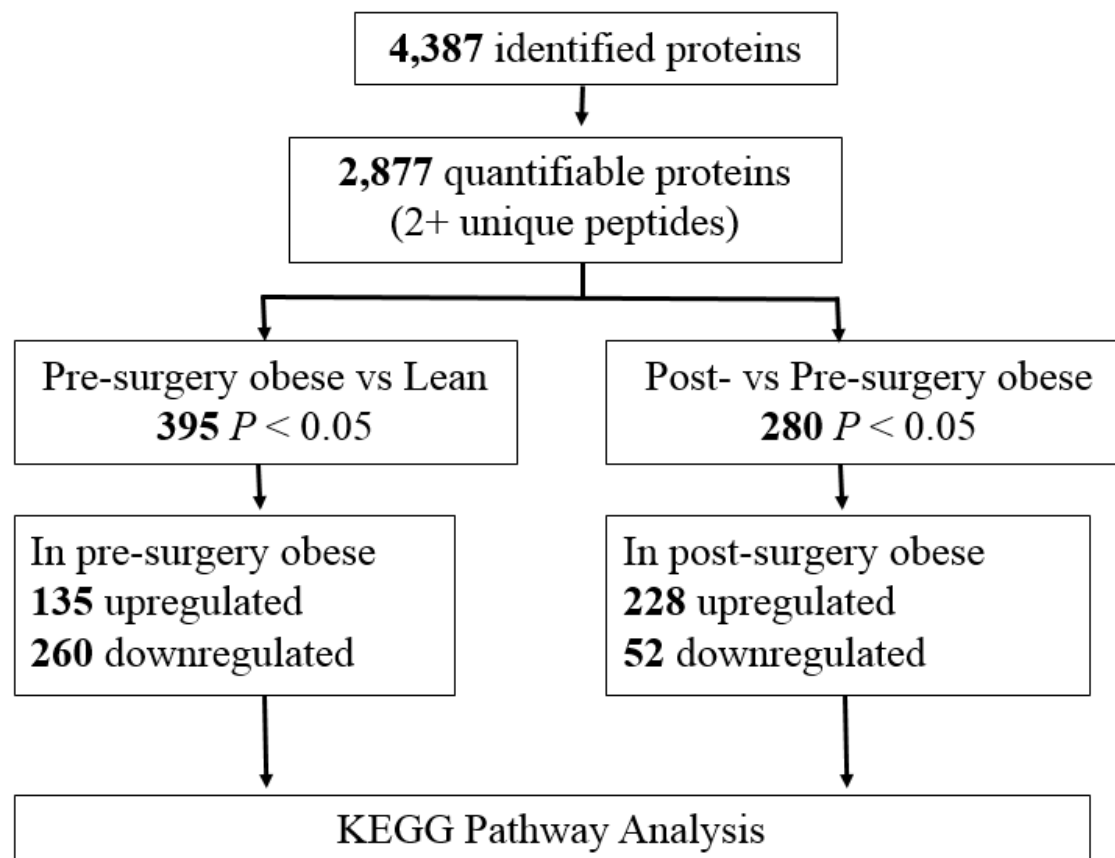


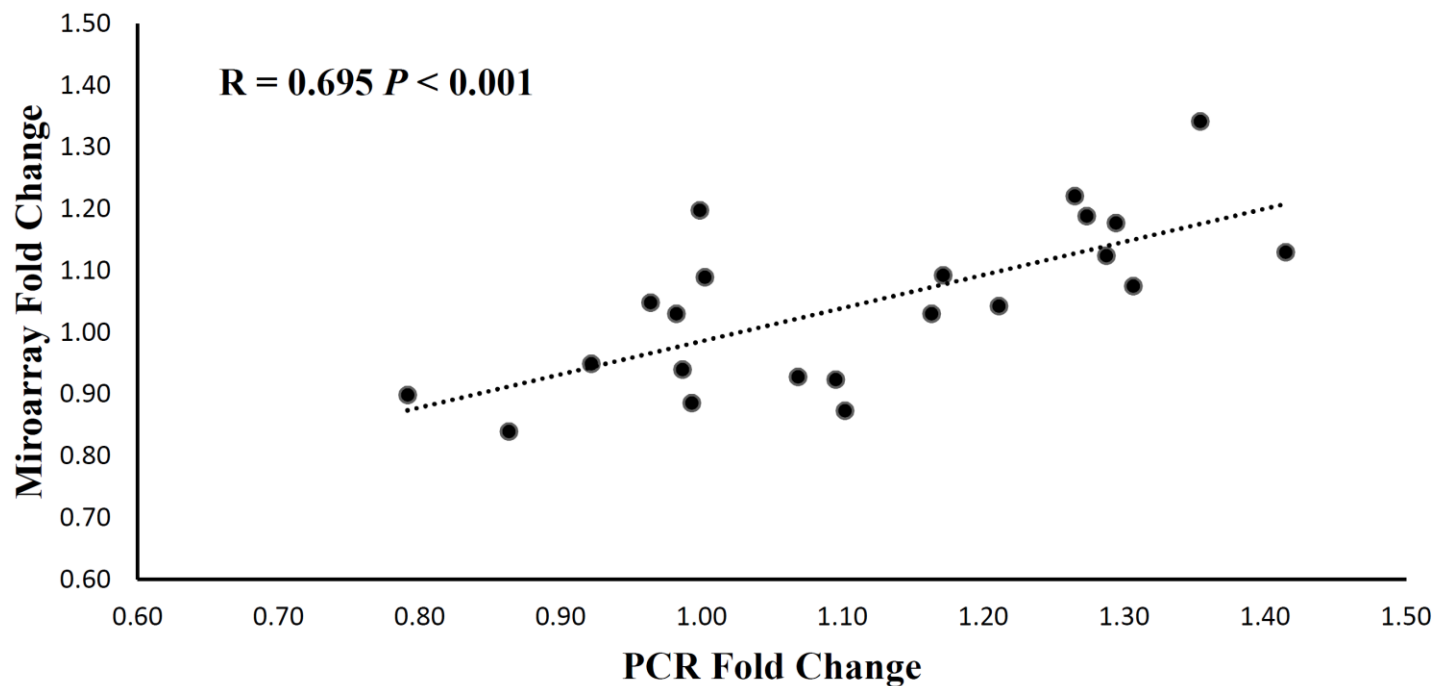
SUPPLEMENTARY DATA

Supplementary Figure S1. Work flow of statistical analysis of proteomics data across the lean, pre-surgery obese and post-surgery obese groups



SUPPLEMENTARY DATA

Supplementary Figure S2. Correlation analysis of the quantitative real time PCR fold change of 22 selected genes (RNA28S5, RNA5-8S5, ATP5B, ACTB, CASQ2, COL6A1, COL6A2, EIF4A2, GAPDH, GAPVD1, IRS1, MAPK14, MYOD1, PDK2, PYGL, RPL12, RPL23A, RPS14, RPS16, SDHA, TUBB, USP15) with the microarray fold changes.



SUPPLEMENTARY DATA

Supplementary Table 1. KEGG pathway analysis of proteomics results

Proteomics		Pathway	N	Fold Enrichment	P value*
Increase	Pre-surgery vs. Lean	No significant pathways			
	Post- vs. Pre-surgery	hsa03010:Ribosome	16	8.0	7.25E-08
		hsa03040:Spliceosome	18	6.2	2.53E-07
Decrease	Pre-surgery vs. Lean	hsa05012:Parkinson's disease	34	9.4	6.82E-22
		hsa00190:Oxidative phosphorylation	30	8.2	4.20E-17
		hsa05016:Huntington's disease	34	6.7	6.65E-17
		hsa05010:Alzheimer's disease	31	6.8	3.01E-15
		hsa03010:Ribosome	20	8.2	1.56E-10
		hsa04260:Cardiac muscle contraction	16	7.3	2.85E-07
	hsa00020:Citrate cycle (TCA cycle)	7	8.0	0.022	
Post- vs. Pre-surgery	hsa03050:Proteasome	5	17.5	0.006	

KEGG designation for *homo sapiens* (hsa), **P* values adjusted using Bonferroni method.

SUPPLEMENTARY DATA

Supplementary Table 2. Normalized proteins

Accession	Average Lean	Lean SEM	Average Pre	Pre SEM	Average Post	Post SEM	P value Lean vs. Pre	P value Pre vs. Post
COR1C	8158	638	3050	698	5464	955	0.0005	0.0200
RLA0	30330	1081	23403	1448	28278	1570	0.0040	0.0370
RS23	32378	2837	16261	1542	22285	2863	0.0046	0.0235
CIRBP	30866	3211	12371	1557	16301	1611	0.0049	0.0443
UBP15,UBP4	60817	3560	80628	1793	66607	2415	0.0054	0.0050
NUBP2	28455	1662	46332	4400	33687	2792	0.0059	0.0378
PPME1	5894	484	3389	534	5435	400	0.0077	0.0100
DJC15	15744	453	24398	2261	18471	834	0.0082	0.0402
RM41	16613	1376	9894	768	15123	2006	0.0083	0.0464
RL12	81393	6368	51894	4587	73026	3680	0.0091	0.0009
RS10,RS10L	89114	9533	43698	4728	60156	4701	0.0099	0.0337
CSRP3	1416061	169036	677360	120613	1092206	208240	0.0118	0.0219
MK14	22098	2049	12344	752	16021	1262	0.0123	0.0335
HUWE1	190663	13231	133751	10106	165862	13681	0.0127	0.0414
HEMH	41536	3875	24590	2146	32199	3043	0.0128	0.0225
TBA4A	733267	77714	399902	39539	514078	72873	0.0144	0.0381
TBB4B,TBB8, TBB8L	339415	36615	187483	30223	251815	15922	0.0154	0.0496
VAMP3,VAM P1	21535	2199	11963	872	20532	1599	0.0158	0.0016
GAPD1	275	4	823	169	275	36	0.0174	0.0180
CASQ2	3564679	545193	1355485	279712	2309889	541458	0.0177	0.0190
RM23	7473	1154	2546	373	3262	319	0.0185	0.0149
RL23A	105223	11623	61567	5206	81119	5358	0.0243	0.0414
HINT3	32677	3055	21274	2574	23920	2603	0.0245	0.0477
LYAG	10788	402	7341	1162	12517	2401	0.0252	0.0455
CISD2	14516	1304	9825	908	13673	951	0.0260	0.0183
MK03	3922	374	2429	412	4319	269	0.0264	0.0004

SUPPLEMENTARY DATA

S61A1,S61A2	863	405	2685	565	1575	330	0.0278	0.0337
NDUB5	231304	17055	166300	17492	192249	11694	0.0284	0.0424
RL10A	51946	3102	39193	3788	51848	3315	0.0290	0.0427
THOC4	1875	309	718	74	1405	285	0.0298	0.0490
NOP56	6222	750	3503	731	5446	1033	0.0323	0.0367
RS18	101677	13970	54644	6721	78215	5480	0.0338	0.0424
CO6A2	184993	24631	100930	9926	154512	16555	0.0340	0.0209
ARMC1	5551	848	2717	432	3691	459	0.0342	0.0429
H2B1C,H2B1 K,H2B1L,H2B 1M,H2B1N,H 2BFS	55617	4204	33345	7789	66038	6640	0.0342	0.0294
CO6A1	200516	23493	118903	7497	172916	18923	0.0344	0.0430
RS14	115832	16855	57336	4460	74744	6039	0.0360	0.0393
IF4A2	206773	9741	174874	5320	216717	17814	0.0362	0.0461
TGFI1	2134	310	1093	106	1760	257	0.0372	0.0231
MYH7,C144C, PLHD1	298871836	7727041	202276672	36291538	236494437	29258986	0.0375	0.0399
ACOT9	77529	8127	51246	5405	59661	5330	0.0379	0.0002
HMGB1,HGB 1A,SP100	119857	15064	72935	8466	117074	9196	0.0425	0.0270
YBOX3,YBO X2	648654	126324	232801	28483	388639	54395	0.0426	0.0355
FKBP2	19864	1769	13980	1703	22495	4168	0.0443	0.0267
DPH2	1874	298	962	183	1239	251	0.0454	0.0375
RS16	87668	15557	37393	2807	51155	4985	0.0459	0.0341
LHPP	4733	849	7357	252	5588	462	0.0483	0.0157
JAGN1	3477	354	2421	191	3962	530	0.0487	0.0160
PROF1	374711	42234	248051	18471	368462	37375	0.0491	0.0321

SUPPLEMENTARY DATA

Supplementary Table 3. KEGG pathway analysis of microarray results

	Microarray	Pathway	N	Fold Enrichment	P value*
Post- vs. Pre-surgery	Increase	hsa03010:Ribosome	64	8.8	5.08E-48
	Decrease	hsa05012:Parkinson's disease	52	3.9	1.30E-16
		hsa00190:Oxidative phosphorylation	51	3.7	1.71E-15
		hsa05010:Alzheimer's disease	52	3.0	1.80E-11
		hsa05016:Huntington's disease	51	2.7	4.78E-09
		hsa00020:Citrate cycle (TCA cycle)	15	4.6	1.41E-04
		hsa00280:Valine, leucine and isoleucine degradation	16	3.5	0.004

KEGG designation for *homo sapiens* (hsa), *P values adjusted using Bonferroni method.

SUPPLEMENTARY DATA

Supplementary Table 4. Ribosome gene and protein data

Probe Name	Gene Symbol	Accession	Protein fold change (post/pre)	Protein P value	Microarray logFC (post/pre)	Microarray P value
A_23_P217068	RPL12	RL12_HUMAN	1.41	0.00095	0.25	0.00560
A_23_P254415	RPSA	RSSA_HUMAN	1.17	0.00188	0.13	0.03715
A_23_P62731	MRPS14	RT14_HUMAN	1.50	0.00627	-0.14	0.06775
A_23_P123330	RPL30	RL30_HUMAN	1.52	0.00696	0.04	0.52562
A_23_P105044	MRPL23	RM23_HUMAN	1.28	0.01490	-0.04	0.68722
A_23_P62605	RPL11	RL11_HUMAN	1.32	0.01541	0.23	0.01418
A_19_P00812215	MRPL39	RM39_HUMAN	0.82	0.01628	-0.23	0.00404
A_23_P129513	MRPL28	RM28_HUMAN	0.62	0.01697	-0.02	0.77107
A_32_P210252	RPL22	RL22_HUMAN	1.45	0.01849	0.20	0.00529
A_23_P3979	MRPS7	RT07_HUMAN	0.47	0.02308	-0.19	0.09681
A_33_P3257714	RPS23	RS23_HUMAN	1.37	0.02348	0.18	0.02321
A_23_P147888	RPLP2	RLA2_HUMAN	1.38	0.02874	0.11	0.10208
A_33_P3241582	RPS15A	RS15A_HUMAN	1.39	0.03363	0.02	0.66798
A_24_P418619	RPS10	RS10_HUMAN	1.38	0.03369	0.14	0.02774
A_23_P208850	RPS16	RS16_HUMAN	1.37	0.03415	0.17	0.01468
A_23_P204472	RPLP0	RLA0_HUMAN	1.21	0.03703	0.10	0.09325
A_23_P153383	RPL36	RL36_HUMAN	1.69	0.03868	0.25	0.00214
A_23_P81492	RPS14	RS14_HUMAN	1.30	0.03934	0.10	0.07008
A_33_P3382560	RPL23A	RL23A_HUMAN	1.32	0.04135	0.13	0.08541
A_21_P0010744	RPS18	RS18_HUMAN	1.43	0.04243	0.16	0.02020
A_23_P251593	RPL10A	RL10A_HUMAN	1.32	0.04272	0.17	0.01241
A_23_P44956	RPL35A	RL35A_HUMAN	1.67	0.04277	0.22	0.01044
A_32_P115130	MRPL41	RM41_HUMAN	1.53	0.04644	-0.21	0.03410
A_23_P141389	RPL27	RL27_HUMAN	1.43	0.05652	0.16	0.01223
A_33_P3386532	MRPL38	RM38_HUMAN	1.57	0.06829	-0.04	0.53498
A_33_P3320393	MRPS16	RT16_HUMAN	1.23	0.07254	0.00	0.96757

SUPPLEMENTARY DATA

A_21_P0000017	RPS20	RS20_HUMAN	1.43	0.07767	0.16	0.01381
A_33_P3278540	MRPL14	RM14_HUMAN	1.37	0.08024	-0.23	0.01818
A_19_P00804723	RPS24	RS24_HUMAN	1.35	0.08601	0.08	0.20552
A_32_P30710	RPL23	RL23_HUMAN	1.46	0.08951	0.22	0.00493
A_23_P33045	RPL26	RL26_HUMAN	1.38	0.09447	0.15	0.01639
A_32_P205553	RPL26L1	RL26L_HUMAN	1.38	0.09447	-0.07	0.28238
A_23_P84821	MRPL1	RM01_HUMAN	0.79	0.09497	-0.21	0.07230
A_23_P7941	MRPL2	RM02_HUMAN	0.57	0.10204	-0.09	0.26929
A_23_P341325	RPL10L	RL10L_HUMAN	1.41	0.10701	0.09	0.19558
A_24_P6305	RPL10	RL10_HUMAN	1.41	0.10701	0.04	0.47979
A_33_P3366039	RPL29	RL29_HUMAN	1.61	0.10872	0.13	0.07723
A_33_P3398809	MRRF	RRFM_HUMAN	1.21	0.11466	-0.18	0.03067
A_23_P119130	RPS19	RS19_HUMAN	1.26	0.11489	0.21	0.00407
A_23_P169050	MRPS28	RT28_HUMAN	1.14	0.11807	-0.14	0.13140
A_21_P0010964	RPS2	RS2_HUMAN	1.28	0.13237	0.09	0.10252
A_23_P106998	MRPS23	RT23_HUMAN	1.20	0.13397	-0.09	0.36429
A_32_P58074	RPS3A	RS3A_HUMAN	0.90	0.14549	0.11	0.06723
A_32_P209989	MRPL46	RM46_HUMAN	0.90	0.15291	-0.16	0.11124
A_23_P28538	MRPS5	RT05_HUMAN	1.54	0.15649	-0.05	0.59141
A_23_P2725	RPL21	RL21_HUMAN	1.35	0.16228	0.15	0.01435
A_23_P101532	RPS11	RS11_HUMAN	1.27	0.16543	0.21	0.02836
A_24_P225010	RPS15	RS15_HUMAN	1.48	0.17849	0.19	0.01797
A_23_P135084	RPL7A	RL7A_HUMAN	1.37	0.18698	0.18	0.02078
A_21_P0000344	RPL32	RL32_HUMAN	1.75	0.21595	0.33	0.05800
A_33_P3422931	MRPS34	RT34_HUMAN	0.67	0.21708	0.06	0.51559
A_24_P142228	RPL13	RL13_HUMAN	1.41	0.21934	0.12	0.06357
A_23_P7221	RPL34	RL34_HUMAN	1.76	0.22247	0.29	0.00056
A_23_P31654	RPL8	RL8_HUMAN	1.46	0.24046	0.21	0.00789
A_23_P24763	RPS13	RS13_HUMAN	1.33	0.24180	0.12	0.09236
A_23_P253200	RPL15	RL15_HUMAN	1.42	0.24683	0.12	0.07723

SUPPLEMENTARY DATA

A_23_P416305	RPL27A	RL27A_HUMAN	1.27	0.25419	0.02	0.65520
A_24_P766208	RPL3	RL3_HUMAN	2.16	0.26053	0.40	0.02410
A_23_P86182	MRPS21	RT21_HUMAN	1.21	0.26307	0.08	0.18121
A_23_P142146	RPL18	RL18_HUMAN	1.35	0.27573	0.18	0.00789
A_23_P8339	MRPL18	RM18_HUMAN	1.24	0.28721	-0.15	0.04384
A_23_P112429	RPL35	RL35_HUMAN	1.36	0.30130	0.27	0.00045
A_23_P46182	RPS8	RS8_HUMAN	1.15	0.32406	0.16	0.05422
A_23_P135104	MRPS2	RT02_HUMAN	2.27	0.32662	-0.02	0.69920
A_33_P3329916	RPL6	RL6_HUMAN	1.25	0.32768	0.11	0.07857
A_33_P3299319	RPL28	RL28_HUMAN	1.39	0.32957	0.06	0.27140
A_23_P12140	RPL5	RL5_HUMAN	1.09	0.34343	-0.07	0.25406
A_23_P122233	MRPL22	RM22_HUMAN	0.88	0.36991	-0.18	0.03254
A_33_P3300817	RPS5	RS5_HUMAN	1.53	0.37015	0.23	0.00503
A_23_P69431	RPL4	RL4_HUMAN	1.18	0.37045	0.14	0.04354
A_23_P118095	RPL3L	RL3L_HUMAN	1.37	0.37723	0.04	0.66618
A_33_P3265290	RPL24	RL24_HUMAN	1.22	0.37891	0.17	0.00676
A_32_P193288	RPL18A	RL18A_HUMAN	1.17	0.38033	0.21	0.00302
A_32_P22078	RPS9	RS9_HUMAN	1.24	0.38542	0.27	0.00166
A_23_P142724	RPL37A	RL37A_HUMAN	1.25	0.39702	0.11	0.06402
A_23_P90143	RPL13A	RL13A_HUMAN	1.26	0.40424	0.11	0.07817
A_23_P44974	MRPL13	RM13_HUMAN	1.07	0.44569	-0.31	0.00071
A_32_P182941	RPS3	RS3_HUMAN	1.05	0.45528	0.19	0.01819
A_23_P252536	MRPS26	RT26_HUMAN	1.09	0.46066	-0.08	0.23897
A_32_P145153	RPL31	RL31_HUMAN	1.48	0.46233	0.21	0.00600
A_32_P24581	RPS27A	RS27A_HUMAN	1.11	0.46957	0.19	0.01063
A_24_P173325	UBA52	RL40_HUMAN	1.11	0.46957	0.06	0.43375
A_23_P123563	RPS6	RS6_HUMAN	1.19	0.47924	0.05	0.38483
A_23_P102262	MRPL19	RM19_HUMAN	0.95	0.49561	-0.11	0.10207
A_32_P31182	RPL7	RL7_HUMAN	1.29	0.50330	0.12	0.05181
A_23_P7066	RPL9	RL9_HUMAN	0.94	0.55365	0.14	0.04475

SUPPLEMENTARY DATA

A_24_P280803	RPS21	RS21_HUMAN	1.09	0.55548	0.09	0.09498
A_23_P162106	MRPL48	RM48_HUMAN	0.84	0.56218	-0.09	0.13683
A_23_P95879	RPL38	RL38_HUMAN	1.05	0.56228	0.12	0.04892
A_23_P77779	RPL19	RL19_HUMAN	1.14	0.56396	0.13	0.02835
A_24_P201491	MRPL49	RM49_HUMAN	1.13	0.59075	-0.03	0.73766
A_23_P72138	MRPS22	RT22_HUMAN	1.09	0.60977	-0.15	0.12549
A_33_P3336992	MRPS18B	RT18B_HUMAN	1.08	0.62133	-0.12	0.17915
A_21_P0000261	RPL17	RL17_HUMAN	1.08	0.66284	0.15	0.05686
A_33_P3297921	MRPL37	RM37_HUMAN	1.10	0.67320	-0.18	0.00558
A_23_P29575	MRPS36	RT36_HUMAN	0.97	0.68018	-0.20	0.01196
A_33_P3390477	MRPL4	RM04_HUMAN	1.07	0.69397	0.01	0.91264
A_23_P94174	MRPL15	RM15_HUMAN	1.09	0.70267	-0.17	0.03570
A_23_P154315	MRPS9	RT09_HUMAN	1.07	0.73445	-0.07	0.32639
A_33_P3228959	MRPL11	RM11_HUMAN	0.95	0.75108	-0.17	0.02749
A_23_P125519	RPS4X	RS4X_HUMAN	1.02	0.77542	0.13	0.04558
A_23_P259314	RPS4Y1	RS4Y1_HUMAN	1.02	0.77542	-0.05	0.48629
A_23_P324384	RPS4Y2	RS4Y2_HUMAN	1.02	0.77542	-0.01	0.92846
A_23_P18292	RPL14	RL14_HUMAN	1.05	0.78272	0.17	0.02979
A_23_P34956	MRPL9	RM09_HUMAN	1.14	0.80388	-0.04	0.51232
A_23_P47357	RPS25	RS25_HUMAN	0.92	0.81521	0.10	0.18130
A_33_P3282836	RPS28	RS28_HUMAN	1.04	0.91097	0.20	0.00341
A_23_P25073	MRPS35	RT35_HUMAN	0.98	0.95088	-0.01	0.87718
A_23_P125596	RPS6KA6	KS6A6_HUMAN	1.00	0.96937	0.08	0.43670
A_23_P417331	RPS6KA3	KS6A3_HUMAN	1.00	0.96937	0.05	0.51565
A_32_P20367	RPS7	RS7_HUMAN	1.00	0.99744	0.13	0.07932