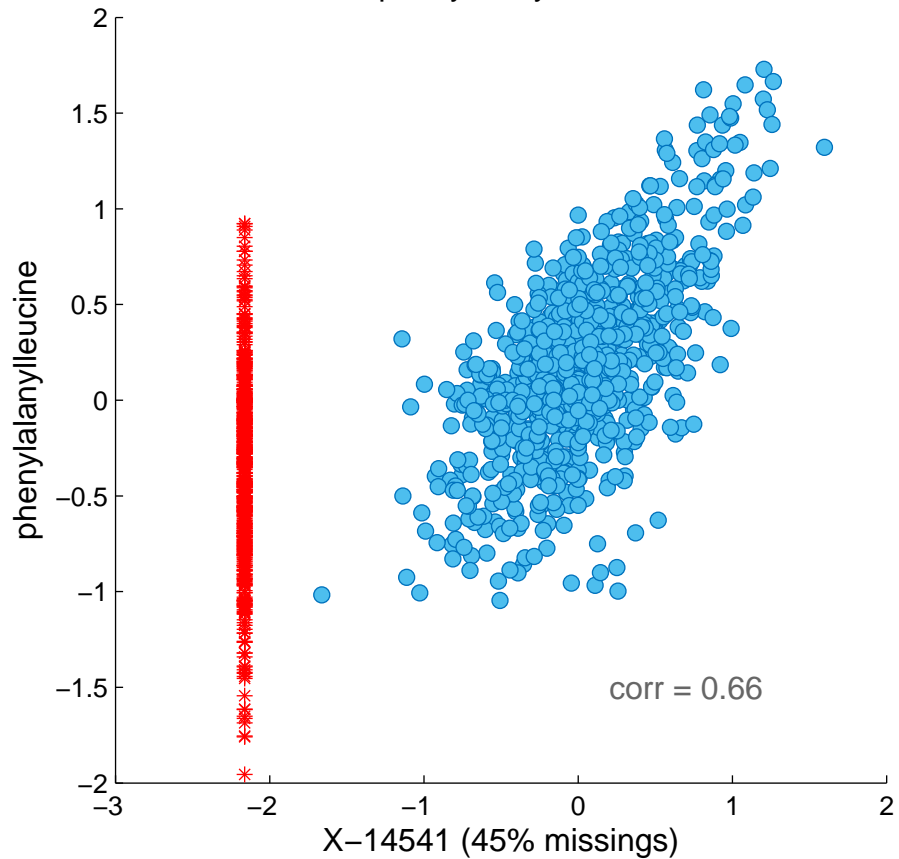


Concentrations of X-14486 in
missing and observed X-14473

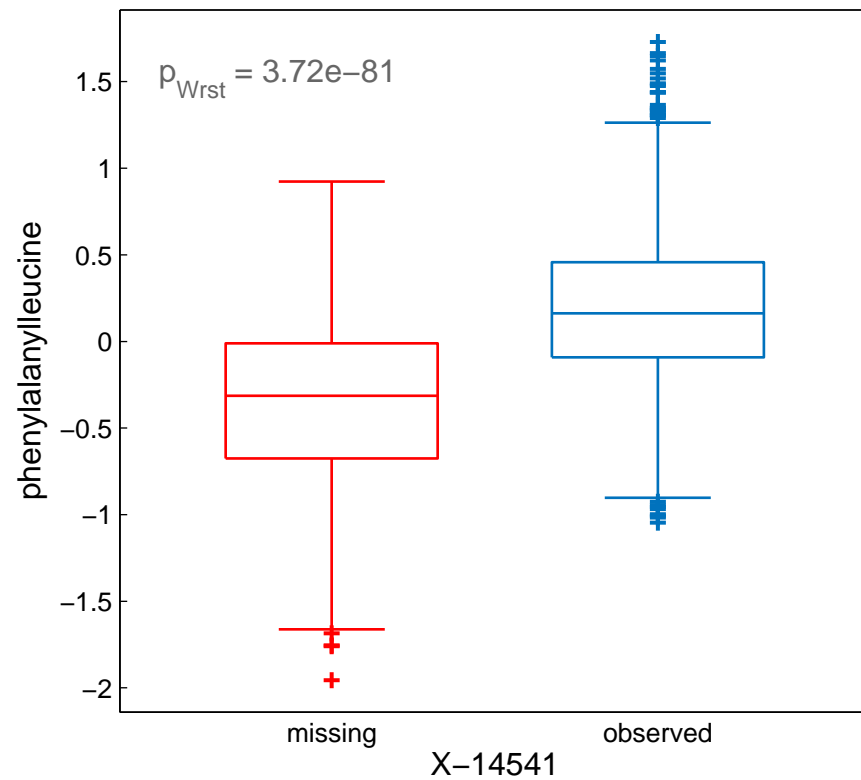




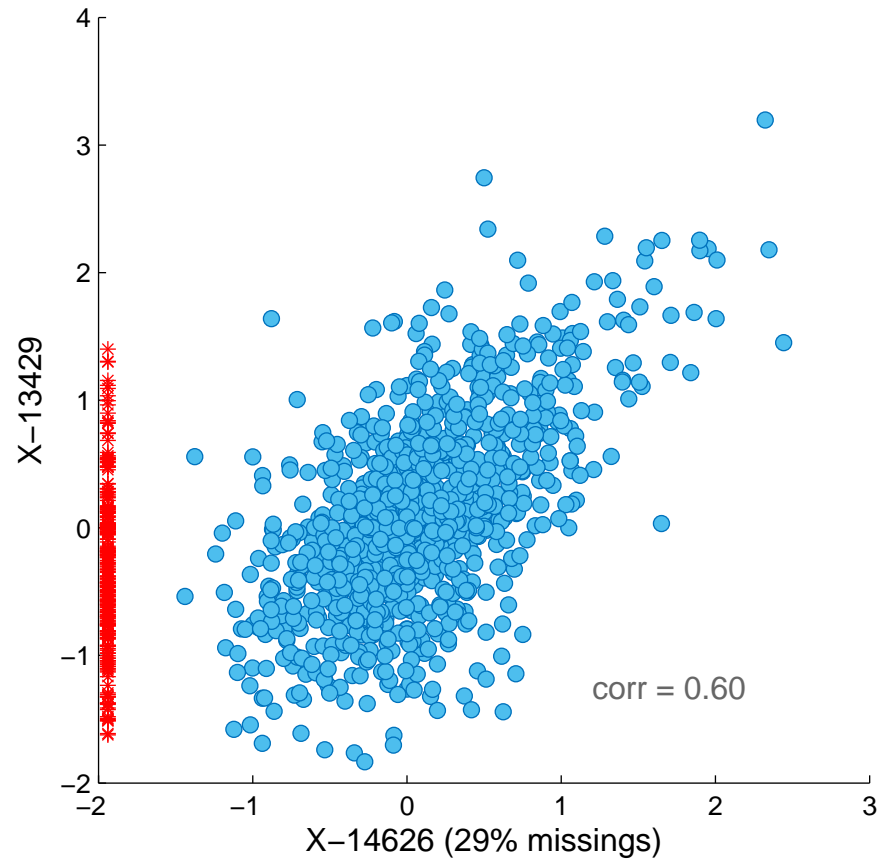
Missing values of X-14541
in phenylalanylleucine



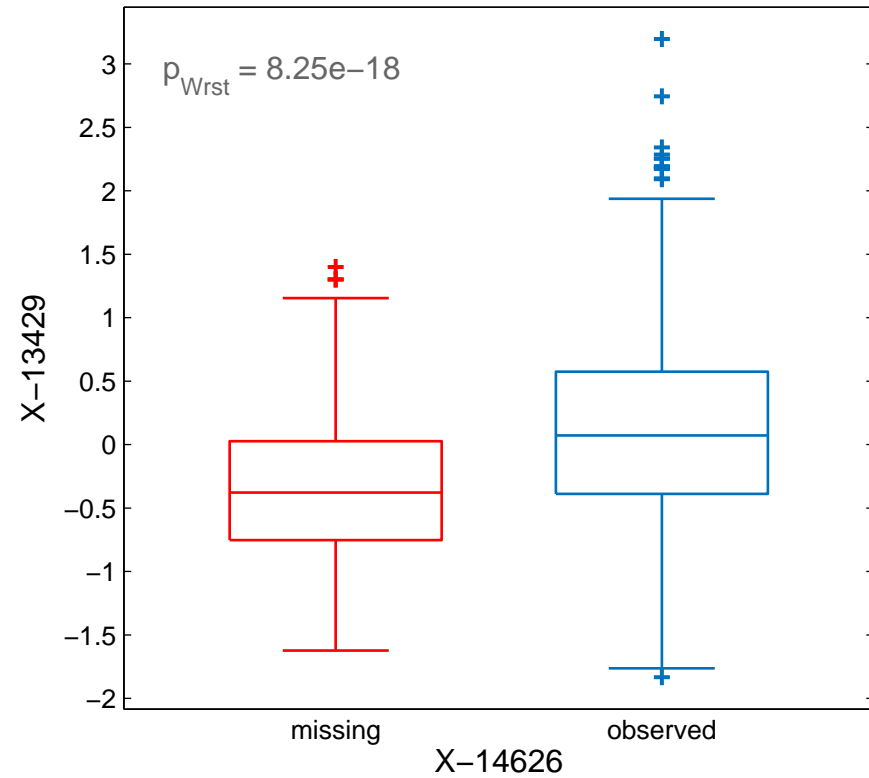
Concentrations of phenylalanylleucine in
missing and observed X-14541



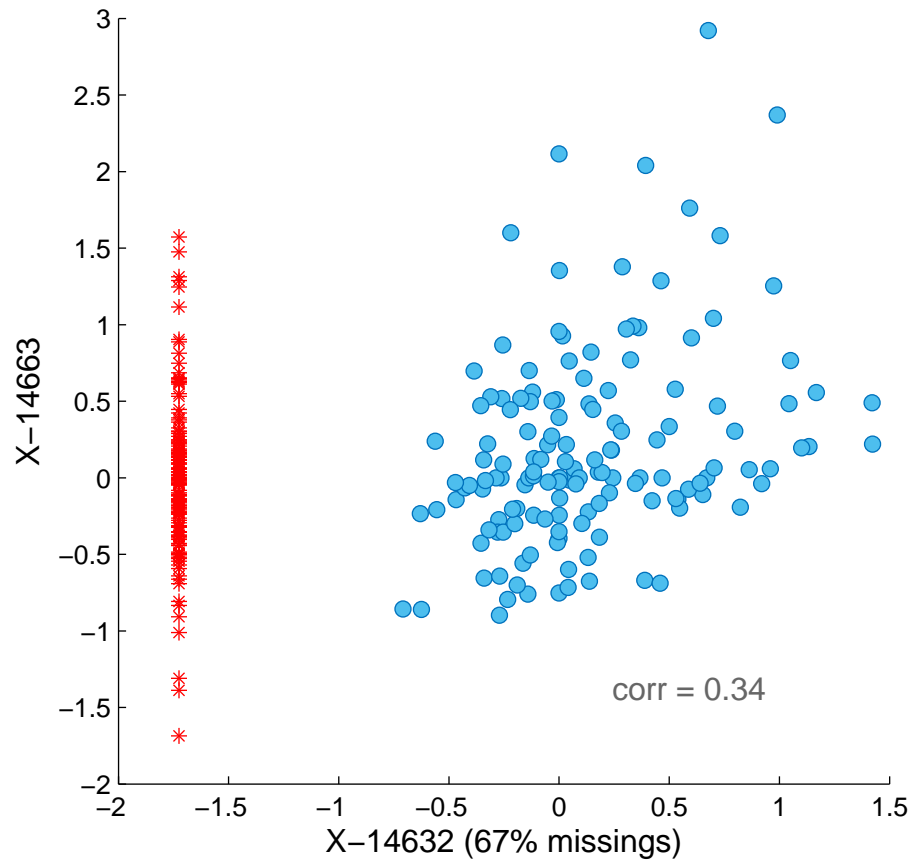
Missing values of X-14626
in X-13429



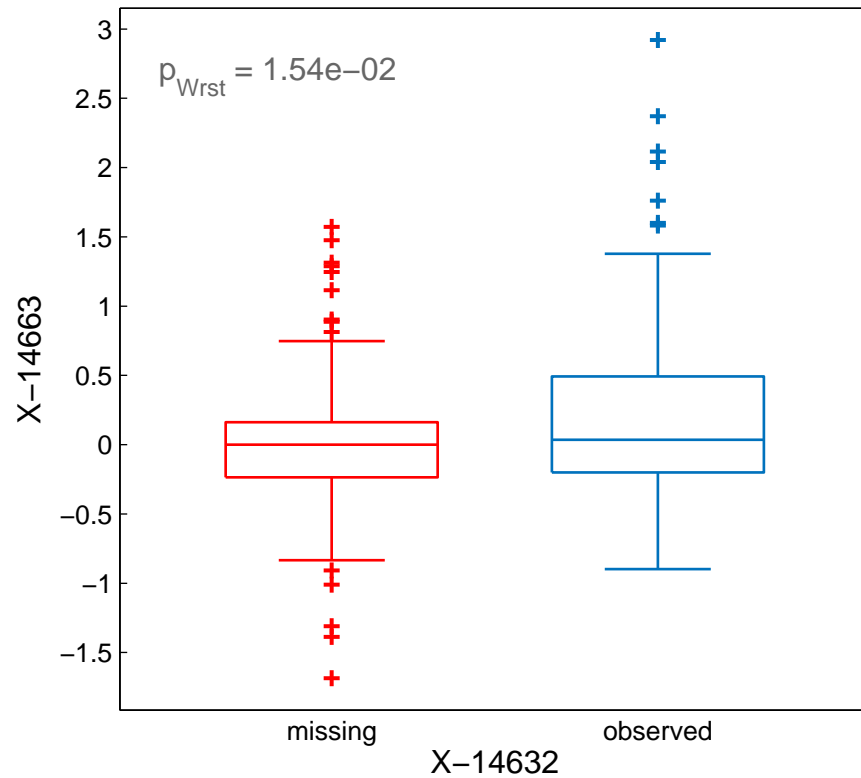
Concentrations of X-13429 in
missing and observed X-14626



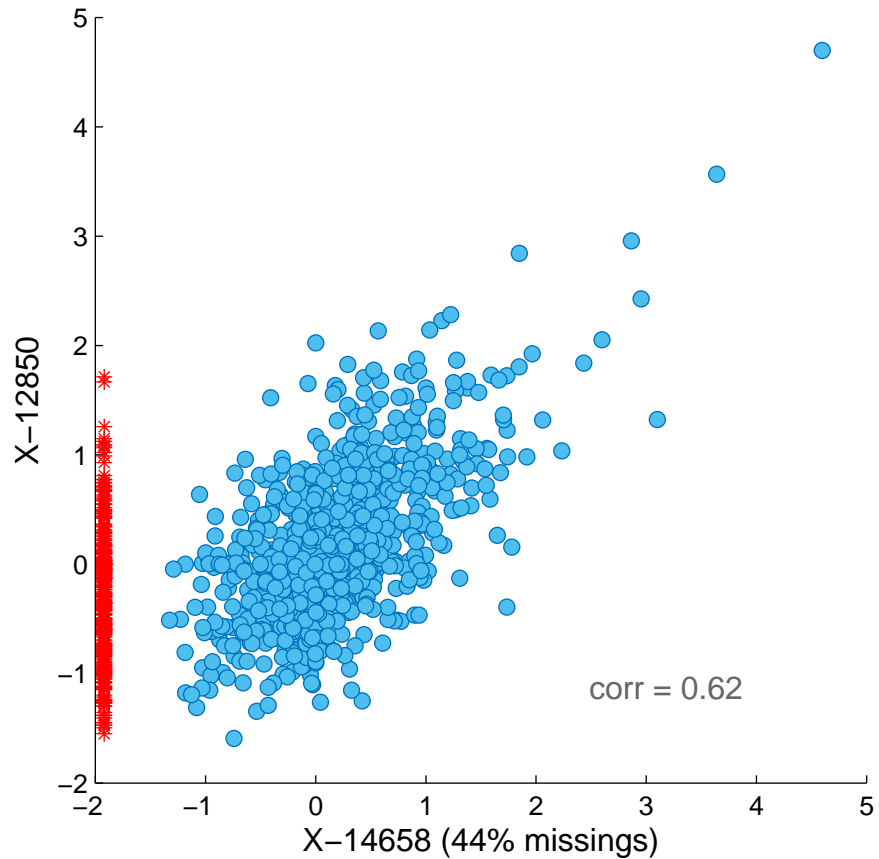
Missing values of X-14632
in X-14663



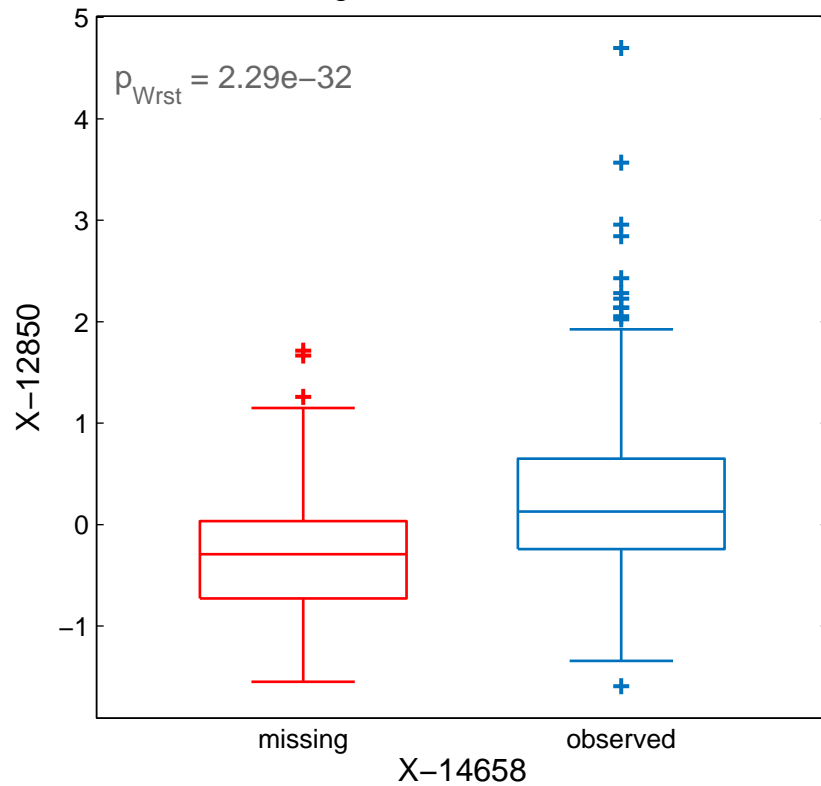
Concentrations of X-14663 in
missing and observed X-14632



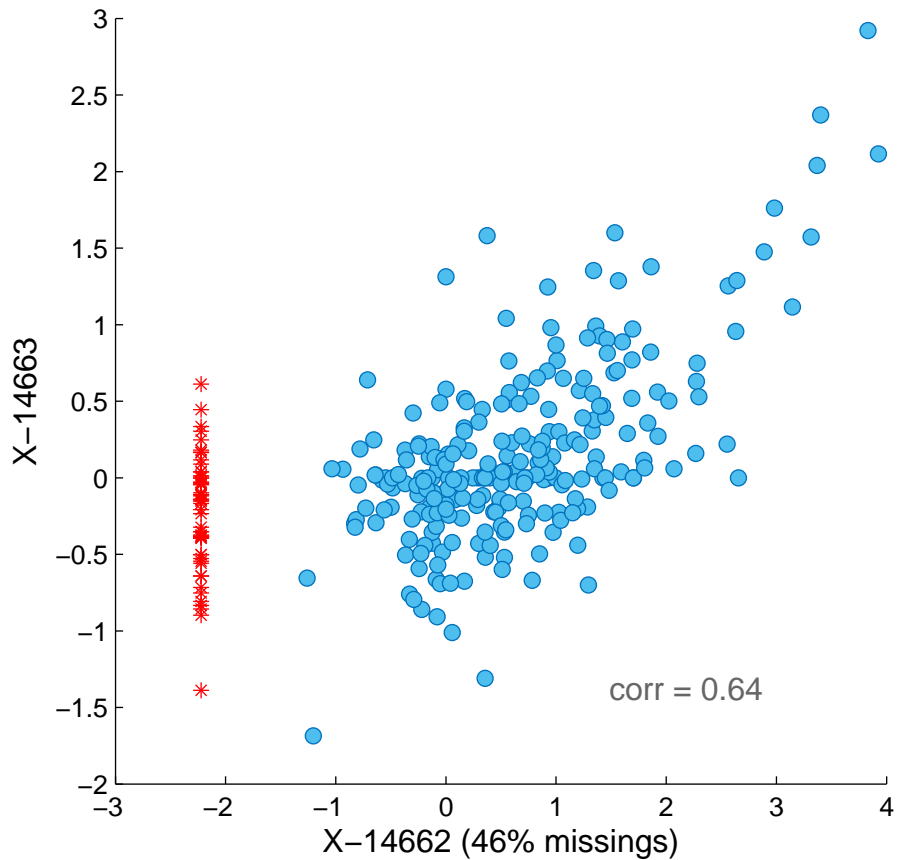
Missing values of X-14658
in X-12850



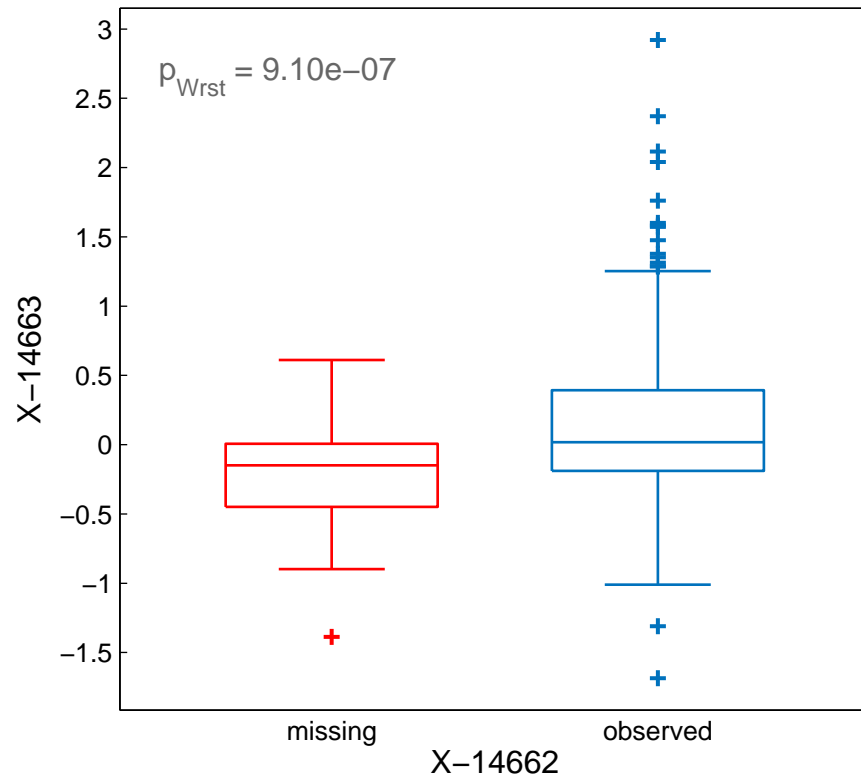
Concentrations of X-12850 in
missing and observed X-14658



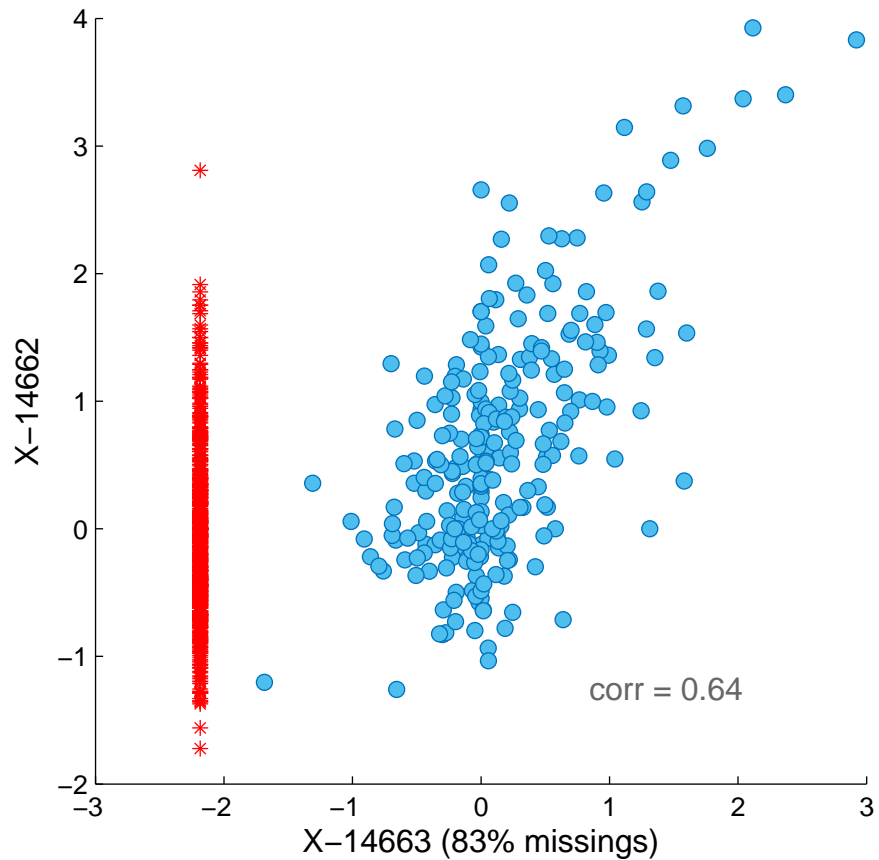
Missing values of X-14662
in X-14663



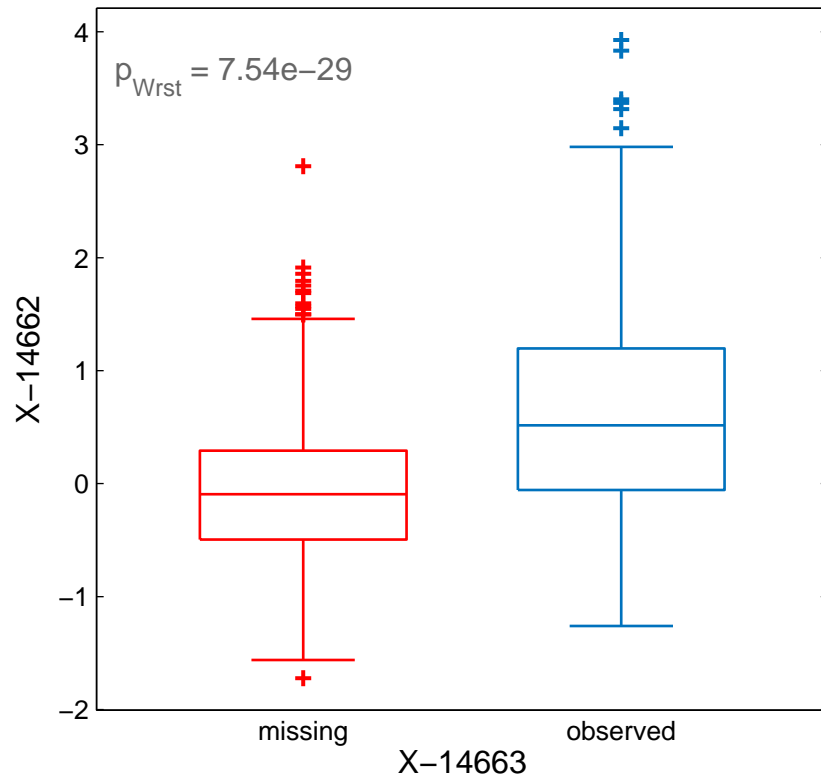
Concentrations of X-14663 in
missing and observed X-14662



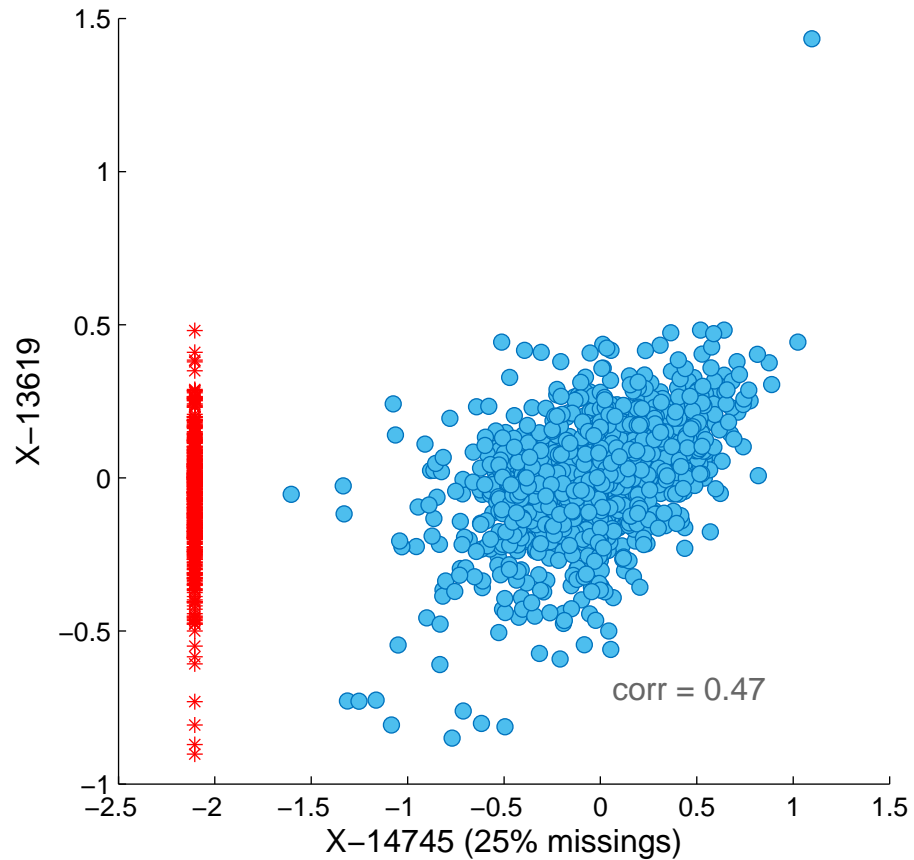
Missing values of X-14663
in X-14662



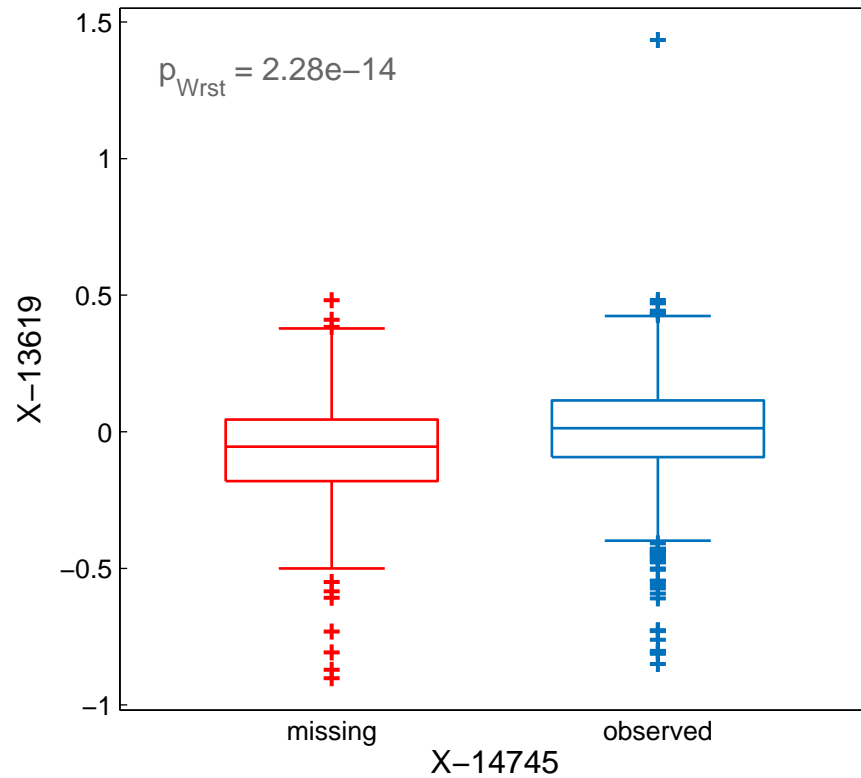
Concentrations of X-14662 in
missing and observed X-14663



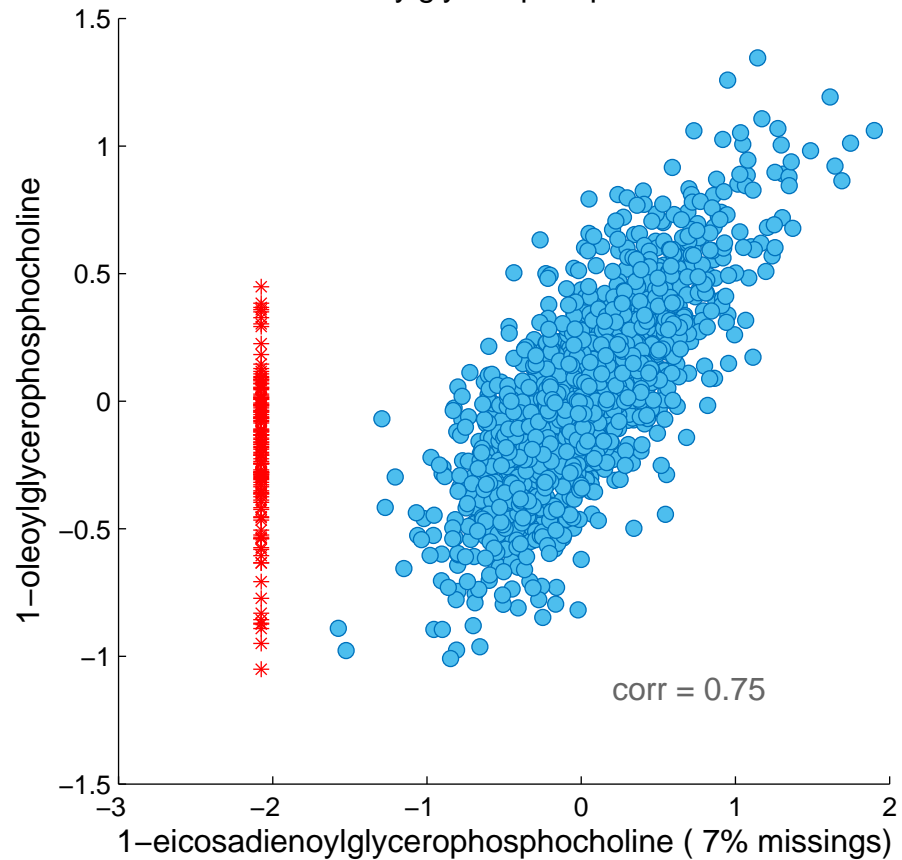
Missing values of X-14745
in X-13619



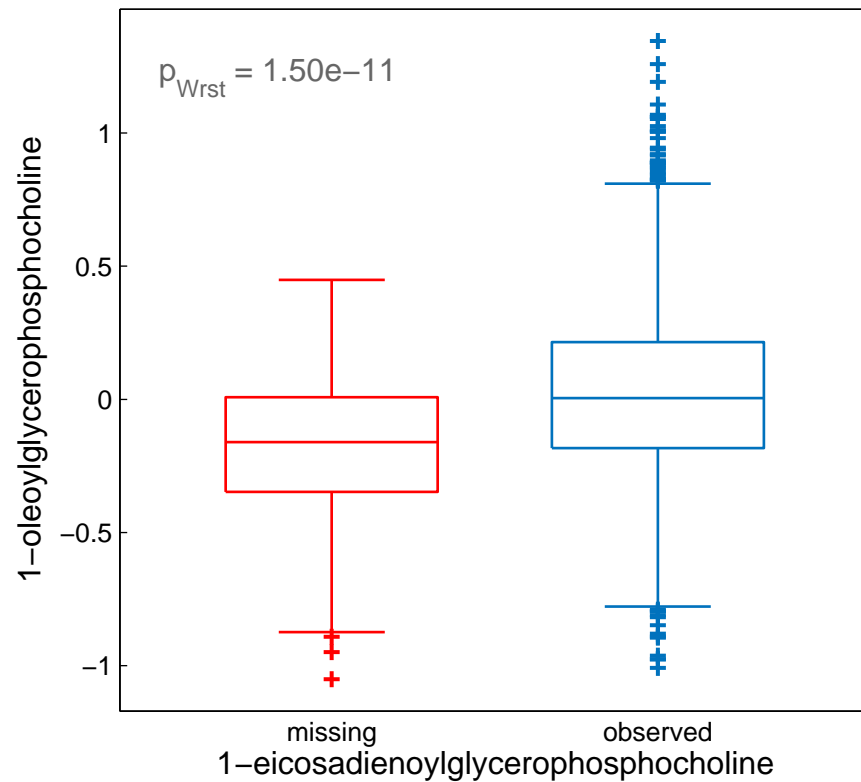
Concentrations of X-13619 in
missing and observed X-14745



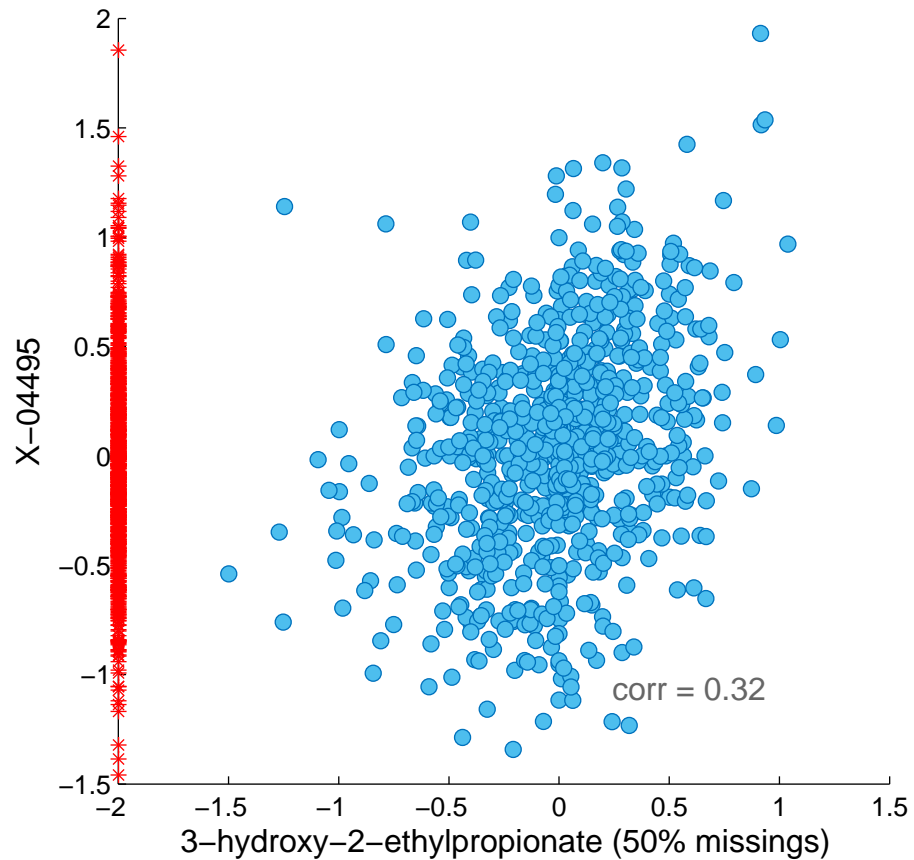
Missing values of 1-eicosadienoylglycerophosphocholine in 1-oleoylglycerophosphocholine



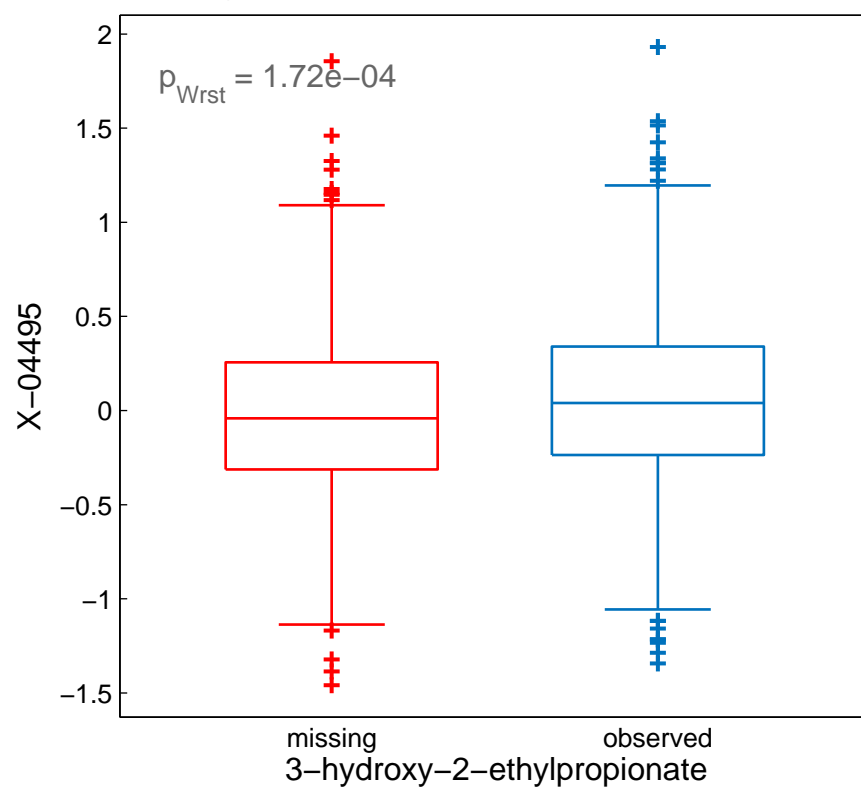
Concentrations of 1-oleoylglycerophosphocholine in missing and observed 1-eicosadienoylglycerophosphocholine



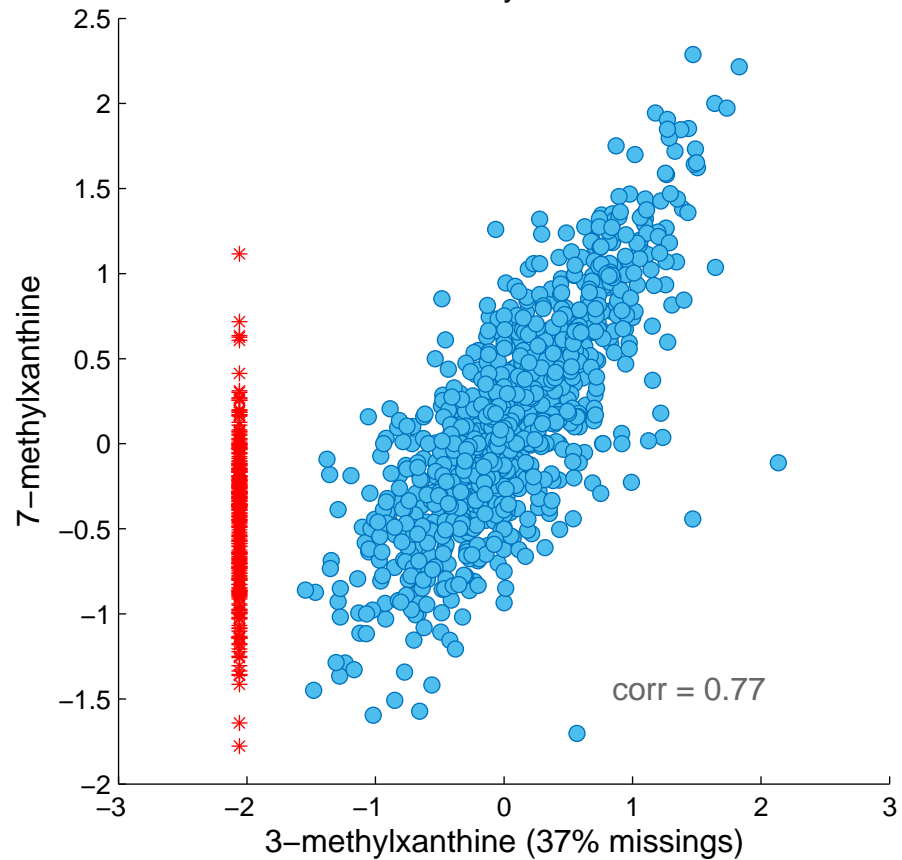
Missing values of 3-hydroxy-2-ethylpropionate
in X-04495



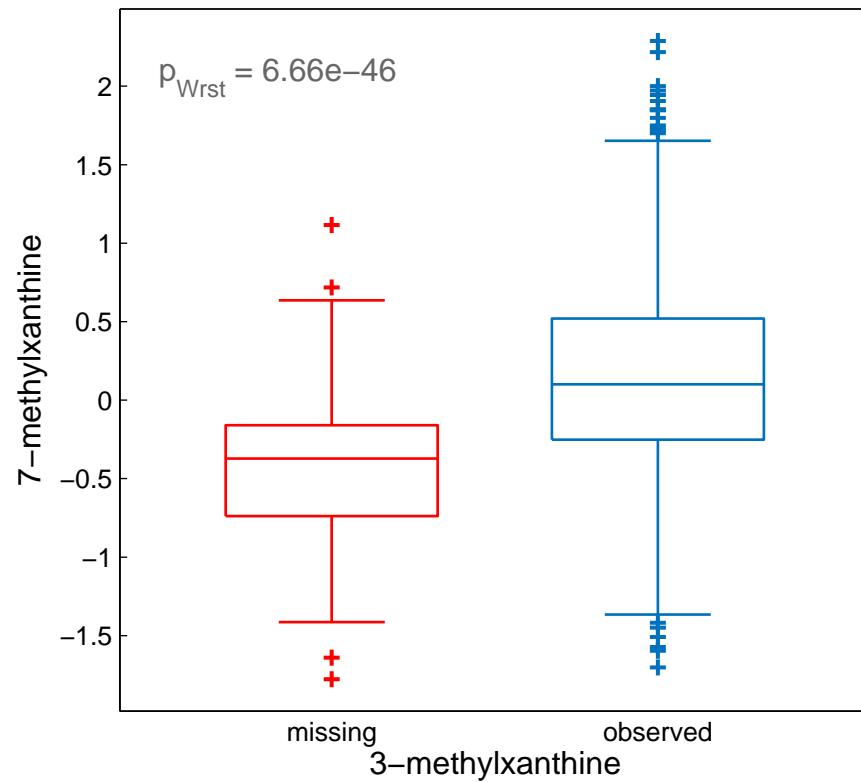
Concentrations of X-04495 in
missing and observed 3-hydroxy-2-ethylpropionate



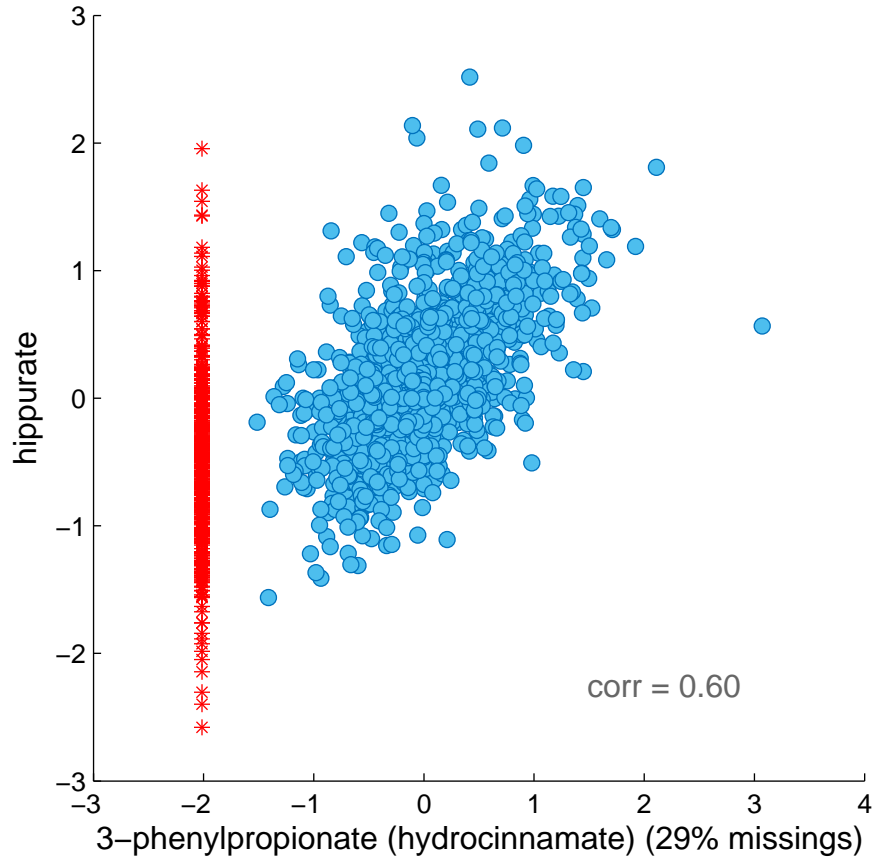
Missing values of 3-methylxanthine
in 7-methylxanthine



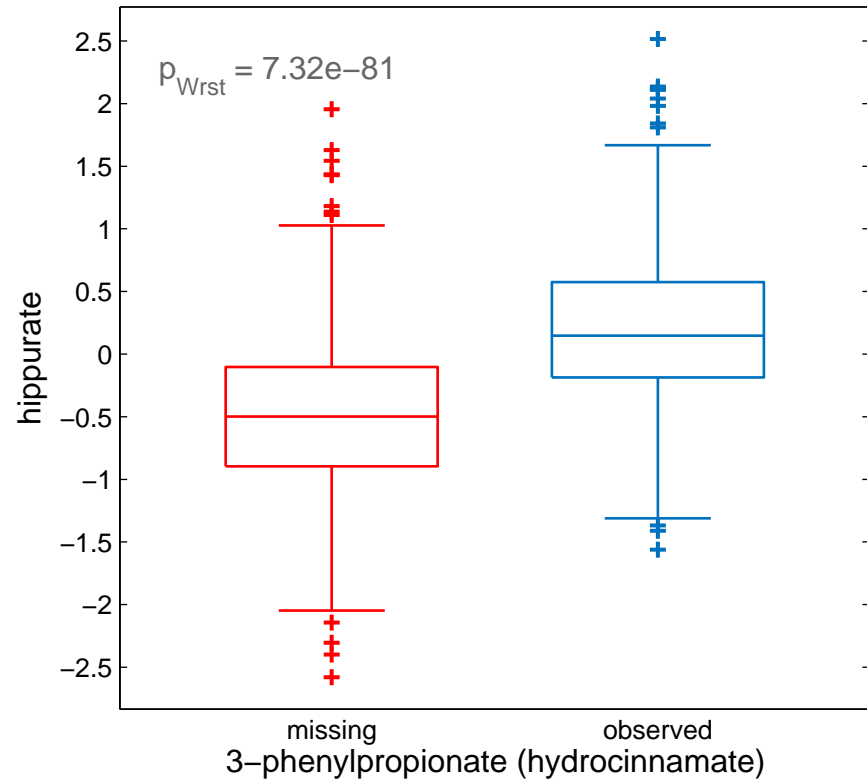
Concentrations of 7-methylxanthine in
missing and observed 3-methylxanthine



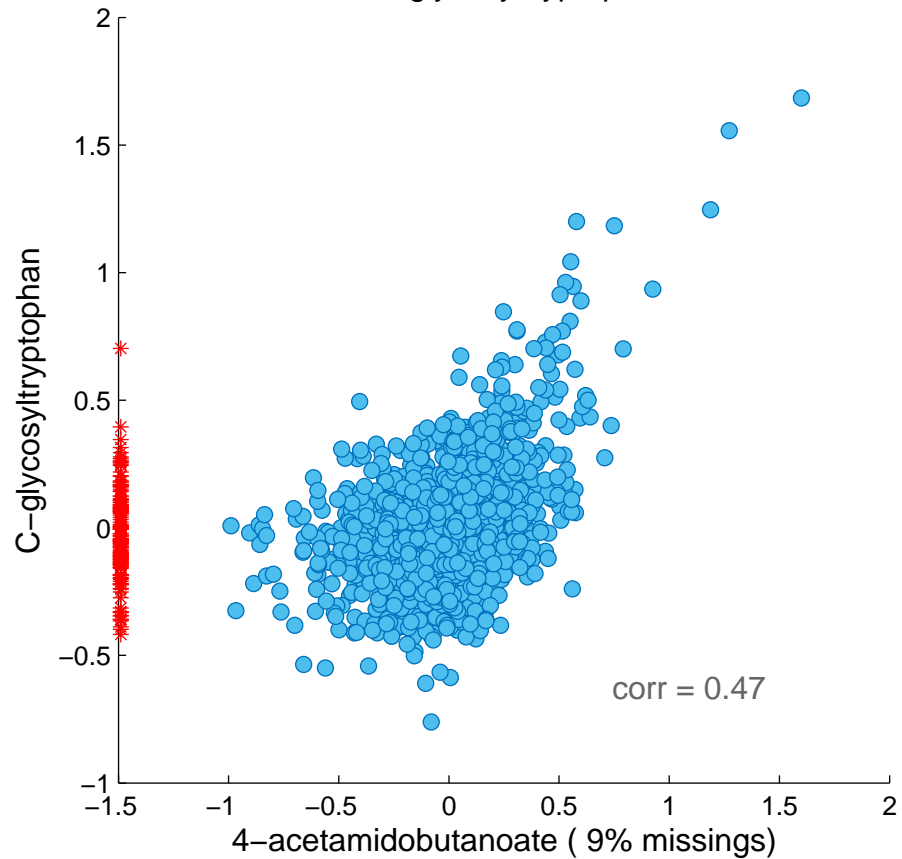
Missing values of 3-phenylpropionate (hydrocinnamate) in hippurate



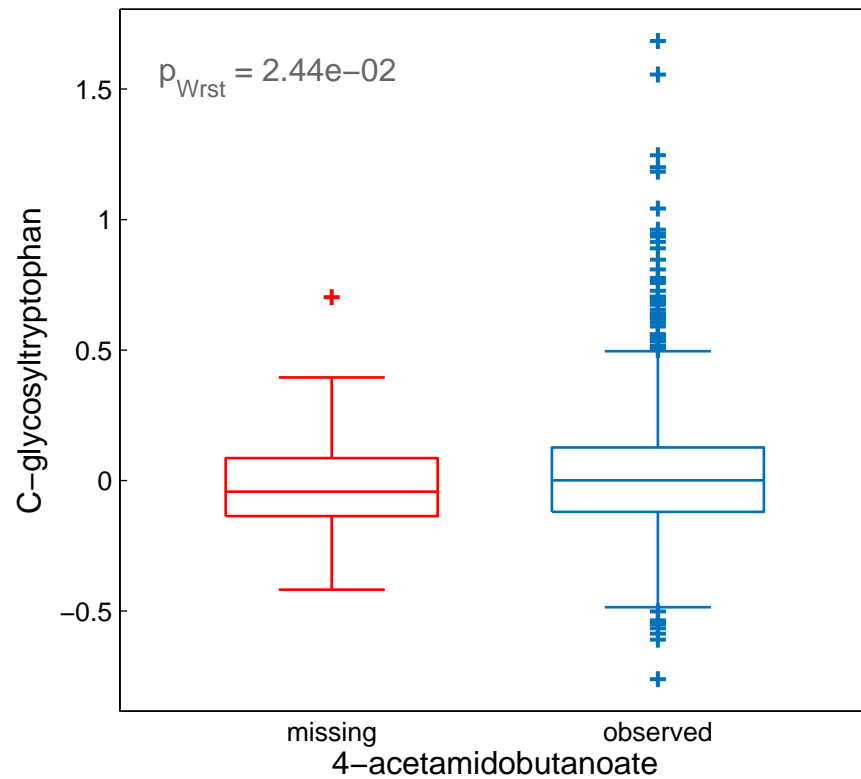
Concentrations of hippurate in missing and observed 3-phenylpropionate (hydrocinnamate)



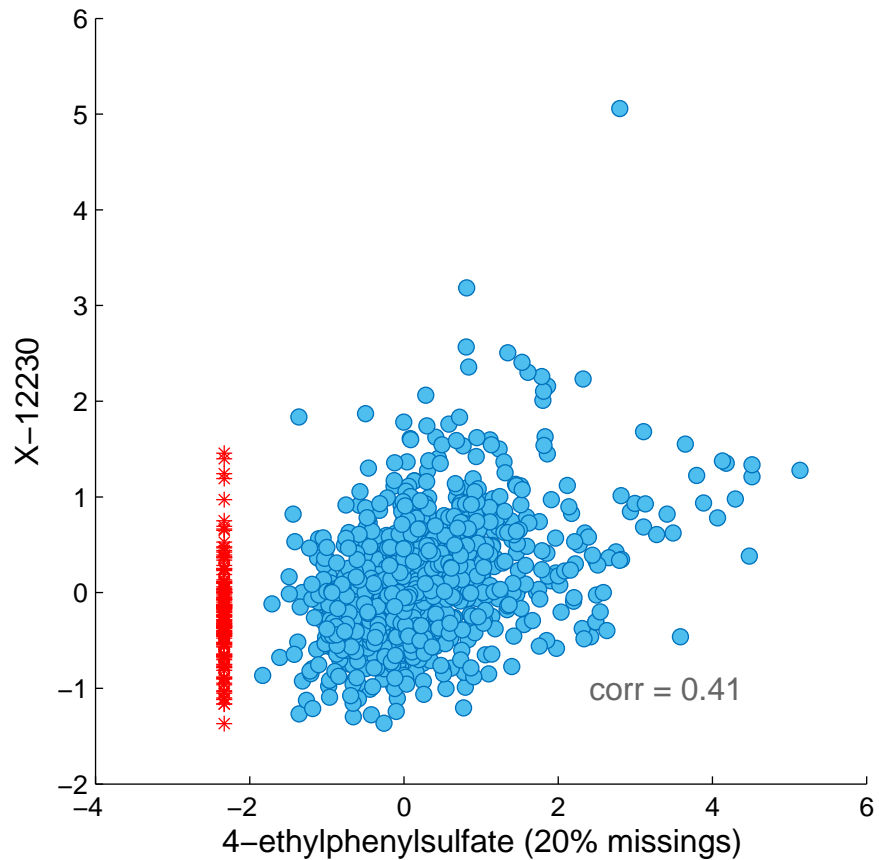
Missing values of 4-acetamidobutanoate
in C-glycosyltryptophan



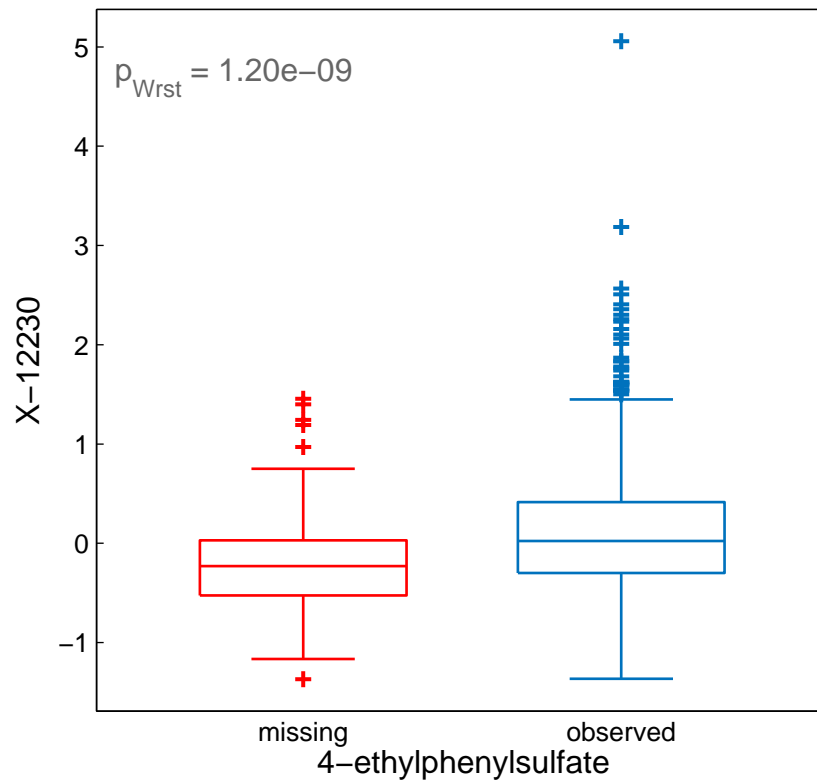
Concentrations of C-glycosyltryptophan in
missing and observed 4-acetamidobutanoate



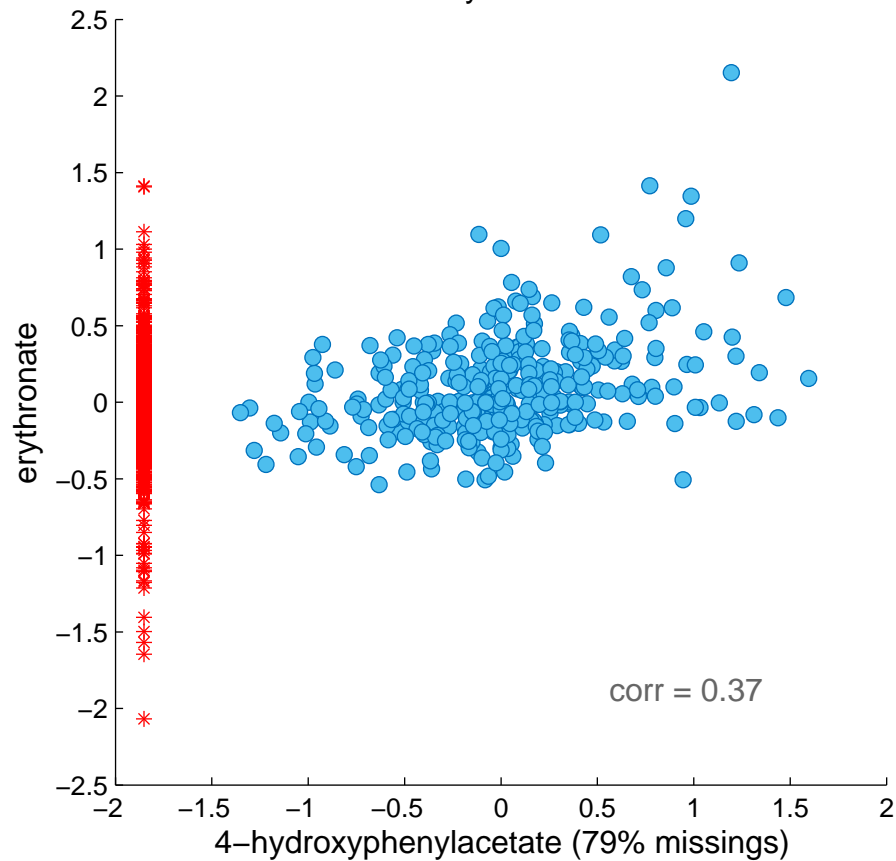
Missing values of 4-ethylphenylsulfate
in X-12230



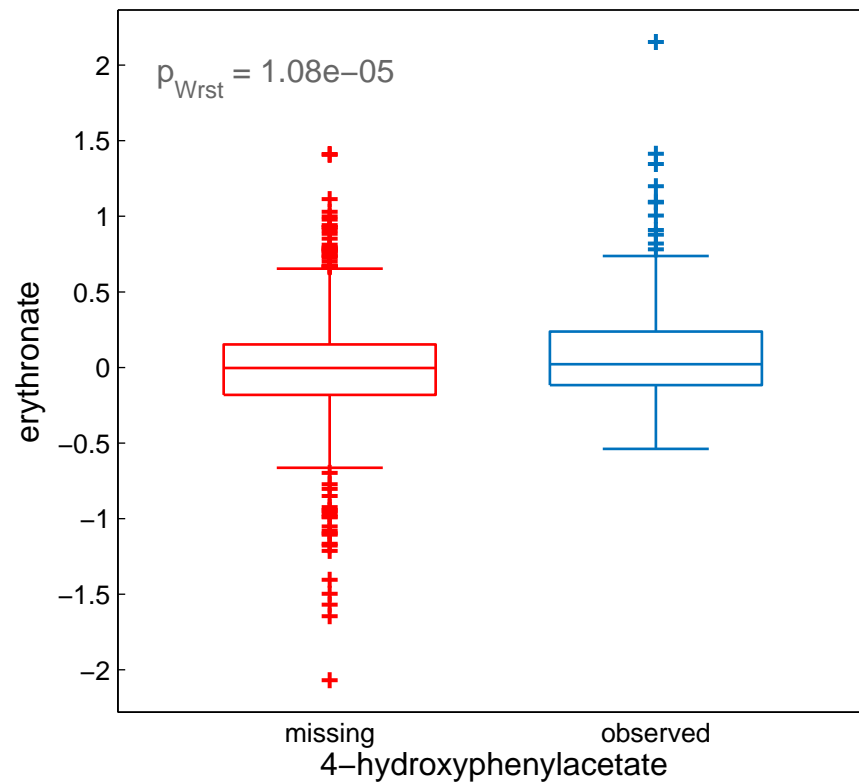
Concentrations of X-12230 in
missing and observed 4-ethylphenylsulfate



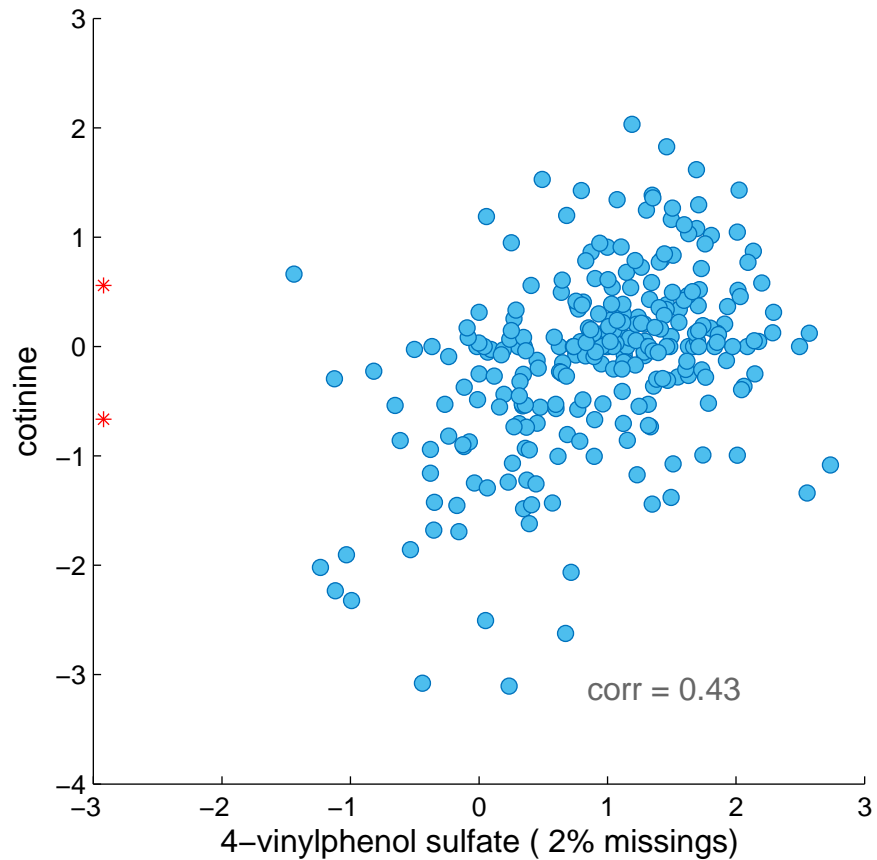
Missing values of 4-hydroxyphenylacetate
in erythronate



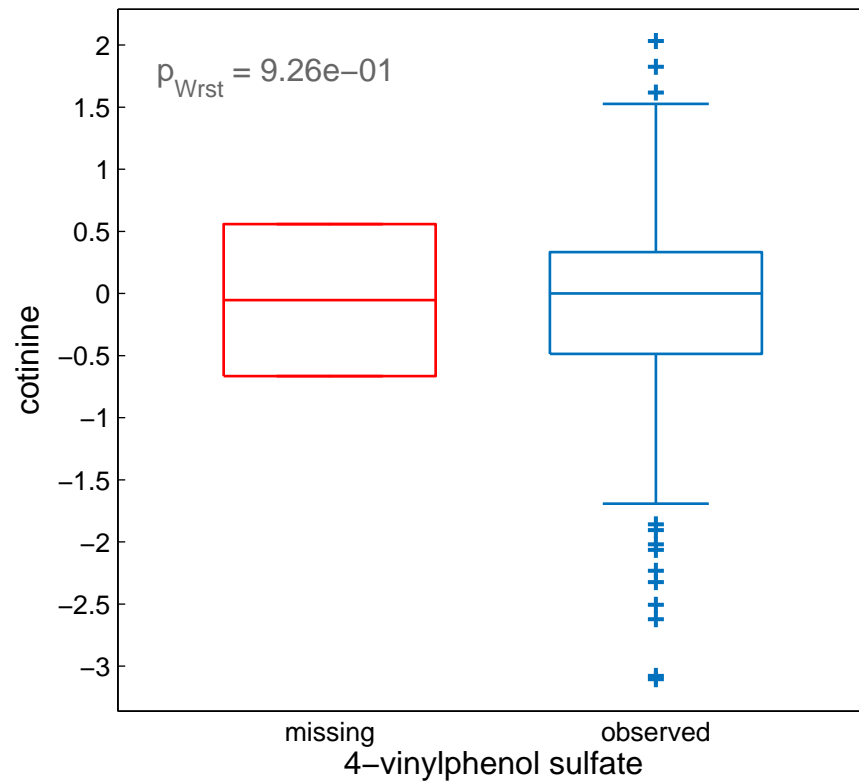
Concentrations of erythronate in
missing and observed 4-hydroxyphenylacetate



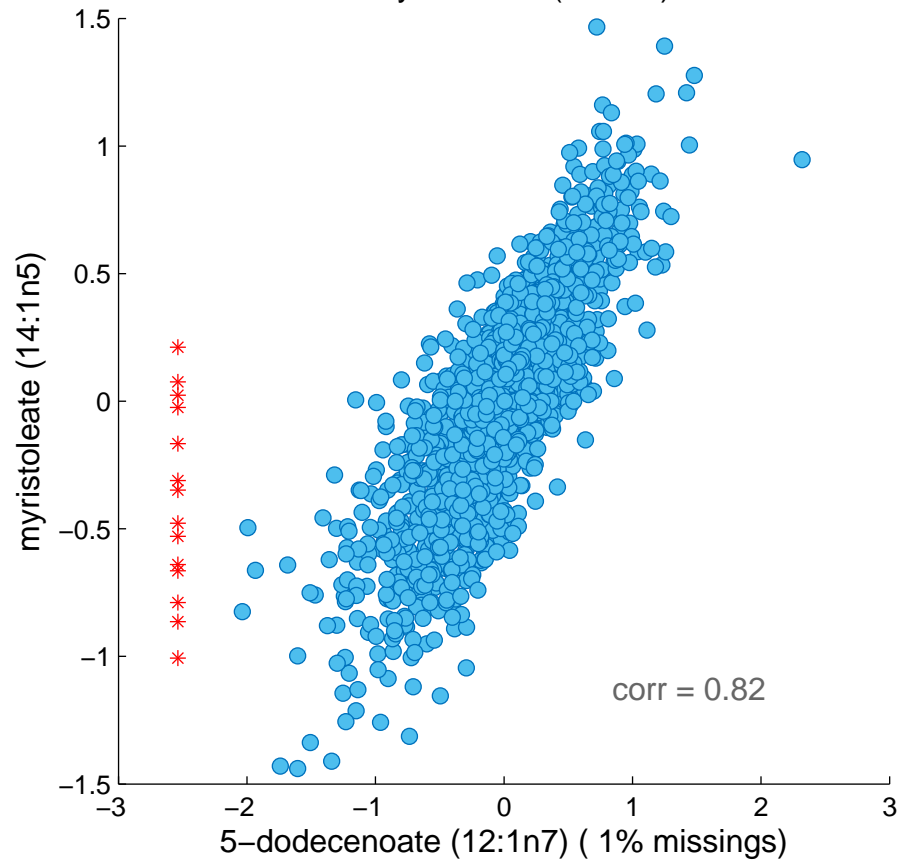
Missing values of 4-vinylphenol sulfate
in cotinine



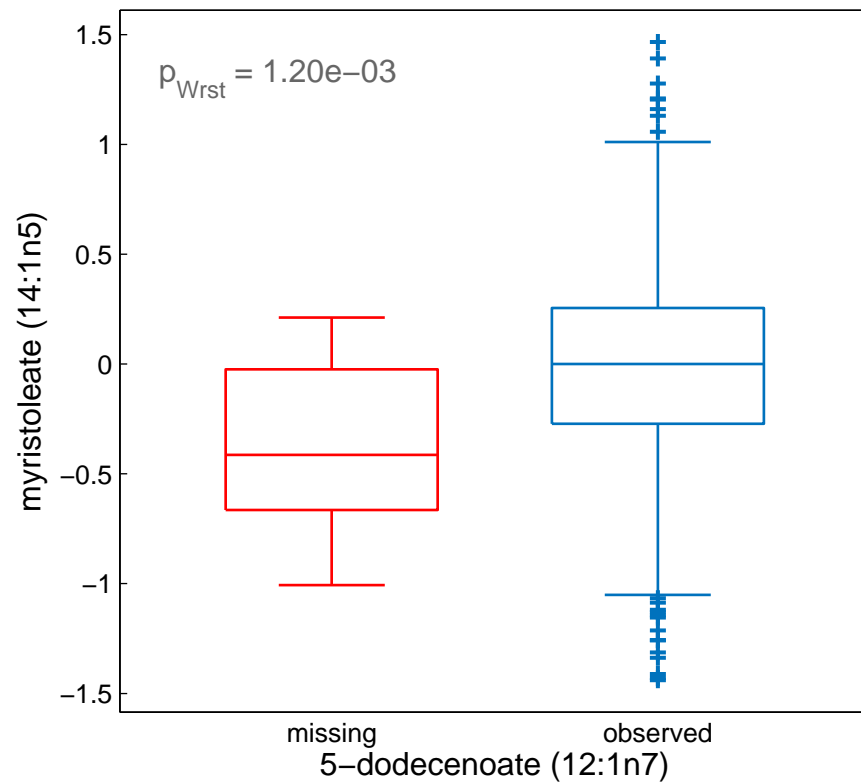
Concentrations of cotinine in
missing and observed 4-vinylphenol sulfate



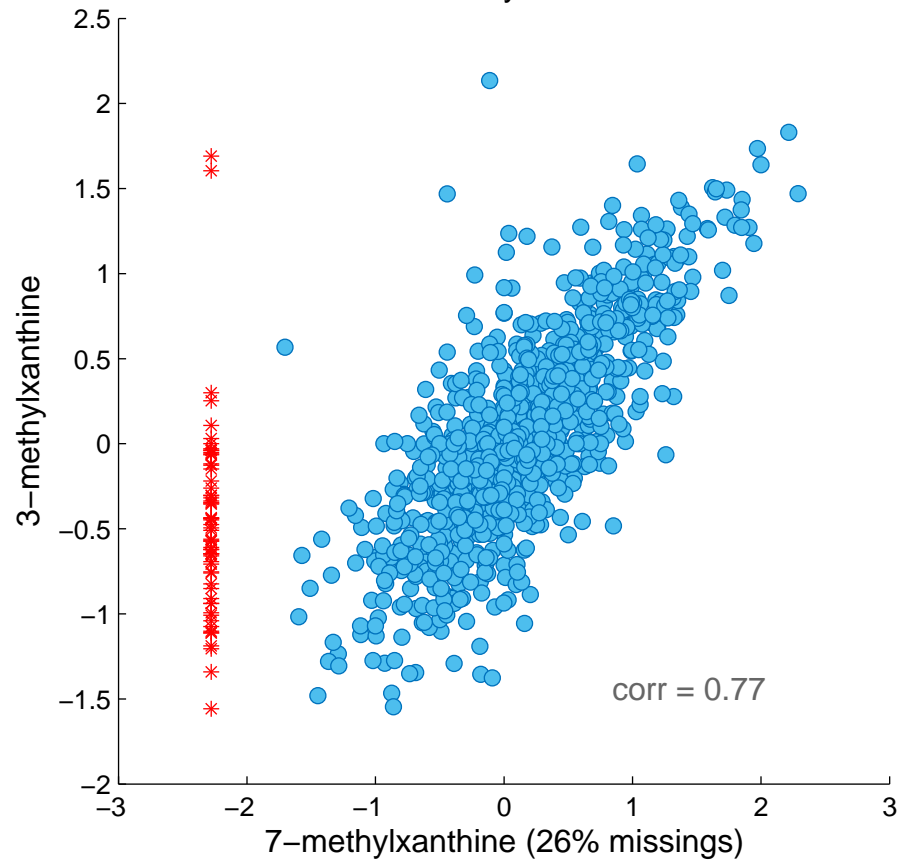
Missing values of 5-dodecenoate (12:1n7)
in myristoleate (14:1n5)



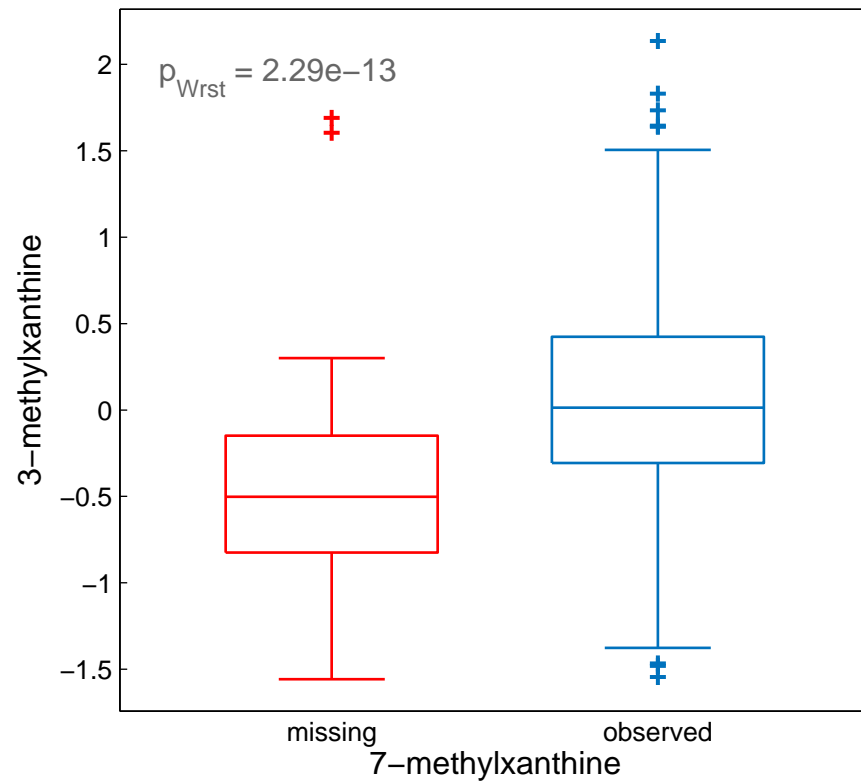
Concentrations of myristoleate (14:1n5) in
missing and observed 5-dodecenoate (12:1n7)



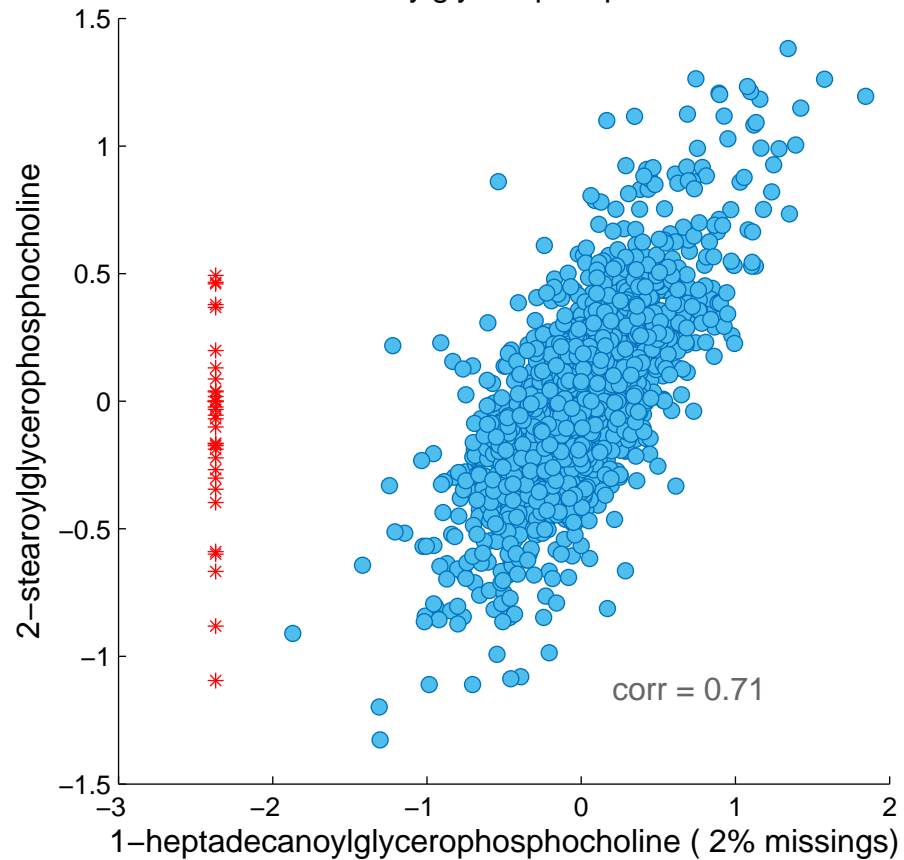
Missing values of 7-methylxanthine
in 3-methylxanthine



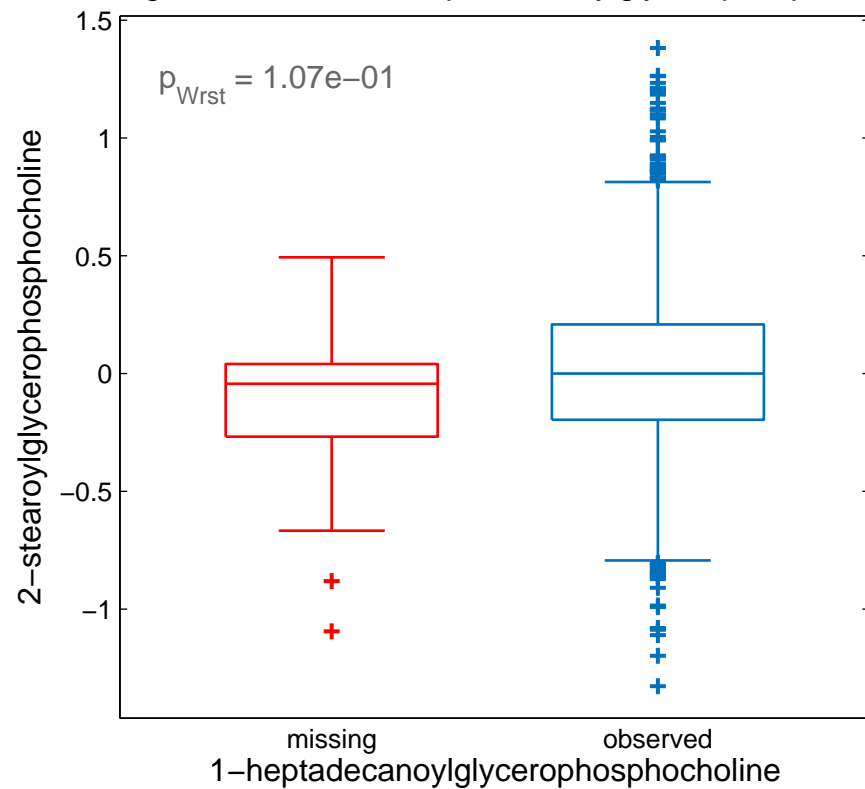
Concentrations of 3-methylxanthine in
missing and observed 7-methylxanthine



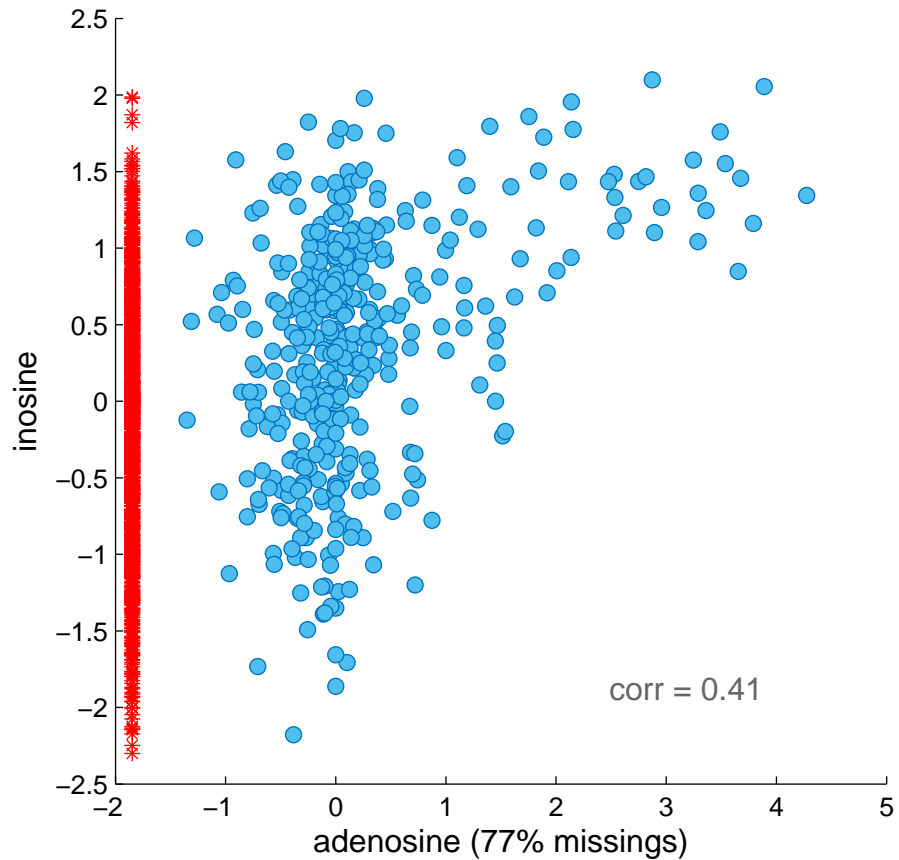
Missing values of 1-heptadecanoylglycerophosphocholine in 2-stearoylglycerophosphocholine



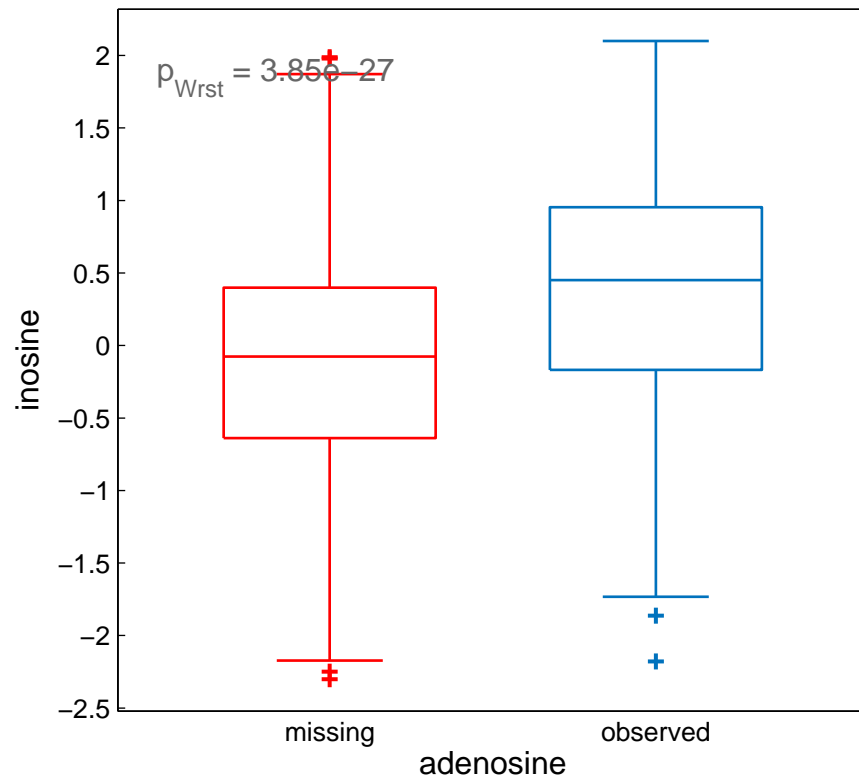
Concentrations of 2-stearoylglycerophosphocholine in missing and observed 1-heptadecanoylglycerophosphocholine



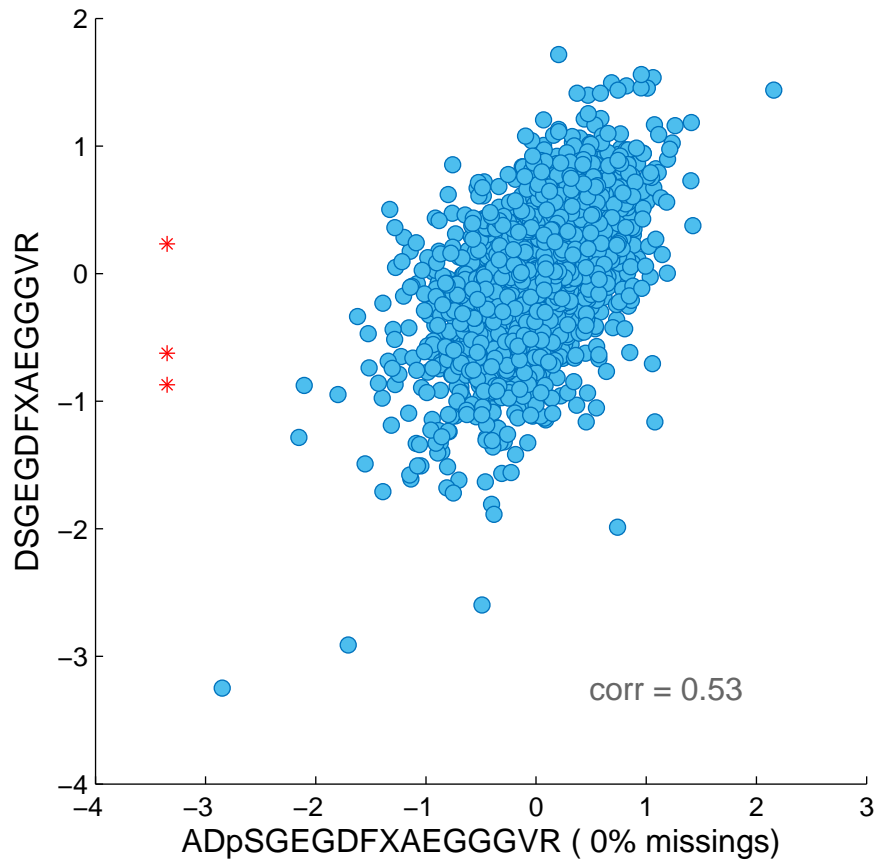
Missing values of adenosine
in inosine



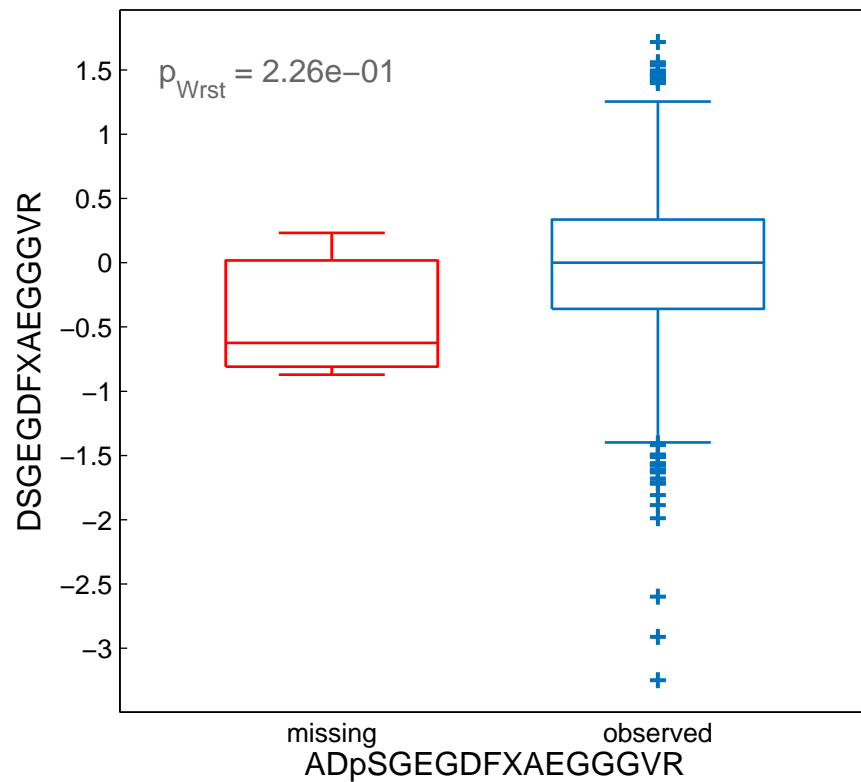
Concentrations of inosine in
missing and observed adenosine



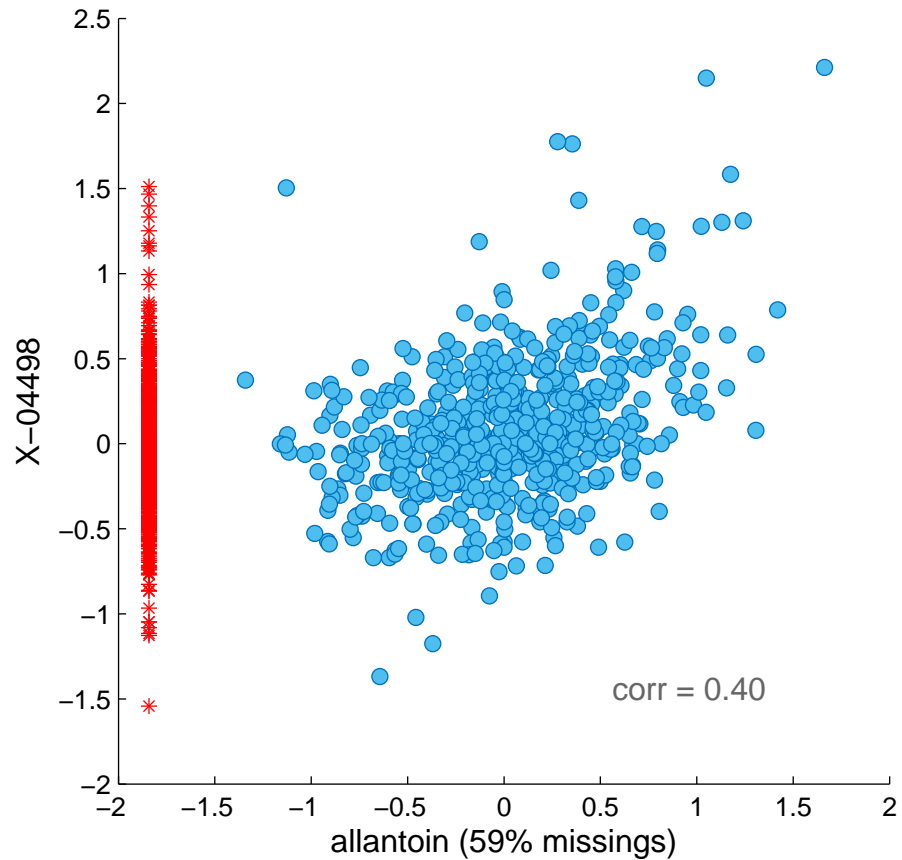
Missing values of ADpSGEGDFXAEGGGVR
in DSGEGDFXAEGGGVR



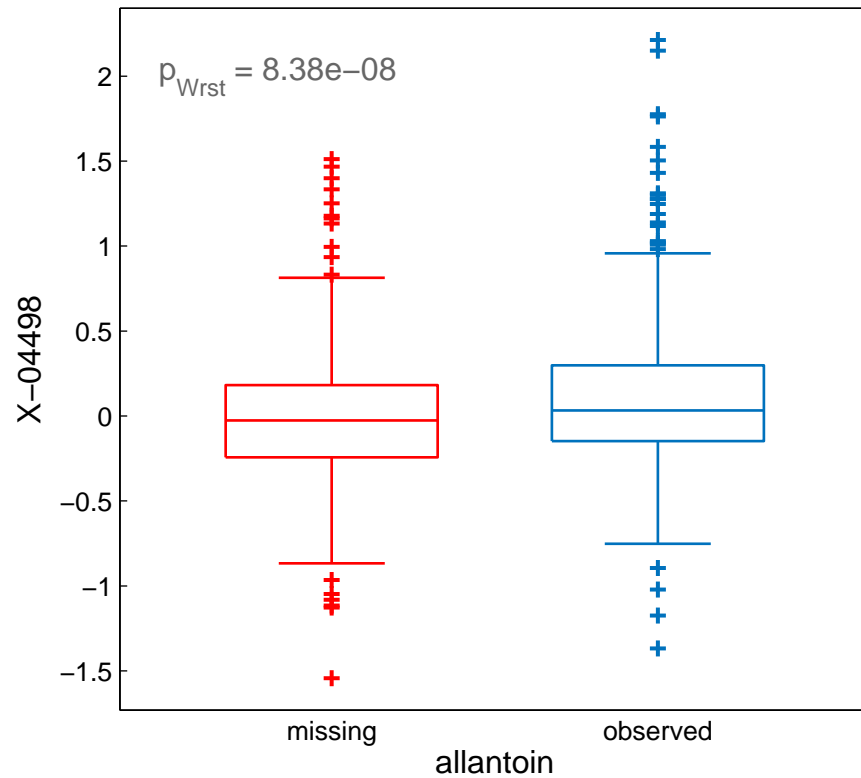
Concentrations of DSGEGDFXAEGGGVR in
missing and observed ADpSGEGDFXAEGGGVR



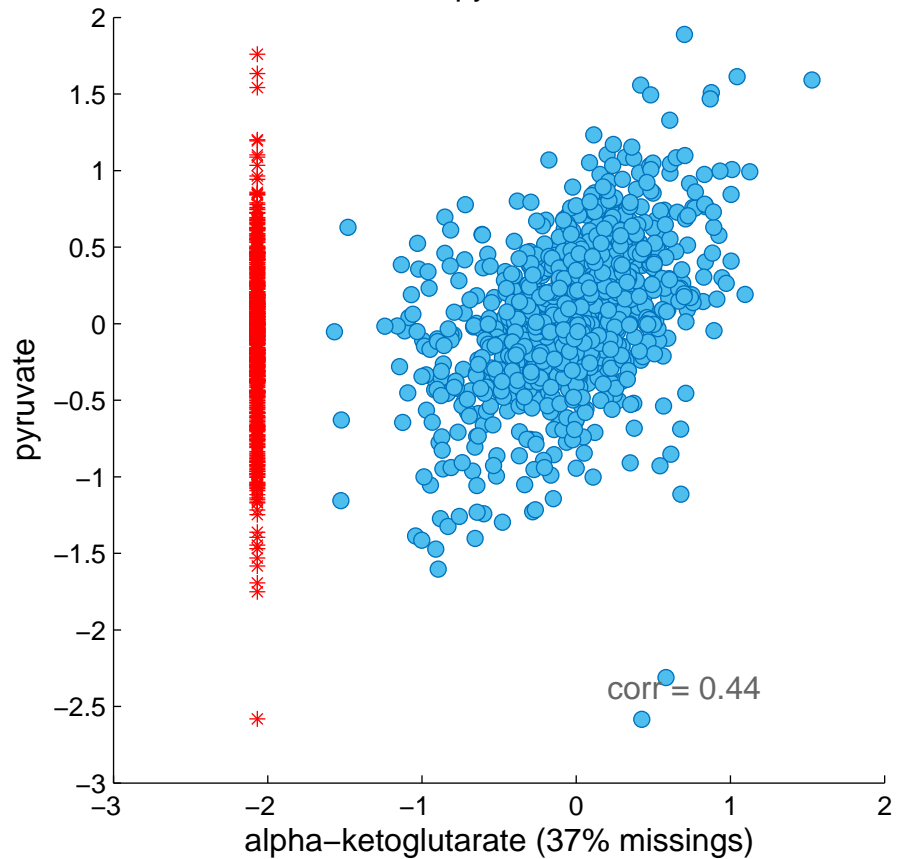
Missing values of allantoin
in X-04498



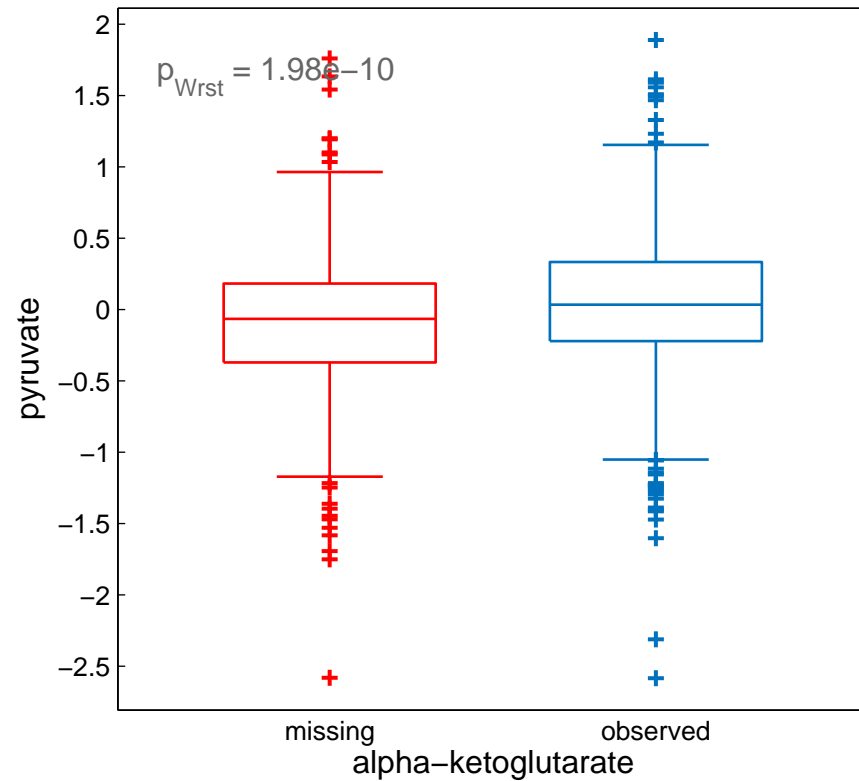
Concentrations of X-04498 in
missing and observed allantoin



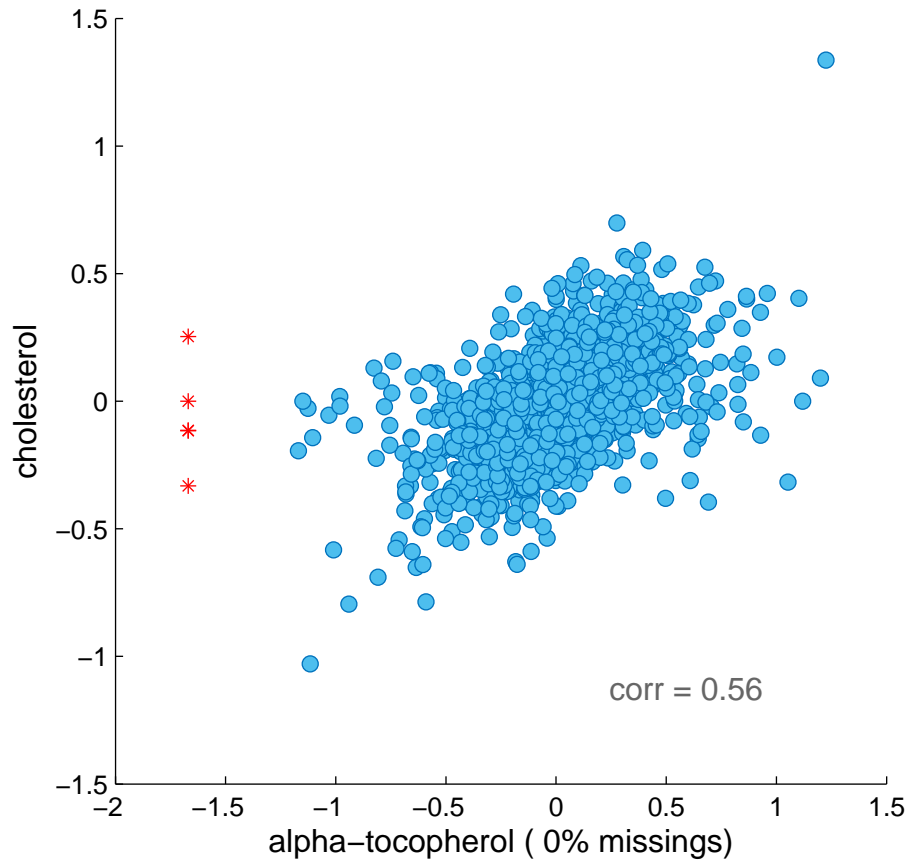
Missing values of alpha-ketoglutarate
in pyruvate



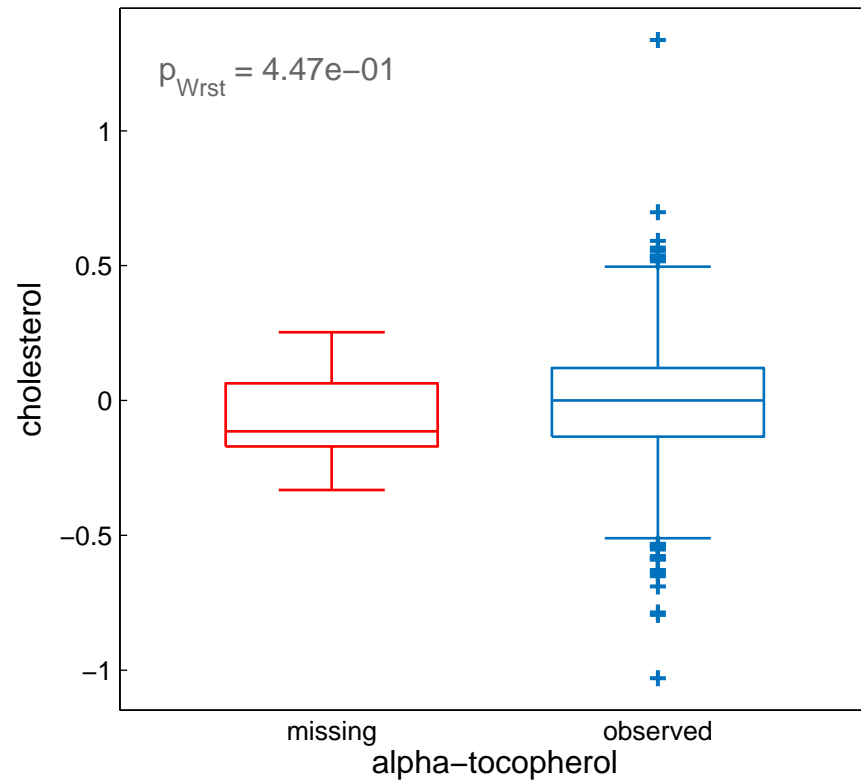
Concentrations of pyruvate in
missing and observed alpha-ketoglutarate



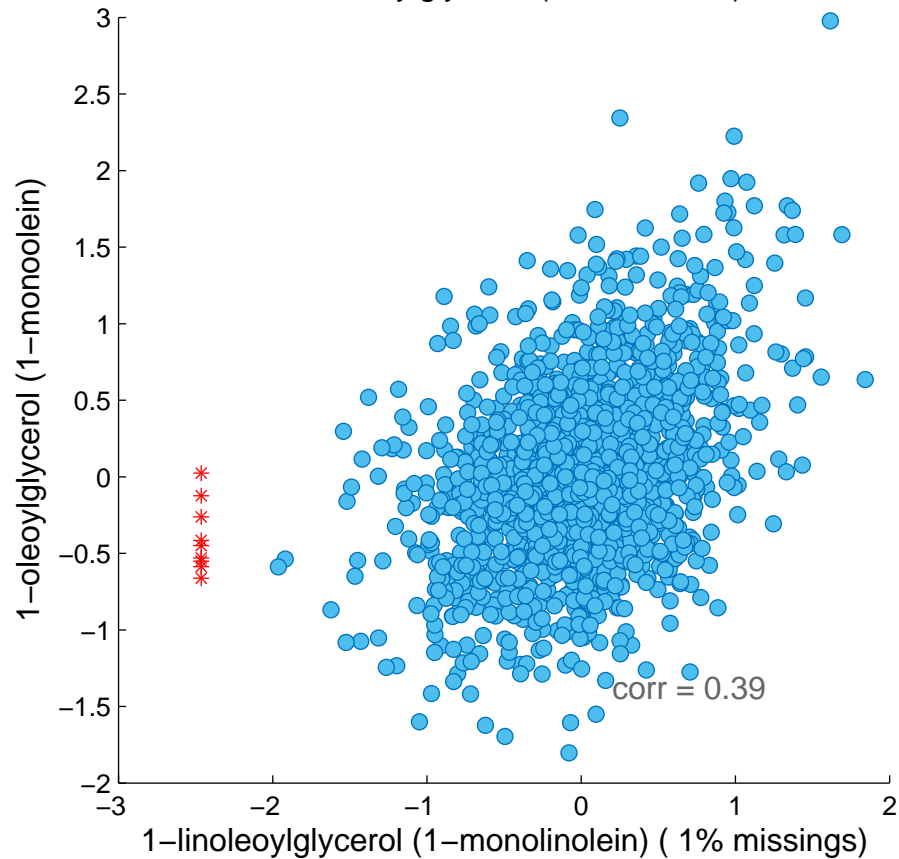
Missing values of alpha-tocopherol
in cholesterol



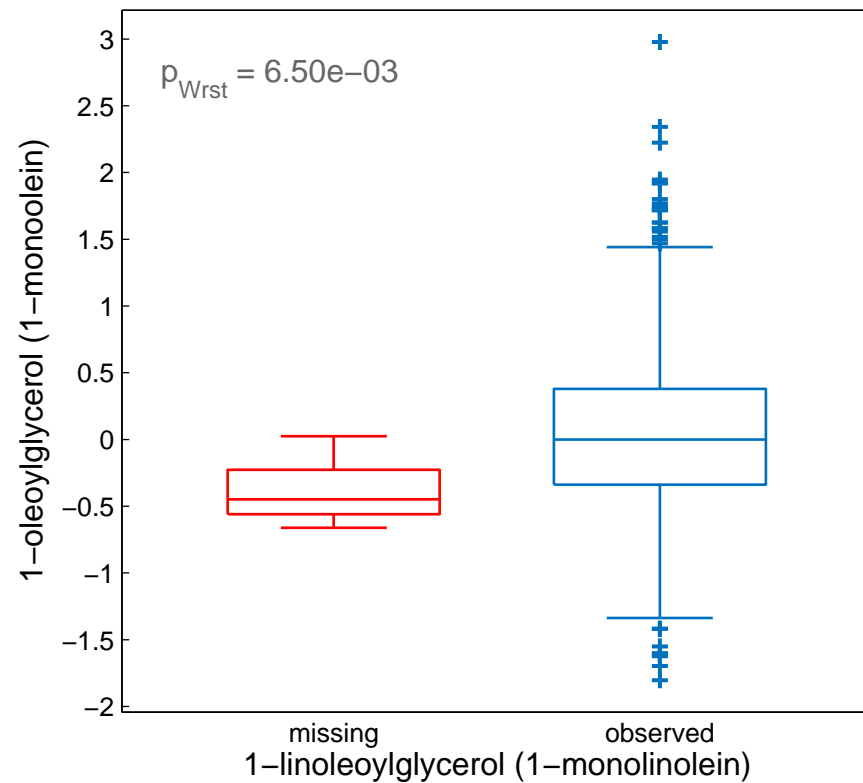
Concentrations of cholesterol in
missing and observed alpha-tocopherol



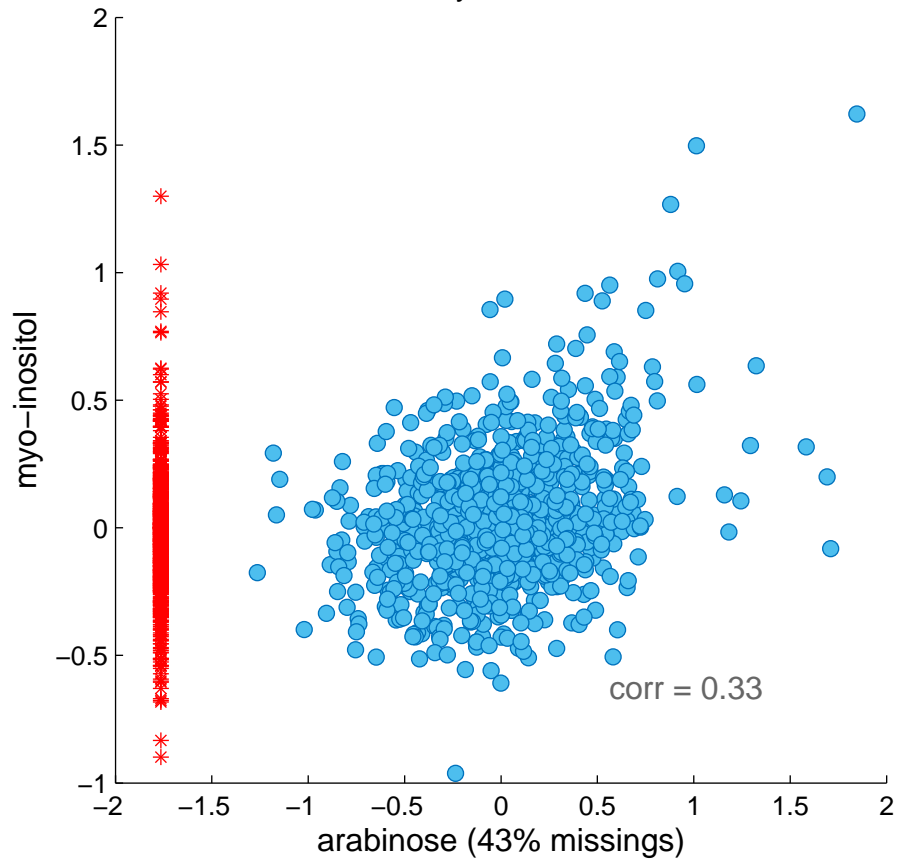
Missing values of 1–linoleoylglycerol (1–monolinolein)
in 1–oleoylglycerol (1–monoolein)



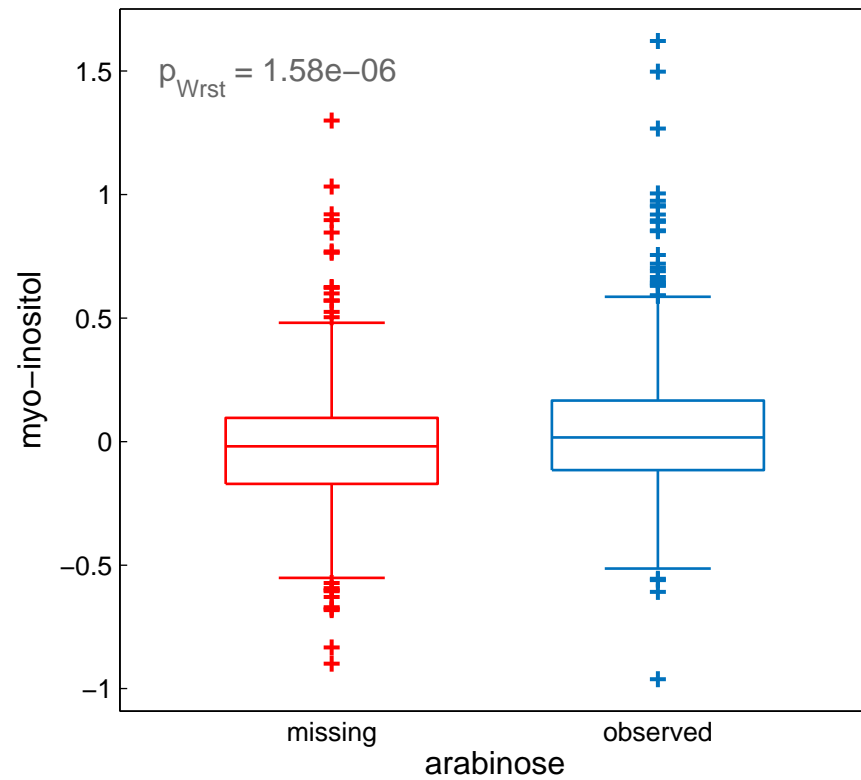
Concentrations of 1–oleoylglycerol (1–monoolein) in
missing and observed 1–linoleoylglycerol (1–monolinolein)



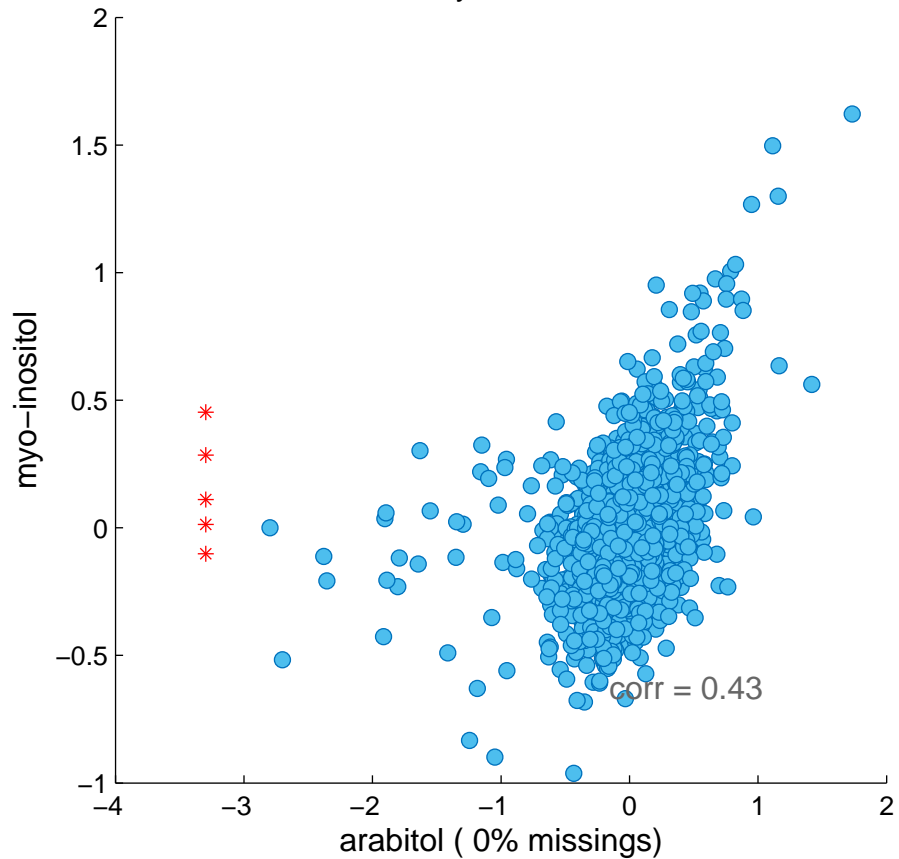
Missing values of arabinose
in myo-inositol



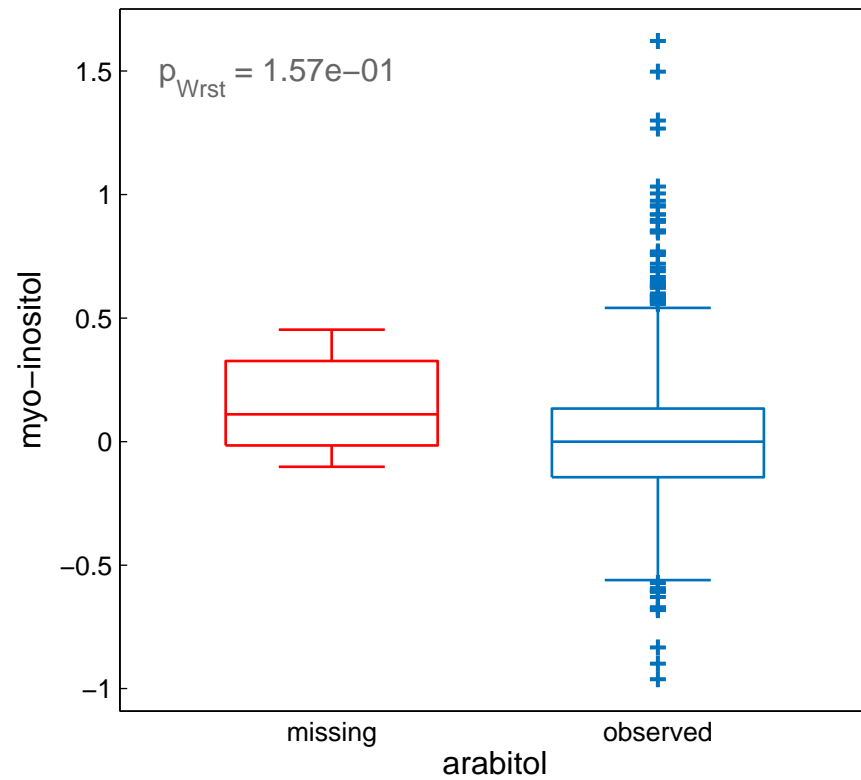
Concentrations of myo-inositol in
missing and observed arabinose



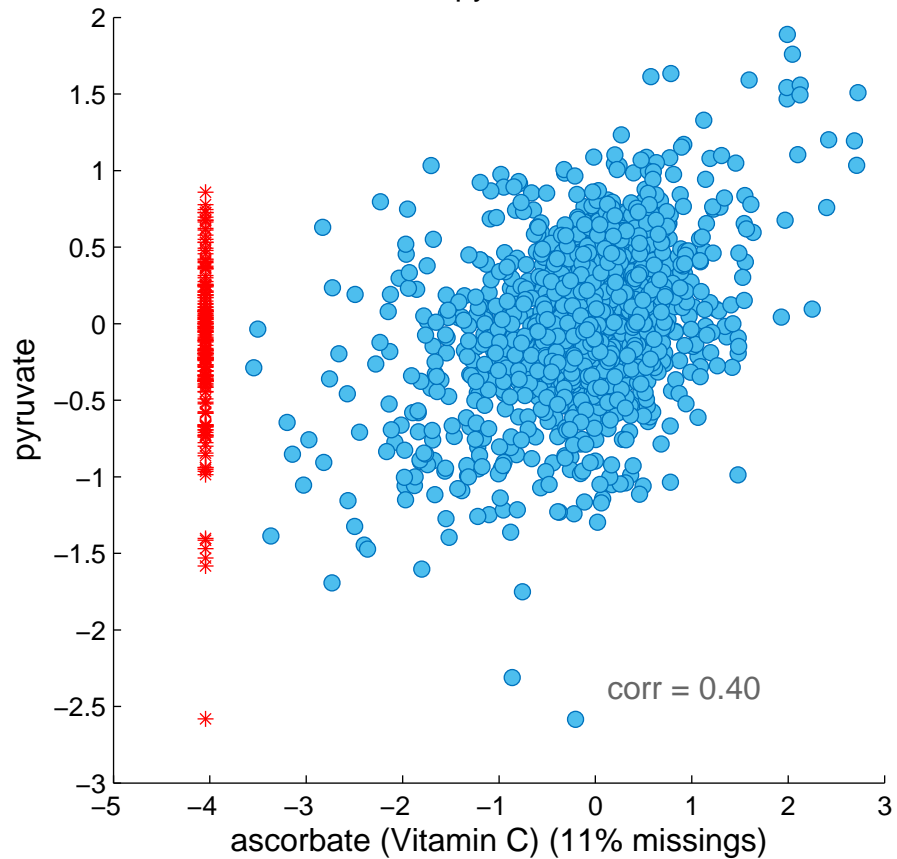
Missing values of arabitol
in myo-inositol



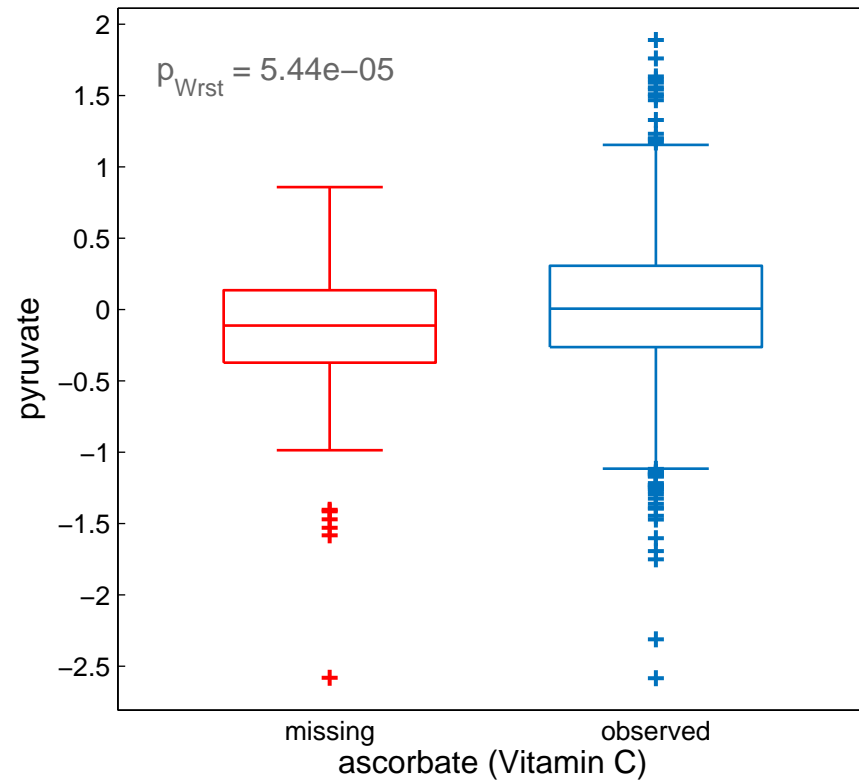
Concentrations of myo-inositol in
missing and observed arabitol



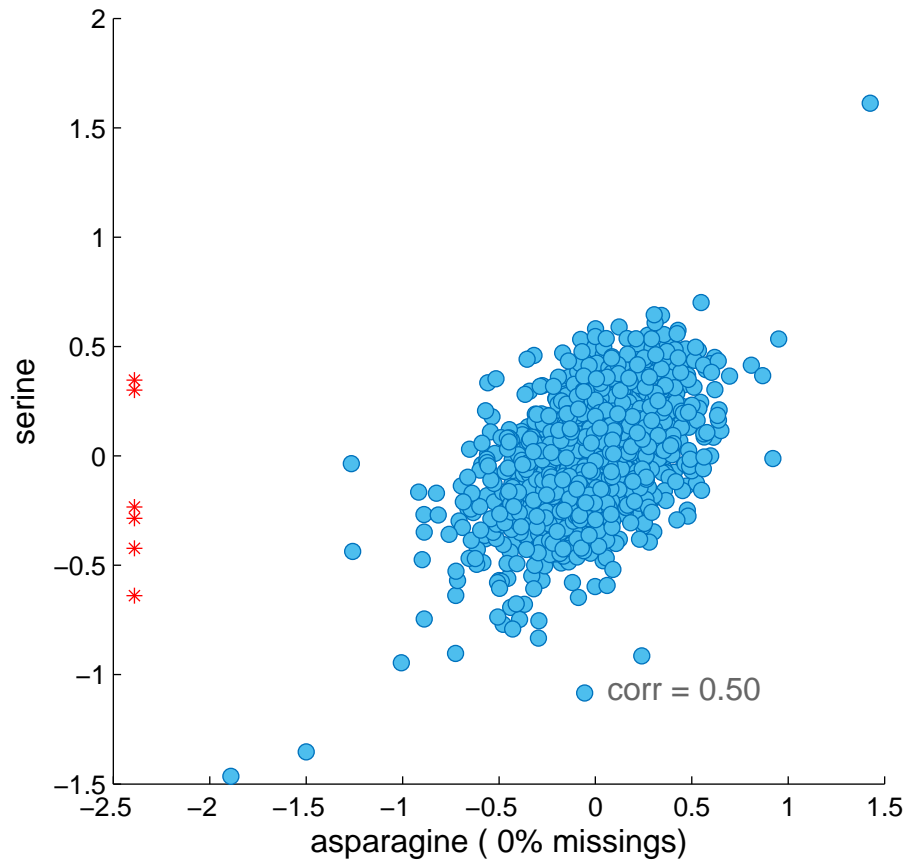
Missing values of ascorbate (Vitamin C)
in pyruvate



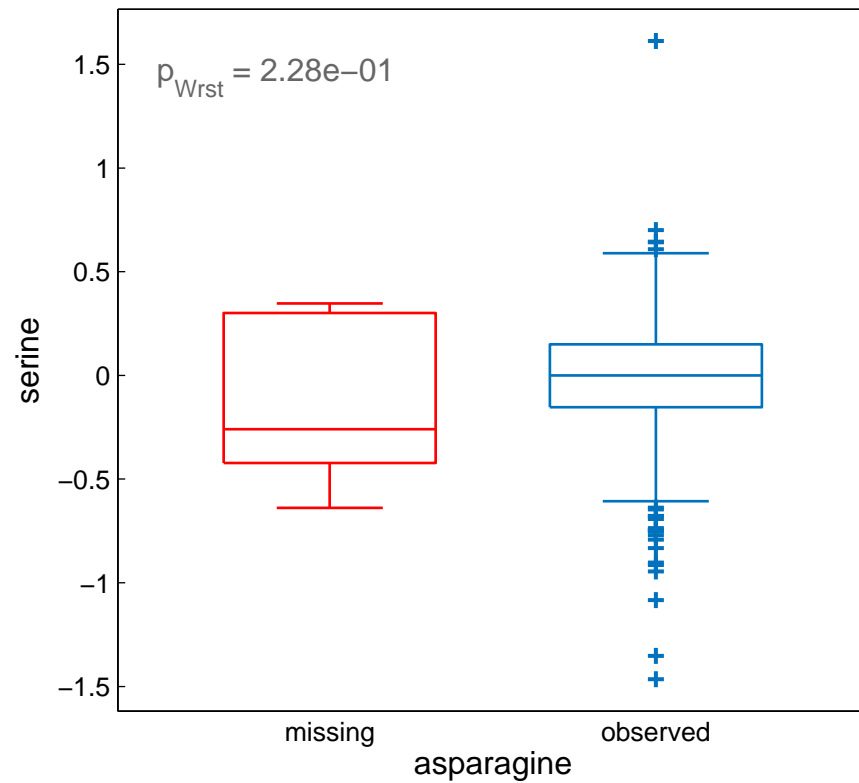
Concentrations of pyruvate in
missing and observed ascorbate (Vitamin C)



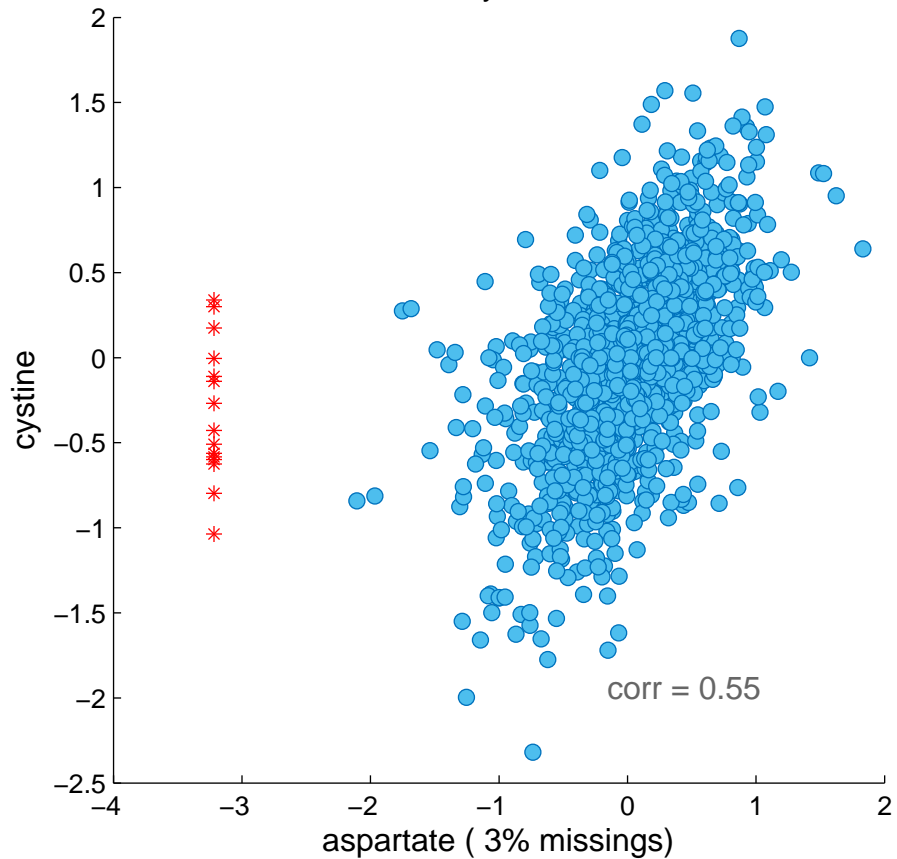
Missing values of asparagine
in serine



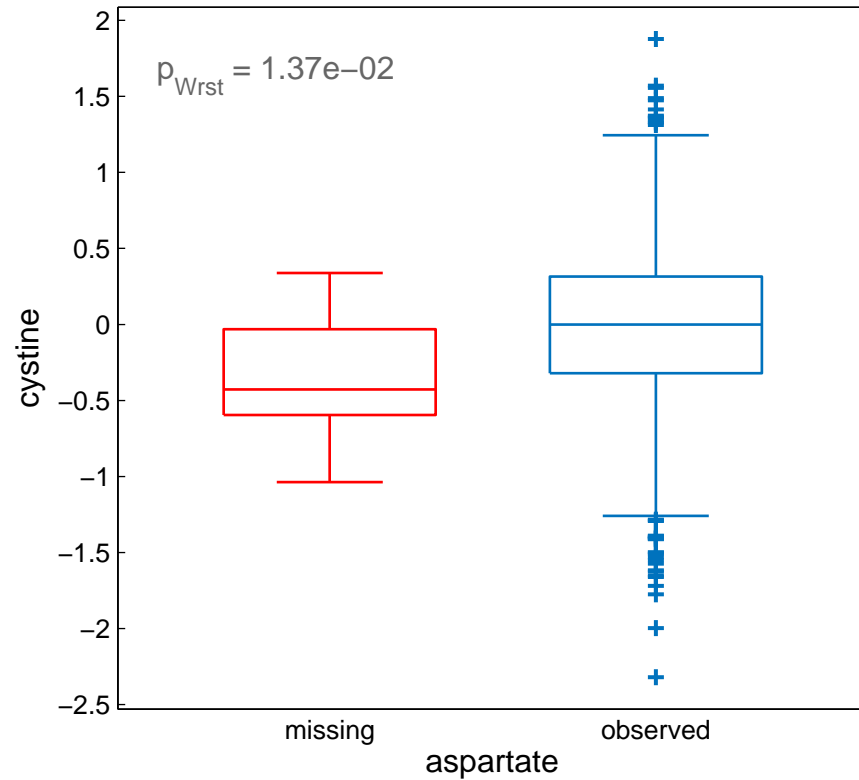
Concentrations of serine in
missing and observed asparagine



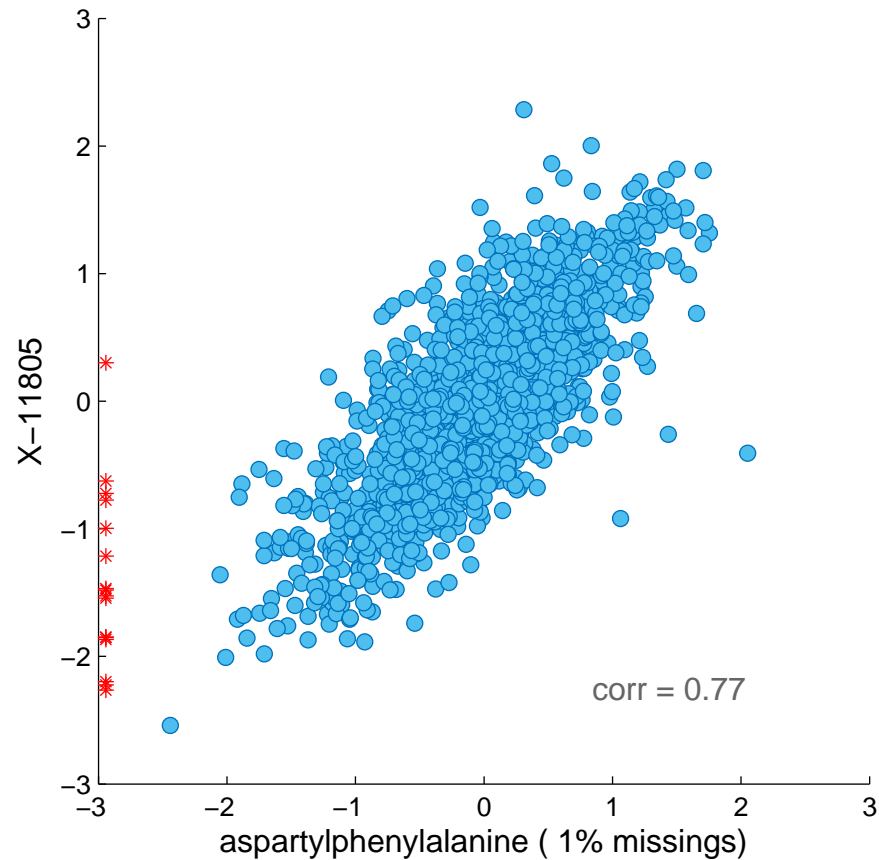
Missing values of aspartate
in cystine



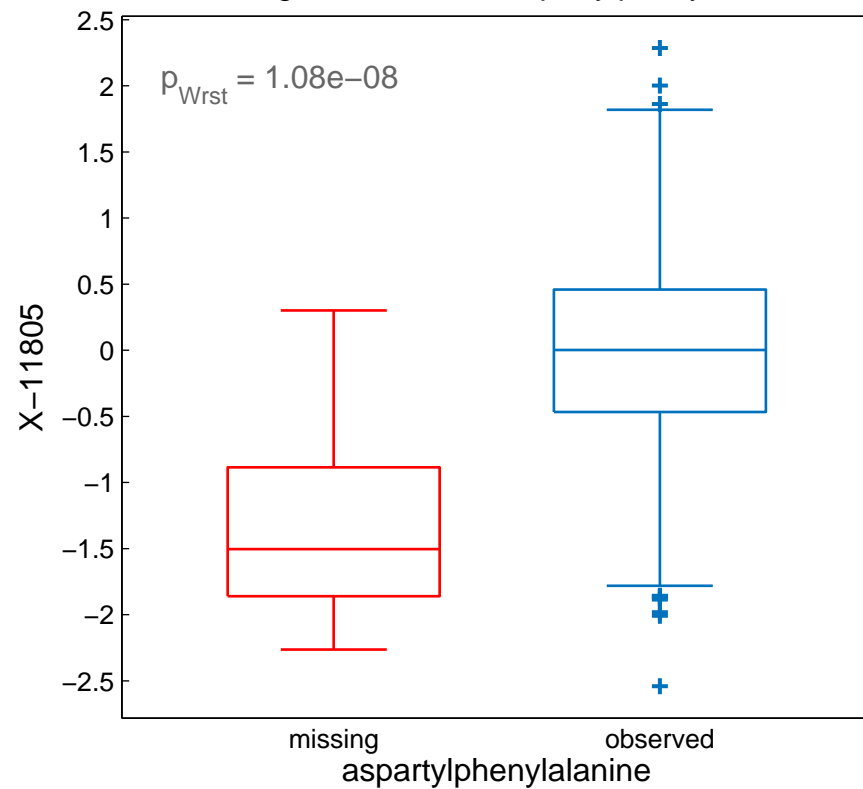
Concentrations of cystine in
missing and observed aspartate



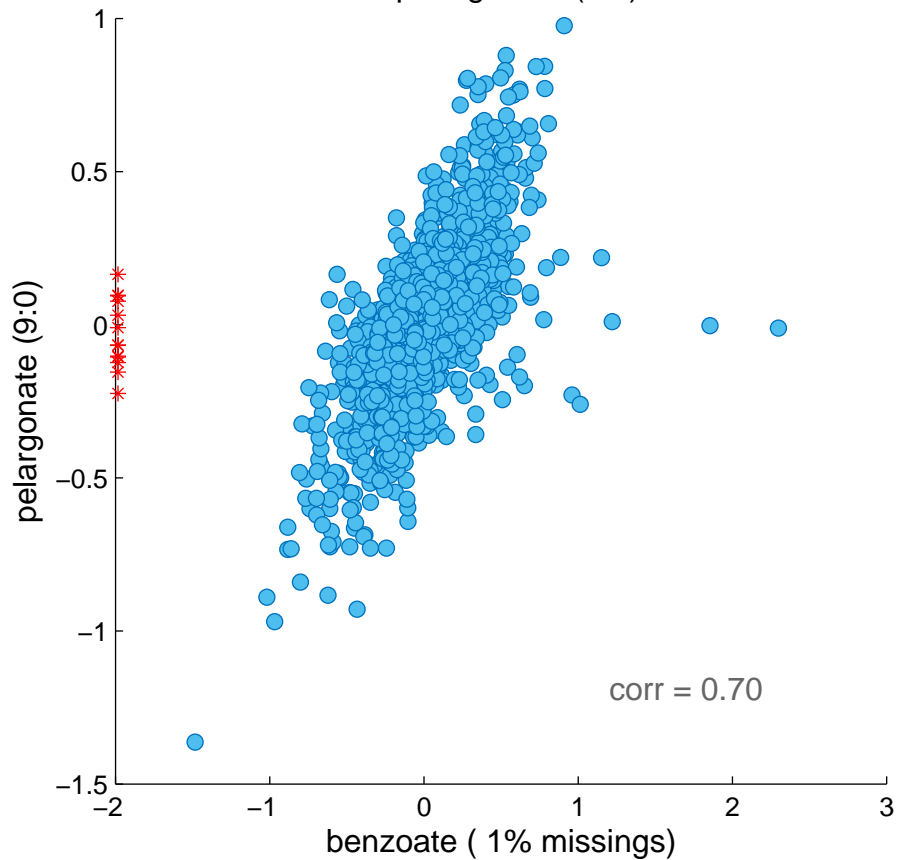
Missing values of aspartylphenylalanine
in X-11805



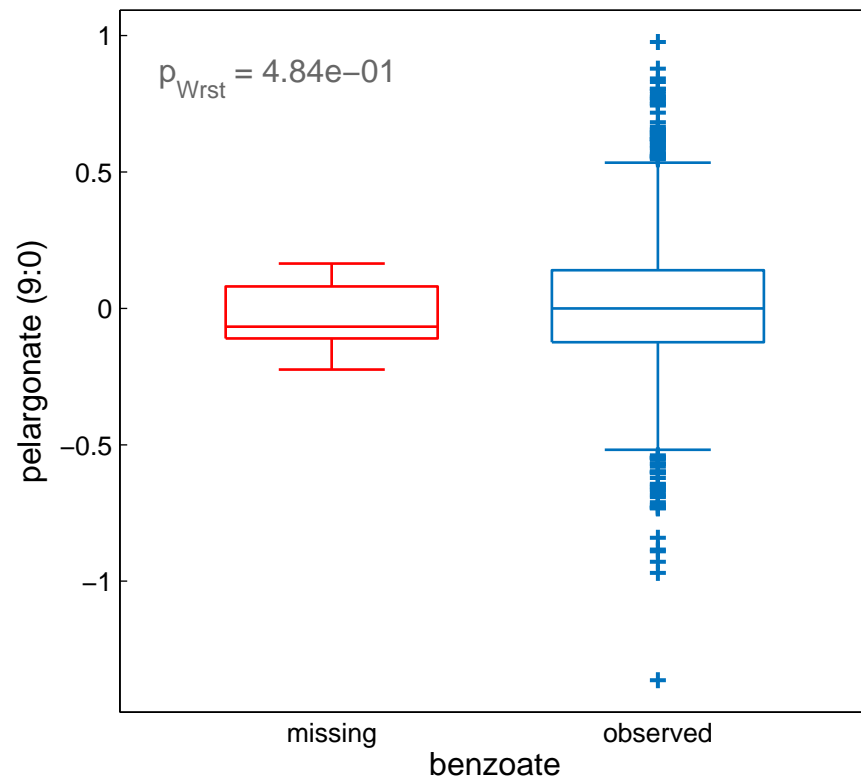
Concentrations of X-11805 in
missing and observed aspartylphenylalanine



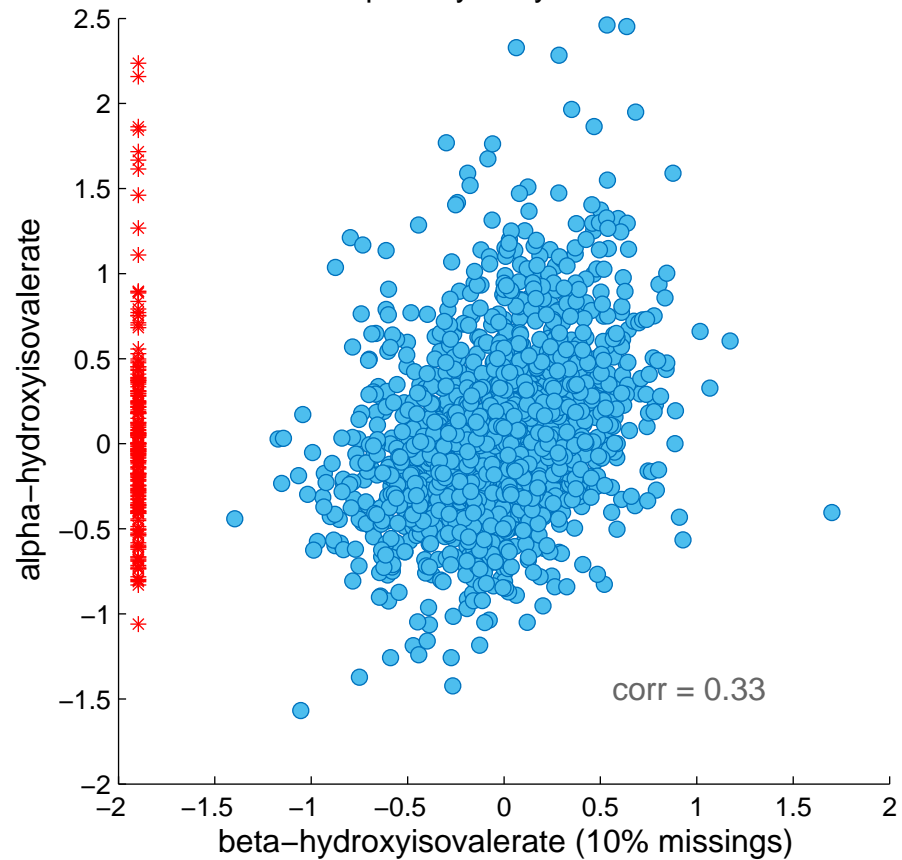
Missing values of benzoate
in pelargonate (9:0)



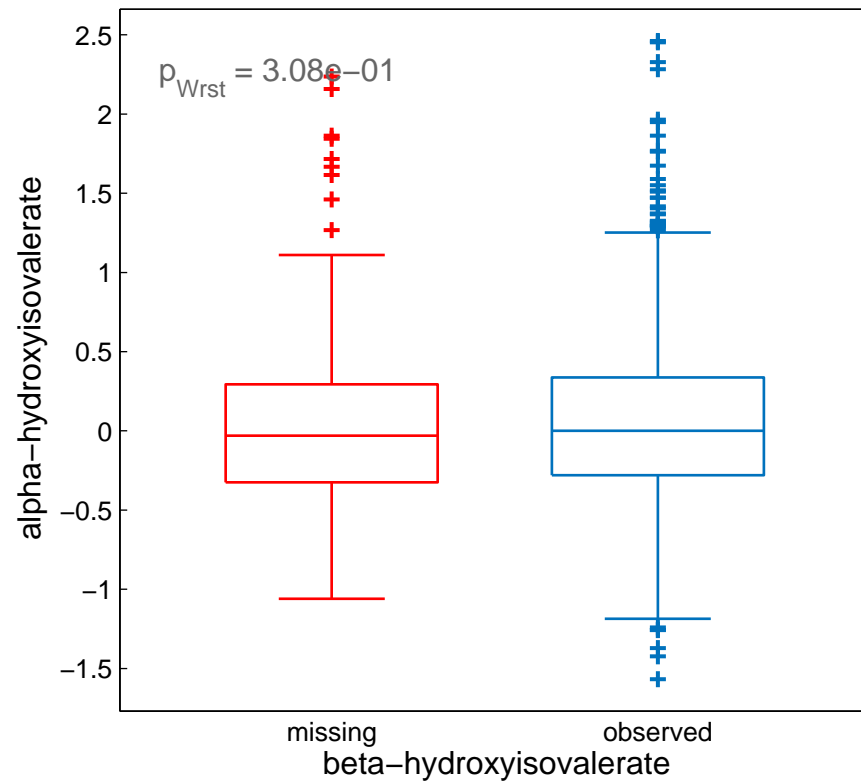
Concentrations of pelargonate (9:0) in
missing and observed benzoate



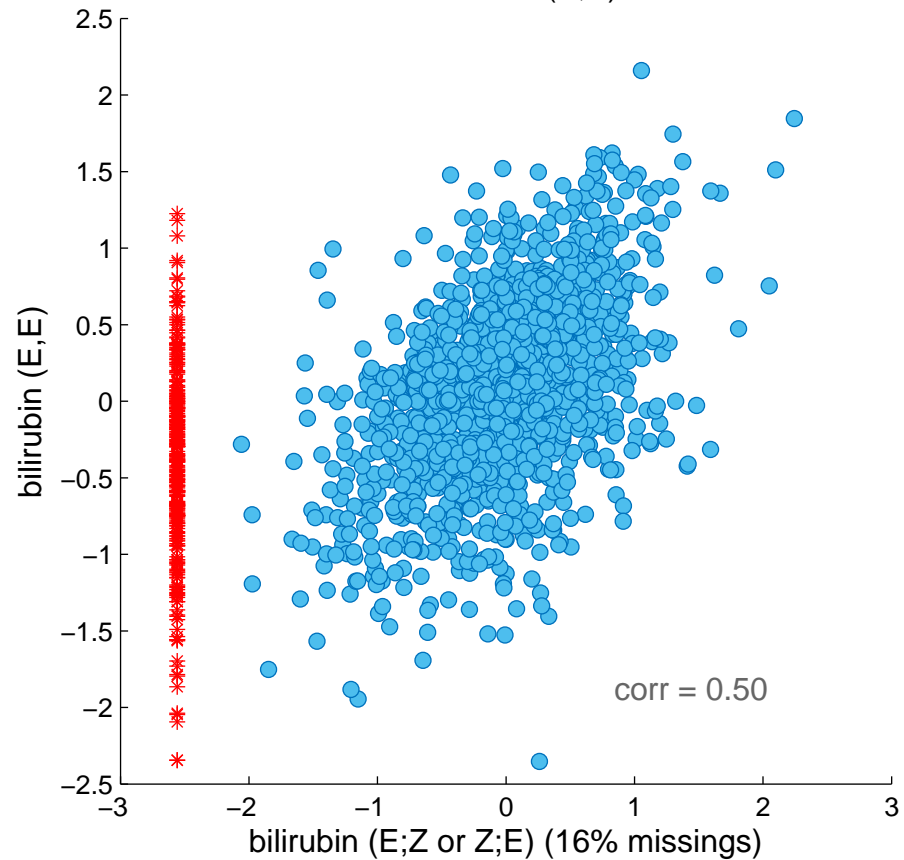
Missing values of beta-hydroxyisovalerate
in alpha-hydroxyisovalerate



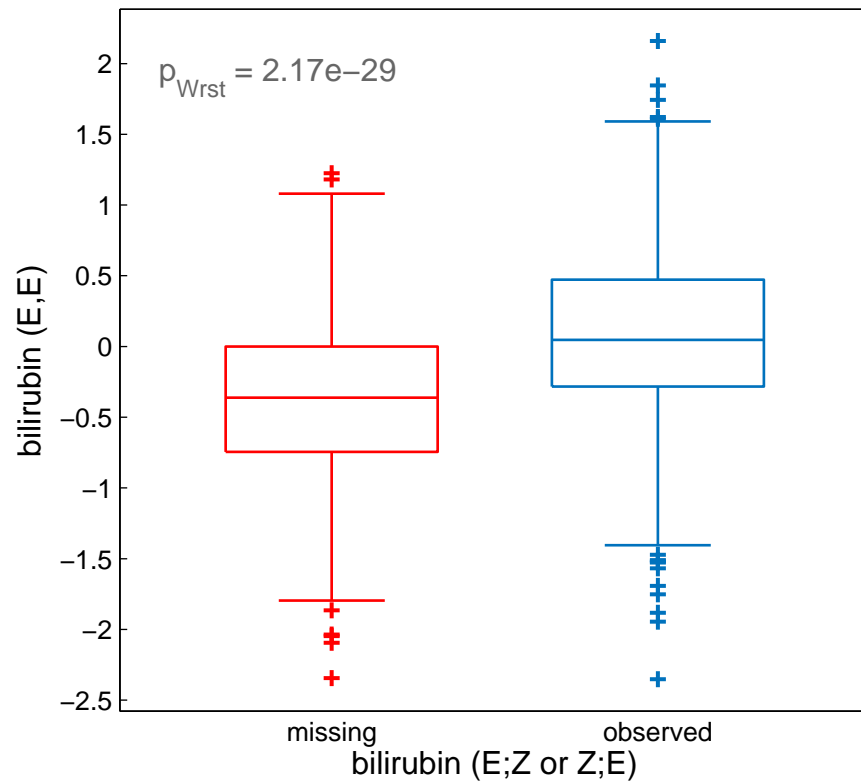
Concentrations of alpha-hydroxyisovalerate in
missing and observed beta-hydroxyisovalerate



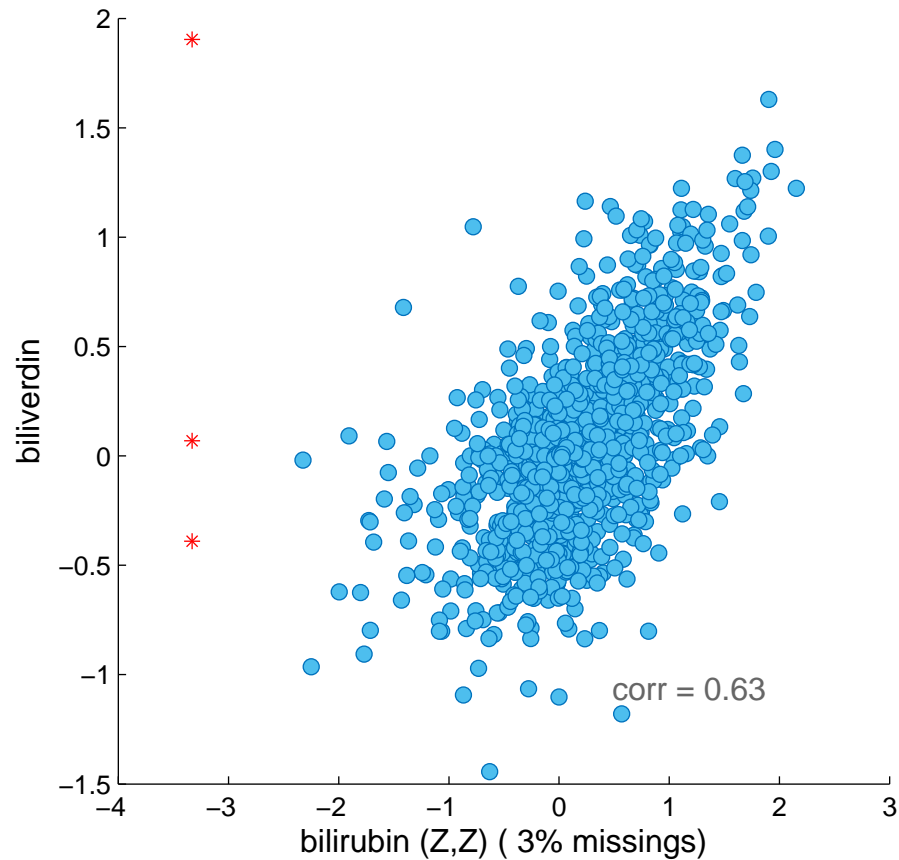
Missing values of bilirubin (E;Z or Z;E)
in bilirubin (E,E)



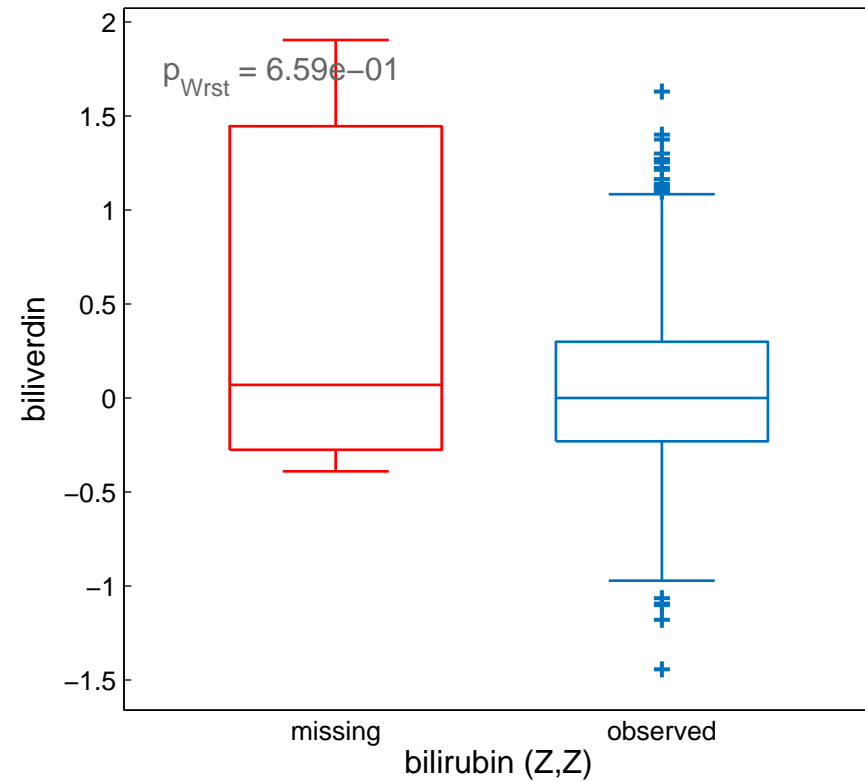
Concentrations of bilirubin (E,E) in
missing and observed bilirubin (E;Z or Z;E)



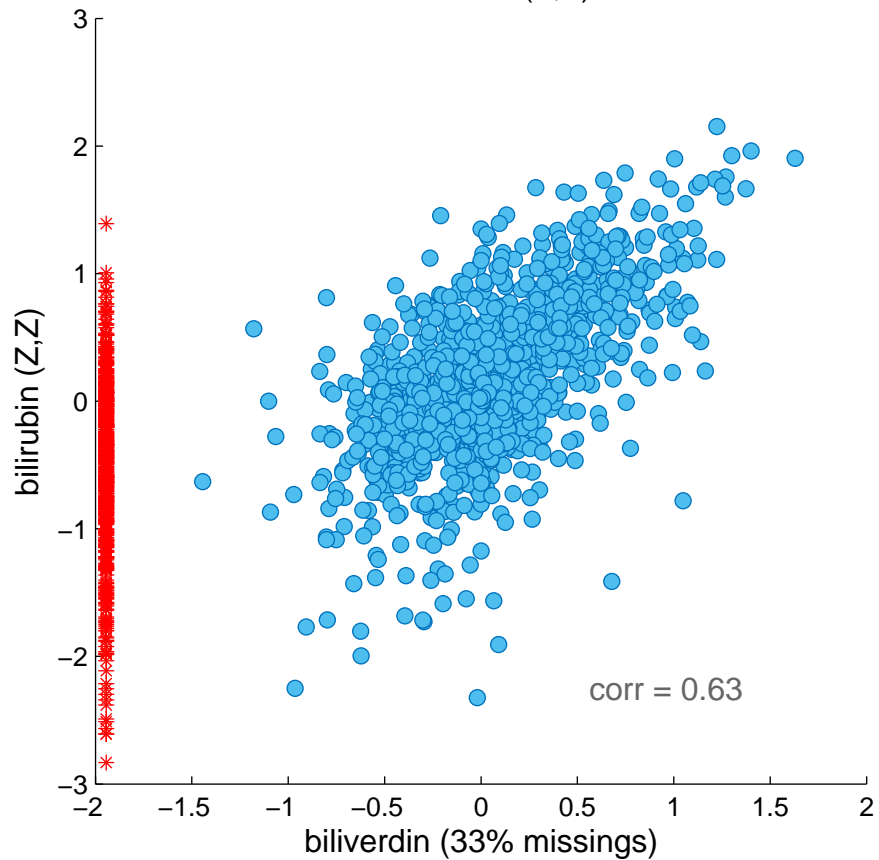
Missing values of bilirubin (Z,Z)
in biliverdin



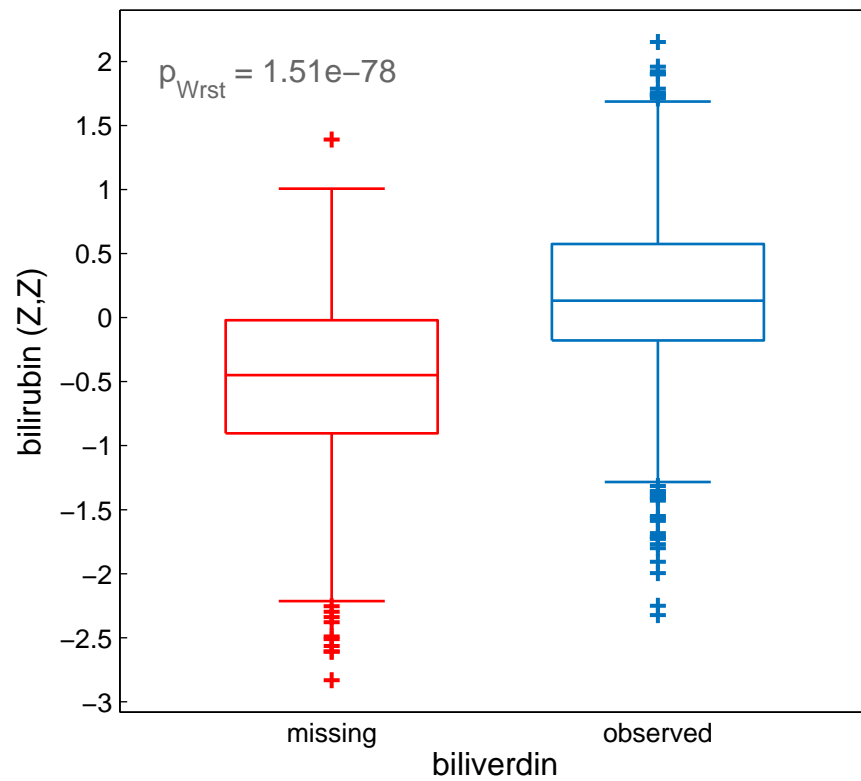
Concentrations of biliverdin in
missing and observed bilirubin (Z,Z)



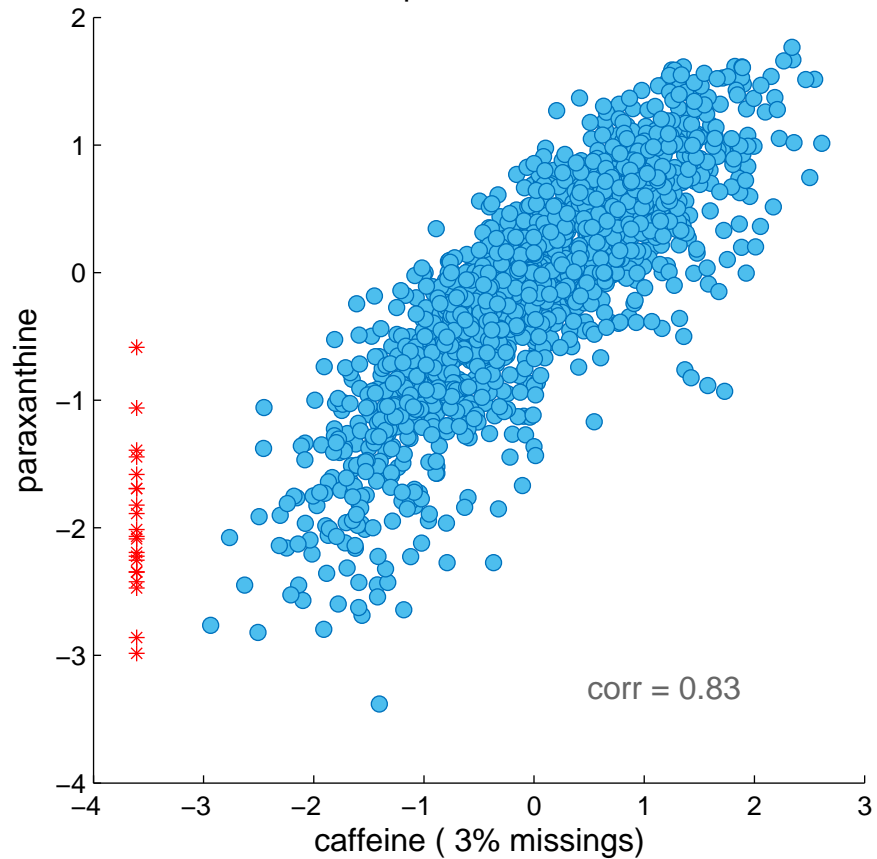
Missing values of biliverdin
in bilirubin (Z,Z)



Concentrations of bilirubin (Z,Z) in
missing and observed biliverdin



Missing values of caffeine
in paraxanthine



Concentrations of paraxanthine in
missing and observed caffeine

