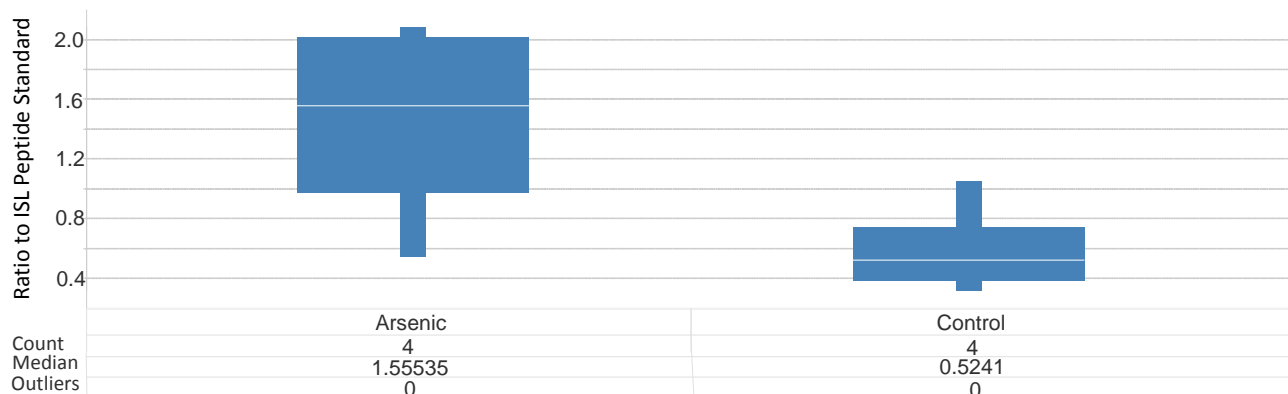
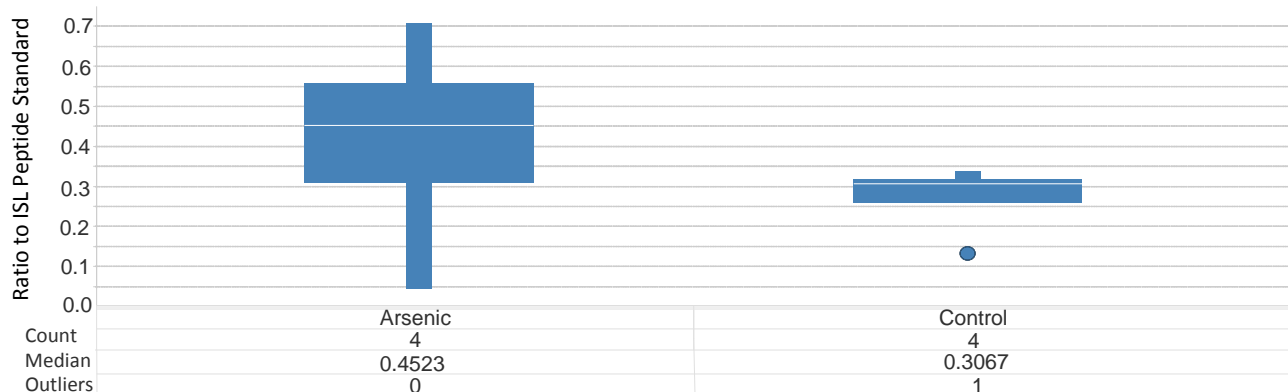


### A. IQVVDVR ( $p = 0.084$ )



### B. SPNQNVQQAAGALR ( $p = 0.365$ )



*Supplementary Figure 1.* Relative quantitation of peptides (A) IQVVDVR and (B) SPNQNVQQAAGALR using isotope labeled peptide standards and triple quadrupole (QQQ) mass spectrometry. Each box plot represents the median amount and distribution among the 4 biological replicates tested per condition. In neither case did the p values indicate significant differences between the samples from participants drinking water with high versus low arsenic levels.

**Table S1. Unique Peptides of Nail and Hair Samples from Caucasian and Mongolian Volunteers**

Identified Proteins	Accession	MW	Caucasian Nail -----								
			Insoluble -----				Solubilized -----				
			PMP	BP	DP	RRP	RRS	BS	DS	PMS	
1 KRT86 Keratin, type II cuticular Hb6	IPI00182655	53 kDa	37	42	46	47	77	82	82	86	
2 KRT33B Keratin, type I cuticular Ha3-II	IPI00031423	46 kDa	27	31	25	26	59	51	50	64	
3 KRT85 Keratin, type II cuticular Hb5	IPI00032541	56 kDa	12	13	10	15	38	44	38	45	
4 DSP Isoform DPI of Desmoplakin	IPI00013933	332 kDa	101	91	101	55	10	13	15	26	
5 KRT31 Keratin, type I cuticular Ha1	IPI00032513	47 kDa	11	9	10	12	24	23	22	24	
6 KRT34 45 kDa protein	IPI00917731	45 kDa	13	14	15	19	21	21	20	16	
7 KRT84 Keratin, type II cuticular Hb4	IPI00300052	65 kDa	14	25	19	5	20	28	25	28	
8 KRT6A Keratin, type II cytoskeletal 6A	IPI00300725	60 kDa	8	7	17	3	13	32	30	31	
9 LRRC15 Leucine-rich repeat-containing prot	IPI00152871	64 kDa	33	41	33	29	11	13	9	7	
10 KRT14 Keratin, type I cytoskeletal 14	IPI00384444	52 kDa	10	15	14	7	23	29	23	30	
11 EPPK1 epiplakin 1	IPI00010951	556 kDa	27	20	11	8	0	2	0	4	
12 KRT81 Keratin, type II cuticular Hb1	IPI00760863	55 kDa	2	4	4	4	8	5	7	6	
13 JUP Junction plakoglobin	IPI00554711	82 kDa	27	33	30	22	0	0	3	2	
14 KRT17 Keratin, type I cytoskeletal 17	IPI00450768	48 kDa	2	0	0	0	6	12	13	18	
15 KRT16 Keratin, type I cytoskeletal 16	IPI00217963	51 kDa	6	3	4	0	14	21	19	23	
16 KRT5 Keratin, type II cytoskeletal 5	IPI00009867	62 kDa	9	4	11	5	9	11	11	12	
17 PKP1 Isoform 1 of Plakophilin-1	IPI00218528	80 kDa	23	26	23	16	0	0	0	0	
18 KRT36 Isoform 1 of Keratin, type I cuticular	IPI00008692	52 kDa	6	4	5	4	14	17	16	24	
19 KRT82 Keratin, type II cuticular Hb2	IPI00300053	57 kDa	0	0	0	0	0	0	0	0	
20 VSIG8 Isoform 1 of V-set and immunoglobulin	IPI00376274	44 kDa	19	14	16	13	4	4	3	0	
21 KRT32 Keratin, type I cuticular Ha2	IPI00291540	50 kDa	2	0	2	2	4	5	5	9	
22 KRT83 Keratin, type II cuticular Hb3	IPI00297795	54 kDa	2	2	3	3	9	9	8	7	
23 KRTAP2-4;LOC728934;KAP2.1B;LOC644350	IPI00013265	13 kDa	6	6	9	8	7	4	6	6	
24 FABP4 Fatty acid-binding protein, adipocyte	IPI00215746	15 kDa	10	12	6	6	3	0	0	2	
25 KRTAP13-2 Keratin-associated protein 13-2	IPI00373959	19 kDa	7	14	16	9	4	5	10	7	
26 HIST1H2BB Histone H2B type 1-B	IPI00220403	14 kDa	4	4	3	3	0	0	0	0	
27 SELENBP1 cDNA FLJ55757, highly similar to	IPI00012303	57 kDa	21	27	16	21	0	3	0	0	
28 KRTAP13-4 Keratin-associated protein 13-4	IPI00373947	18 kDa	12	16	14	11	5	5	4	8	
29 LGALS7;LGALS7B Galectin-7	IPI00219221	15 kDa	6	5	9	7	4	4	0	5	
30 KRT35 Keratin, type I cuticular Ha5	IPI00790172	50 kDa	0	0	0	0	0	0	0	4	
31 SFN Isoform 1 of 14-3-3 protein sigma	IPI00013890	28 kDa	10	13	11	10	3	0	3	5	
32 KRTAP11-1 Keratin-associated protein 11-1	IPI00216711	17 kDa	0	0	15	8	4	3	3	3	
33 HSPB1 Heat shock protein beta-1	IPI00025512	23 kDa	11	11	8	10	0	0	0	2	
34 GAPDH Glyceraldehyde-3-phosphate dehydrogenase	IPI00219018	36 kDa	8	10	9	7	0	0	0	4	
35 ACTB Actin, cytoplasmic 1	IPI00021439	42 kDa	11	10	16	14	0	0	0	0	
36 KRT39 Keratin, type I cytoskeletal 39	IPI00741855	56 kDa	9	6	12	3	9	6	8	7	
37 DSG1 Desmoglein-1	IPI00025753	114 kDa	18	13	20	11	0	0	0	0	
38 KRTAP13-1 21 kDa protein	IPI00328109	21 kDa	10	11	11	6	5	5	6	5	
39 KRT35 46 kDa protein	IPI00798228	46 kDa	2	3	0	2	0	0	0	0	
40 HIST1H2AH Histone H2A type 1-H	IPI00081836	14 kDa	5	11	5	11	0	0	0	0	
41 DSG4 Isoform 1 of Desmoglein-4	IPI00515022	114 kDa	4	7	12	6	0	0	0	0	
42 PRDX6 Peroxiredoxin-6	IPI00220301	25 kDa	11	12	11	11	0	0	0	0	
43 KRTAP3-1;LOC100132802 Keratin-associated protein	IPI00011212	11 kDa	0	0	0	2	4	0	0	6	
44 KPRP Keratinocyte proline-rich protein	IPI00514908	64 kDa	14	10	15	6	0	0	0	0	
45 HIST1H4D;HIST1H4K;HIST1H4B;HIST1H4A;HIST1H4C	IPI00453473	11 kDa	8	6	6	7	0	0	0	2	

46	EEF1A1 Elongation factor 1-alpha 1	IPI00396485 ( 50 kDa	11	11	7	8	0	0	0	0
47	TAGLN2 Transgelin-2	IPI00550363 ( 22 kDa	6	10	7	6	0	0	0	0
48	HSPA5 HSPA5 protein	IPI00003362 72 kDa	6	12	11	2	0	0	0	0
49	LAP3 Isoform 1 of Cytosol aminopeptidase	IPI00419237 ( 56 kDa	9	15	9	13	0	0	0	0
50	EEF2 Elongation factor 2	IPI00186290 95 kDa	10	13	5	4	0	0	0	0
51	AHNAK Neuroblast differentiation-associate	IPI00021812 629 kDa	9	2	2	4	0	0	0	0
52	ANXA2 annexin A2 isoform 1	IPI00418169 ( 40 kDa	8	8	8	7	0	0	0	0
53	CALML3 Calmodulin-like protein 3	IPI00216984 17 kDa	6	5	4	5	0	0	0	0
54	PKP3 Plakophilin-3	IPI00026952 87 kDa	10	6	11	9	0	0	0	0
55	KRT1 Keratin, type II cytoskeletal 1	IPI00220327 66 kDa	3	3	0	0	3	5	8	10
56	FABP5;FABP5L7 Fatty acid-binding protein,	IPI00007797 15 kDa	5	4	6	5	0	0	0	3
57	PPL Perioplakin	IPI00298057 205 kDa	17	11	6	2	0	0	0	0
58	ANXA1 Annexin A1	IPI00218918 39 kDa	9	6	8	7	0	0	0	0
59	CRYAB Alpha-crystallin B chain	IPI00021369 20 kDa	4	6	6	3	0	0	0	0
60	ENO1 Isoform alpha-enolase of Alpha-enolase	IPI00465248 47 kDa	7	9	6	6	0	0	0	0
61	cDNA FLJ54554, highly similar to Pyruvate k	IPI00910979 56 kDa	7	6	8	6	0	0	0	0
62	S100A3 Protein S100-A3	IPI00016752 12 kDa	0	6	0	4	0	0	0	0
63	TUBA1A Tubulin alpha-1A chain	IPI00180675 50 kDa	8	5	4	4	0	0	0	0
64	KRT33A Keratin, type I cuticular Ha3-I	IPI00297632 46 kDa	0	0	0	0	0	0	0	0
65	LGALS3 Galectin-3	IPI00465431 26 kDa	2	6	4	4	0	0	0	0
66	HSPA2 Heat shock-related 70 kDa protein 2	IPI00007702 70 kDa	2	5	3	3	0	0	0	0
67	TUBB2A Tubulin beta-2A chain	IPI00013475 50 kDa	7	5	2	5	0	0	0	0
68	TGM3 Protein-glutamine gamma-glutamylt	IPI00300376 77 kDa	6	10	4	3	0	0	0	0
69	PGK1 Phosphoglycerate kinase 1	IPI00169383 45 kDa	9	5	7	6	0	0	0	0
71	SERPINB2 Plasminogen activator inhibitor 2	IPI00007117 47 kDa	4	4	2	3	0	0	0	0
72	YWHAZ 14-3-3 protein zeta/delta	IPI00021263 28 kDa	6	3	5	5	0	0	0	2
73	CKB Creatine kinase B-type	IPI00022977 43 kDa	5	9	0	5	0	0	0	0
74	TPI1 Isoform 1 of Triosephosphate isomera	IPI00465028 31 kDa	5	5	5	4	0	0	0	0
75	LDHA cDNA FLJ55792, highly similar to L-lac	IPI00217966 40 kDa	5	7	4	4	0	0	0	0
76	KRTAP3-3;LOC100132276 Keratin-associate	IPI00013267 10 kDa	0	0	0	0	0	0	0	0
77	KRT80 Isoform 2 of Keratin, type II cytoskel	IPI00431749 ( 47 kDa	7	2	5	0	0	0	0	0
78	LOC440926;H3F3B;H3F3A Histone H3.3	IPI00219038 15 kDa	3	5	3	3	0	0	0	0
79	LMNA Isoform A of Lamin-A/C	IPI00021405 74 kDa	6	0	3	2	0	0	0	0
80	ALDOC cDNA FLJ56450, highly similar to Fru	IPI00418262 48 kDa	4	2	6	5	0	0	0	0
81	29 kDa protein	IPI00453476 ( 29 kDa	5	5	3	5	0	0	0	0
82	PLCD1 phospholipase C, delta 1 isoform 1	IPI00016461 ( 88 kDa	2	3	3	2	0	0	0	0
83	LOC654188 similar to peptidylprolyl isomer	IPI00887678 24 kDa	5	7	5	3	0	0	0	0
84	FLG Filaggrin	IPI00026256 435 kDa	0	0	0	0	0	0	0	0
86	SERPINB5 Serpin B5	IPI00783625 42 kDa	6	7	6	4	0	0	0	0
87	KRTAP3-2;LOC100128819 Keratin-associate	IPI00011214 10 kDa	0	0	0	0	3	0	0	0
88	DSC3 Isoform 3A of Desmocollin-3	IPI00031549 100 kDa	4	5	12	2	0	0	0	0
89	LOC100131696 Putative keratin-associated	IPI00791014 54 kDa	0	0	0	0	0	0	0	0
90	PLEC1 Isoform 3 of Plectin-1	IPI00398002 518 kDa	0	3	0	3	0	0	0	0
91	EZR Ezrin	IPI00843975 ( 69 kDa	4	4	3	4	0	0	0	0
92	CTNNB1 Isoform 1 of Catenin beta-1	IPI00017292 ( 85 kDa	3	3	0	0	0	0	0	0
93	KRT6C Keratin, type II cytoskeletal 6C	IPI00299145 60 kDa	0	0	0	0	0	0	0	0
94	KRT40 Keratin, type I cytoskeletal 40	IPI00552959 48 kDa	0	0	0	0	0	0	0	0
95	HIST2H2AA3;HIST2H2AA4 Histone H2A type	IPI00216457 ( 14 kDa	2	3	2	0	0	0	0	0
96	PABPC1 Isoform 1 of Polyadenylate-binding	IPI00008524 ( 71 kDa	3	6	2	0	0	0	0	0

97	HIST1H1E Histone H1.4	IPI00217467	22 kDa	0	0	0	0	0	0	0	0
98	KRT10 Keratin, type I cytoskeletal 10	IPI00009865	60 kDa	0	0	0	0	0	5	3	5
99	CALML5 Calmodulin-like protein 5	IPI00021536	16 kDa	6	3	5	6	0	0	0	0
101	HIST1H1B Histone H1.5	IPI00217468	23 kDa	3	0	0	0	0	0	0	0
102	S100A11 Protein S100-A11	IPI00013895	12 kDa	5	4	2	4	0	0	0	0
103	RPSA 33 kDa protein	IPI00413108	(33 kDa	0	3	2	2	0	0	0	0
104	Keratin-81-like protein	IPI00008669	53 kDa	0	0	2	0	2	0	4	0
105	RNH1 Ribonuclease inhibitor	IPI00550069	50 kDa	2	3	2	2	0	0	0	0
106	ALB Isoform 1 of Serum albumin	IPI00745872	69 kDa	0	0	0	0	0	3	0	0
107	KRT9 Keratin, type I cytoskeletal 9	IPI00019359	62 kDa	0	0	0	0	0	3	0	6
108	DUSP14 Dual specificity protein phosphatase	IPI00013031	22 kDa	2	2	2	2	0	0	0	0
109	UBA52 ubiquitin and ribosomal protein L40	IPI00456429	15 kDa	2	0	2	0	0	0	0	0
110	POF1B Isoform 1 of Protein POF1B	IPI00103242	(69 kDa	6	5	3	3	0	0	0	0
111	EEF1G cDNA FLJ56389, highly similar to Elo	IPI00000875	(56 kDa	3	5	2	3	0	0	0	0
112	RPS3 40S ribosomal protein S3	IPI00011253	27 kDa	3	3	4	0	0	0	0	0
113	EIF4A1 Eukaryotic initiation factor 4A-I	IPI00025491	(46 kDa	4	2	3	2	0	0	0	0
114	IVL cDNA FLJ61407, highly similar to Involuc	IPI00011692	70 kDa	3	0	4	0	0	0	0	0
115	TXNRD1 Isoform 5 of Thioredoxin reductase	IPI00554786	55 kDa	5	3	3	0	0	0	2	0
116	KRTAP24-1 Keratin-associated protein 24-1	IPI00414750	28 kDa	0	0	0	0	0	0	0	0
117	SERPINB13 Isoform 2 of Serpin B13	IPI00220494	38 kDa	4	0	0	2	0	0	0	0
118	HSP90AB1 Heat shock protein HSP 90-beta	IPI00414676	83 kDa	0	3	2	2	0	0	0	0
119	ATP5B ATP synthase subunit beta, mitochon	IPI00303476	57 kDa	0	2	0	0	0	0	0	0
122	YWHAE 14-3-3 protein epsilon	IPI00000816	29 kDa	2	0	2	0	0	0	0	0
123	RPLP2 60S acidic ribosomal protein P2	IPI00008529	12 kDa	4	3	0	2	0	0	0	0
124	CFL1 Cofilin-1	IPI00012011	19 kDa	2	5	0	0	0	0	0	0
125	RPL4 60S ribosomal protein L4	IPI00003918	48 kDa	4	0	2	2	0	0	0	0
126	RPLP0 60S acidic ribosomal protein P0	IPI00008530	34 kDa	0	7	0	2	0	0	0	0
127	DSC1 Isoform 1A of Desmocollin-1	IPI00216099	(100 kDa	5	2	4	0	0	0	0	0
128	KRT38 Keratin, type I cuticular Ha8	IPI00297641	50 kDa	0	0	0	0	0	0	0	0
129	HSD17B4 Peroxisomal multifunctional enzy	IPI00019912	80 kDa	0	4	0	0	0	0	0	0
130	48 kDa protein	IPI00798387	48 kDa	0	0	0	0	0	0	0	0
131	AIM1 Absent in melanoma 1 protein	IPI00294840	189 kDa	0	0	0	0	0	0	0	0
132	HSPA1B;HSPA1A Heat shock 70 kDa protein	IPI00304925	(70 kDa	2	0	0	2	0	0	0	0
133	HEPHL1 Hephaestin-like protein 1	IPI00848044	132 kDa	0	0	0	0	0	0	0	0
134	MDH2 Malate dehydrogenase, mitochondri	IPI00291006	36 kDa	0	3	0	0	0	0	0	0
135	H2AFY H2A histone family, member Y isofo	IPI00059366	(39 kDa	3	3	2	2	0	0	0	0
136	KRT4 cDNA FLJ55805, highly similar to Kera	IPI00797452	52 kDa	0	0	0	0	0	0	0	0
137	DSC2 cDNA FLJ55716, highly similar to Desr	IPI00025846	101 kDa	0	2	6	0	0	0	0	0
138	GDI2 cDNA FLJ60299, highly similar to Rab (	IPI00031461	51 kDa	3	4	0	0	0	0	0	0
139	RPS8 40S ribosomal protein S8	IPI00216587	(24 kDa	2	2	2	0	0	0	0	0
143	PRDX2 Peroxiredoxin-2	IPI00027350	(22 kDa	0	2	0	0	0	0	0	0
144	EFHD1 EF-hand domain-containing protein	IPI00031091	27 kDa	2	0	0	0	0	0	0	0
145	RPL3 60S ribosomal protein L3	IPI00550021	46 kDa	2	2	3	0	0	0	0	0
146	Putative uncharacterized protein ENSP000C	IPI00871908	32 kDa	0	2	3	2	0	0	0	0
147	HSPA8 Isoform 1 of Heat shock cognate 71	IPI00003865	71 kDa	2	0	0	0	0	0	0	0
148	EVPL Envoplakin	IPI00023711	232 kDa	2	0	0	0	0	0	0	0
149	FASN Fatty acid synthase	IPI00026781	273 kDa	2	3	0	0	0	0	0	0
150	ALDOA Fructose-bisphosphate aldolase A	IPI00465439	39 kDa	0	0	2	0	0	0	0	0
151	TUBA1B cDNA FLJ60097, highly similar to Tu	IPI00792677	46 kDa	0	2	0	0	0	0	0	0





Mongolian Nail -----

Low Arsenic ----- High Arsenic -----

Insoluble ----- Solubilized ----- Insoluble ----- Solubilized -----

	c127	c129	c130	c134	c127s	c129s	c130s	c134s	a24	a28	a29	a30	a24s	a30s	a29s	a28s
	49	62	56	51	84	87	73	72	47	50	50	53	83	76	90	83
	31	44	35	34	59	58	53	55	39	29	31	31	63	46	58	59
	16	25	20	18	30	35	34	29	21	17	21	17	41	34	40	36
126	121	124	137	16	41	35	22	41	78	143	129	25	25	28	40	
	13	13	13	13	22	25	19	22	16	16	13	13	21	19	21	20
	13	17	18	15	19	26	19	25	14	13	16	18	28	27	22	21
	10	18	28	27	24	38	41	44	11	19	34	25	55	51	54	44
	10	12	29	18	30	50	57	45	5	10	19	24	35	45	35	50
	30	30	27	28	9	9	10	7	8	21	26	28	14	9	10	9
	18	18	24	19	26	42	36	35	10	15	24	19	33	30	33	35
	32	29	36	34	0	7	10	7	6	9	44	32	6	5	8	4
	3	4	3	3	6	6	5	6	6	4	3	3	6	6	6	6
	34	32	32	30	3	8	5	6	9	24	39	28	3	3	3	6
	0	9	17	12	9	26	29	22	2	7	11	11	18	26	19	29
	4	4	12	10	6	28	23	24	4	2	6	11	15	22	18	23
	9	14	17	15	22	30	26	29	8	12	18	14	21	21	20	23
	31	27	25	28	0	0	0	0	8	18	23	24	0	0	0	0
	3	9	8	12	19	21	21	21	6	8	14	9	25	23	24	21
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	13	14	11	10	7	5	4	5	2	10	10	11	3	5	0	0
	0	3	3	3	6	7	4	5	0	2	0	2	3	4	4	5
	0	3	3	0	7	7	7	6	4	4	0	0	9	8	8	7
	9	12	5	11	15	9	12	12	8	11	7	7	8	11	10	8
	12	9	9	11	4	6	5	4	3	10	10	10	6	3	6	5
	16	15	12	14	15	17	14	15	7	11	15	12	16	17	16	10
	5	5	3	5	0	0	2	0	3	4	5	4	0	0	0	0
	27	24	20	20	5	2	2	3	0	7	22	14	0	0	2	0
	13	11	14	15	8	15	12	13	7	10	14	10	10	12	12	5
	10	8	7	10	4	4	2	3	5	6	9	10	3	0	4	3
	0	4	2	0	3	4	4	3	0	2	0	0	5	4	5	4
	18	14	19	17	0	3	0	0	3	9	18	12	4	3	2	0
	13	10	5	10	7	5	5	4	14	11	5	7	5	5	5	5
	11	13	17	13	0	9	9	5	4	10	12	13	3	6	5	11
	11	11	13	12	6	6	8	5	0	7	14	13	4	8	6	5
	14	16	16	12	0	7	5	0	2	9	15	14	0	5	3	6
	11	11	9	12	4	6	4	4	2	5	10	9	4	6	4	4
	17	20	18	16	0	7	5	3	3	5	19	16	5	4	4	6
	8	6	8	9	7	10	7	9	3	6	9	6	8	8	9	7
	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0
	8	5	4	5	0	0	0	0	0	3	6	6	0	0	0	0
	13	11	14	9	0	0	0	0	0	8	6	8	0	0	0	0
	12	11	13	10	0	0	0	0	0	5	12	11	0	0	0	0
	4	2	3	3	4	3	3	2	4	2	0	2	5	3	3	2
	6	17	16	19	0	0	4	4	5	7	19	22	3	9	4	3
	6	5	7	7	0	0	0	0	0	6	9	6	0	0	0	2

10	11	11	12	0	0	0	0	3	5	12	12	0	0	0	0
9	10	10	9	0	0	0	0	2	5	10	11	0	0	0	0
10	12	12	12	0	0	0	0	0	4	21	15	0	0	0	0
13	12	9	12	0	0	0	0	0	0	11	17	0	0	0	0
13	14	11	14	0	0	0	0	0	3	14	10	0	0	0	0
8	8	6	6	0	0	0	0	0	6	12	4	0	0	0	0
10	12	9	7	0	3	3	2	3	7	8	13	0	0	0	0
5	4	5	3	0	0	3	0	3	4	4	6	3	0	0	2
10	11	13	13	0	0	0	0	3	4	12	9	0	0	0	0
0	0	0	4	0	18	8	23	0	0	0	0	7	7	6	10
4	3	6	4	3	5	4	5	0	3	7	6	6	5	4	6
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Mongolian Hair -----															
Low Arsenic -----								High Arsenic -----							
Insoluble -----				Solubilized -----				Insoluble -----				Solubilized -----			
C128P	C129P	C130P	C133P	C128S	C129S	C130S	C133S	A3P	A15P	A24P	A25P	A3S	A15S	A24S	A25S
48	64	44	47	92	72	76	78	60	44	49	85	91	82	93	80
29	40	21	26	59	55	57	57	29	24	31	55	66	61	64	64
19	27	21	16	34	34	34	33	23	23	27	33	35	38	37	34
66	46	58	58	9	3	12	2	53	68	75	43	9	5	10	7
14	16	10	11	26	21	21	17	16	12	11	25	23	23	26	24
15	17	10	15	23	12	19	16	15	14	19	22	20	25	25	15
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25	13	18	16	4	0	4	0	17	22	26	19	0	0	3	0
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14	0	13	13	3	0	0	0	15	16	16	8	2	7	5	3
27	14	18	22	3	0	2	0	28	23	23	16	0	3	2	0
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6	7	4	6	11	9	9	5	5	5	4	8	10	9	8	6
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22	8	11	13	4	0	0	0	18	23	20	22	3	7	9	10
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12	6	12	15	26	18	15	15	18	21	16	15	19	22	19	20
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0	0	4	4	0	0	0	0	2	2	3	0	0	0	0	0
0	0	3	2	0	0	0	0	0	5	0	0	0	0	0	0
3	0	2	3	0	0	0	0	2	4	7	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	2	3	0	0	0	0	4	8	5	0	0	0	0	0
0	0	2	2	0	0	0	0	4	6	4	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	2	2	0	0	0	0	3	4	3	0	0	0	0	0
7	0	5	6	0	0	0	0	10	9	5	0	0	0	0	0
4	3	6	2	0	0	0	0	3	5	3	0	0	0	0	0
2	0	0	2	0	0	0	0	2	3	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
3	0	3	3	0	0	0	0	3	0	2	0	0	0	0	0
2	0	2	2	0	0	0	0	0	2	2	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	3	0	4	0	0	0	0	5	5	3	6	6
3	3	6	5	0	0	0	0	3	4	4	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	2	4	0	0	0	0	3	5	5	0	0	0	0	0
2	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0
5	0	2	3	0	0	0	0	3	9	5	3	0	2	0	0
0	0	2	5	0	0	0	0	5	8	4	0	0	0	0	0
5	0	0	2	0	0	0	0	2	2	4	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	2	0	0	0	0	2	3	3	0	0	0	0	0
0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0
2	0	0	2	0	0	0	0	0	2	3	0	0	0	0	0
0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
2	0	0	2	0	0	0	0	3	2	2	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	3	7	0	0	0	0	4	8	3	0	0	0	0	0
0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	0	0	0	2	2	2	0	0	0	0	0



3	0	2	2	0	0	0	0	0	0	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	2	3	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	0	0	0	0	0	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	2	3	0	0	0	0	2	2	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	2	0	0	0	0	0
2	0	2	0	0	0	0	0	0	4	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	5	0	3	0	2	0	0	2	0	0	0
0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
2	3	2	2	0	0	0	0	2	0	3	0	0	0	0
2	0	0	2	0	0	0	0	2	2	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	2	0	0	0	0	0	0	0	0	0	0	0
4	0	2	3	0	0	0	0	0	2	5	0	0	0	0
0	0	2	2	0	0	0	0	0	3	0	2	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	2	0	0	0	0	3	0	2	0	0	0	0
2	2	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	2	0	0	0	0	2	0	2	0	0	0	0
0	0	0	0	0	0	0	0	0	2	2	0	0	0	0
2	0	2	0	0	0	0	0	2	3	2	0	0	0	0
2	0	0	0	0	0	0	0	0	2	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	2	0	0	0	0	0	2	0	0	0	0	0	0
2	0	3	0	0	0	0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
2	2	0	2	0	0	0	0	2	2	0	0	0	0	0
0	0	0	0	0	0	0	0	3	3	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	2	2	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	2	3	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
0	0	0	0	0	0	0	0	0	2	2	0	0	0	0



**Table S2. Calculation of Relative Abundance of Nail Proteins in (A) Solubilized and (B) Insoluble Fractions.** Tabulated are the numbers of unique peptides for each sample, the emPAI values derived from Mascot searching, the mean and standard deviation (SD) of the emPAI values and the values normalized to a total of 100 (Norm).

(A) Solubilized			Unique Peptides -----					emPAI Values -----							
Protein	Accession	MW	BS	RRS	DS	PMS	Sum	BS	DS	MS	RS	Mean	SD	Norm	
DSP	IPI00013933	332 kDa	13	10	15	26	64	0.2	0.13	0.27	0.1	0.18	0.08	0.019	
KRT86	IPI00182655	53 kDa	82	77	82	86	327	281.4	210.7	375.6	210.7	269.6	78.1	29.18	
LRRC15	IPI00152871	64 kDa	13	11	9	7	40	0.48	0.48	0.28	0.63	0.47	0.14	0.05	
KRT33B	IPI00031423	46 kDa	51	59	50	64	224	142.7	95.08	480.2	187	226.3	173	24.49	
KRT84	IPI00300052	65 kDa	28	20	25	28	101	7.02	5.6	7.41	2.69	5.68	2.14	0.61	
KRT34	IPI00917731	45 kDa	21	21	20	16	78	81.99	53.84	164.5	57.22	89.4	51.6	9.67	
KRTAP13-4	IPI00373947	18 kDa	5	5	4	8	22	0.63	1.27	2.7	1.27	1.47	0.88	0.16	
KRT85	IPI00032541	56 kDa	44	38	38	45	165	94.56	75.5	89.39	71.37	82.7	11	8.95	
KRT14	IPI00384444	52 kDa	29	23	23	30	105	8.68	4.57	10.63	3.93	6.95	3.23	0.75	
KRTAP13-2	IPI00373959	19 kDa	5	4	10	7	26	1.55	3.75	1.97	1.55	2.2	1.05	0.24	
KRTAP13-1	IPI00328109	21 kDa	5	5	6	5	21	0.77	2.59	2.59	1.7	1.91	0.87	0.21	
KRT6A	IPI00300725	60 kDa	32	13	30	31	106	3.89	5.04	4.73	1.21	3.72	1.74	0.4	
KRT39	IPI00741855	56 kDa	6	9	8	7	30	0.48	0.32	0.4	0.56	0.44	0.1	0.056	
KRT5	IPI00009867	62 kDa	11	9	11	12	43	1.33	2.04	1.63	0.79	1.45	0.53	0.16	
KRTAP2-4	IPI00013265	13 kDa	4	7	6	6	23	0.49	0.81	1.2	1.21	0.93	0.35	0.1	
KRTAP11-1	IPI00216711	17 kDa	3	4	3	3	13	0.4	0.65	0.4	0.95	0.6	0.26	0.06	
KRT36	IPI00008692	52 kDa	17	14	16	24	71	9.21	3.18	11.21	4	6.9	3.92	0.75	
KRT81	IPI00760863	55 kDa	5	8	7	6	26	172.3	114	223.7	130	160	49.1	17.31	
KRT16	IPI00217963	51 kDa	21	14	19	23	77	11.5	8.19	11.5	4.28	8.87	3.43	0.96	
KRT83	IPI00297795	54 kDa	9	9	8	7	33	49.36	55.42	58.71	36.91	50.1	9.61	5.42	
KRT32	IPI00291540	50 kDa	5	4	5	9	23	0	0	1.51	0	0.38	0.76	0.04	
KRT1	IPI00220327	66 kDa	5	3	8	10	26	0.47	0.62	0.78	0.21	0.52	0.24	0.06	
KRT17	IPI00450768	48 kDa	12	6	13	18	49	4.16	2.48	5.71	0.93	3.32	2.07	0.36	
(B) Insoluble			Unique peptides -----					emPAI values -----							
Protein	Accession	MW	BP	DP	PMP	RRP	Sum	BP	DP	PMP	RRP	Mean	SD	Norm	
DSP	IPI00013933	332 kDa	91	101	101	55	348	1.55	1.7	1.84	0.62	1.43	0.55	1.03	
KRT86	IPI00182655	53 kDa	42	46	37	47	172	9.6	24.15	10.9	13.98	14.66	6.59	10.6	
LRRC15	IPI00152871	64 kDa	41	33	33	29	136	6.42	3.55	3.34	2.39	3.92	1.74	2.84	
JUP	IPI00554711	82 kDa	33	30	27	22	112	2.75	2.6	2.75	1.44	2.38	0.63	1.72	
KRT33B	IPI00031423	46 kDa	31	25	27	26	109	11.82	8.17	10.21	7.01	9.3	2.14	6.72	
PKP1	IPI00218528	80 kDa	26	23	23	16	88	1.76	1.02	1.27	0.66	1.18	0.46	0.85	
SELENBP1	IPI00012303	57 kDa	27	16	21	21	85	4.27	1.46	1.95	1.06	2.18	1.44	1.58	
EPPK1	IPI00010951	556 kDa	20	11	27	8	66	0.1	0.05	0.17	0.01	0.08	0.07	0.06	
KRT84	IPI00300052	65 kDa	25	19	14	5	63	2.52	1.9	1.07	0.34	1.46	0.95	1.05	
VSIG8	IPI00376274	44 kDa	14	16	19	13	62	1.02	1.68	2.09	1.33	1.53	0.46	1.11	
DSG1	IPI00025753	114 kDa	13	20	18	11	62	0.36	0.7	0.52	0.25	0.46	0.2	0.33	
KRT34	IPI00917731	45 kDa	14	15	13	19	61	14.83	5.95	7.38	6.4	8.64	4.17	6.25	
KRTAP13-4	IPI00373947	18 kDa	16	14	12	11	53	5.05	4.13	3.36	2.7	3.81	1.01	2.75	
ACTB	IPI00021439	42 kDa	10	16	11	14	51	0.55	1.12	0.69	0.69	0.76	0.25	0.55	

KRT85	IPI00032541	56 kDa	13	10	12	15	50	3.02	5.27	3.74	4.61	4.16	0.98	3.01
KRT14	IPI00384444	52 kDa	15	14	10	7	46	1.51	1.51	0.96	0.44	1.1	0.51	0.8
KRTAP13-2	IPI00373959	19 kDa	14	16	7	9	46	9.34	9.34	1.97	2.48	5.78	4.11	4.18
LAP3	IPI00419237	56 kDa	15	9	9	13	46	2.12	1.05	1.05	1.05	1.32	0.54	0.95
PRDX6	IPI00220301	25 kDa	12	11	11	11	45	2.93	2.47	4.71	2.47	3.14	1.07	2.27
KPRP	IPI00514908	64 kDa	10	15	14	6	45	0.27	0.77	0.61	0.15	0.45	0.29	0.33
SFN	IPI00013890	28 kDa	13	11	10	10	44	2.86	2.45	2.86	1.75	2.48	0.52	1.79
KRT31	IPI00032513	47 kDa	9	10	11	12	42	9.5	7.09	7.09	5.65	7.33	1.6	5.3
HSPB1	IPI00025512	23 kDa	11	8	11	10	40	1.97	1.26	1.97	2.4	1.9	0.47	1.37
KRTAP13-1	IPI00328109	21 kDa	11	11	10	6	38	7.42	8.71	3.14	3.77	5.76	2.73	4.16
EEF1A1	IPI00396485	50 kDa	11	7	11	8	37	1.13	0.55	1.13	0.55	0.84	0.33	0.61
PKP3	IPI00026952	87 kDa	6	11	10	9	36	0.12	0.35	0.2	0.2	0.22	0.1	0.16
PPL	IPI00298057	205 kDa	11	6	17	2	36	0.13	0.08	0.29	0.02	0.13	0.12	0.09
KRT6A	IPI00300725	60 kDa	7	17	8	3	35	0.45	0.89	0.45	0.25	0.51	0.27	0.37
FABP4	IPI00215746	15 kDa	12	6	10	6	34	0.84	1.26	5.33	1.79	2.3	2.05	1.67
GAPDH	IPI00219018	36 kDa	10	9	8	7	34	0.84	1.74	0.96	1	1.14	0.41	0.82
HIST1H2AH	IPI00081836	14 kDa	11	5	5	11	32	0	1.94	2.65	2.65	1.81	1.25	1.31
EEF2	IPI00186290	95 kDa	13	5	10	4	32	0.54	0.18	0.22	0.14	0.27	0.18	0.2
HSPA5	IPI00003362	72 kDa	12	11	6	2	31	0.36	0.42	0.19	0.09	0.26	0.15	0.19
ANXA2	IPI00418169	40 kDa	8	8	8	7	31	0.77	0.37	0.86	0.66	0.66	0.21	0.48
KRT39	IPI00741855	56 kDa	6	12	9	3	30	0.4	0.56	0.32	0.32	0.4	0.11	0.29
ANXA1	IPI00218918	39 kDa	6	8	9	7	30	0.76	0.91	0.91	0.5	0.77	0.19	0.56
KRT5	IPI00009867	62 kDa	4	11	9	5	29	0.45	0.75	0.84	0.36	0.6	0.23	0.43
KRTAP2-4	IPI00013265	13 kDa	6	9	6	8	29	0.81	1.21	1.2	0.81	1.01	0.23	0.73
DSG4	IPI00515022	114 kDa	7	12	4	6	29	0.15	0.25	0.09	0.15	0.16	0.07	0.12
TAGLN2	IPI00550363	22 kDa	10	7	6	6	29	2.73	3.32	1.79	1.41	2.31	0.87	1.67
ENO1	IPI00465248	47 kDa	9	6	7	6	28	0.49	0.4	0.22	0.31	0.36	0.12	0.26
LGALS7	IPI00219221	15 kDa	5	9	6	7	27	2.36	3.12	2.36	2.36	2.55	0.38	1.84
HIST1H4D	IPI00453473	11 kDa	6	6	8	7	27	1.21	3.89	2.75	5.37	3.3	1.76	2.39
PKM1/M2	IPI00910979	56 kDa	6	8	7	6	27	0.31	0.31	0.31	0.24	0.29	0.04	0.21
PGK1	IPI00169383	45 kDa	5	7	9	6	27	0.42	0.42	0.76	0.64	0.56	0.17	0.4
KRTAP11-1	IPI00216711	17 kDa	0	15	0	8	23	1.73	7.81	2.81	1.31	3.42	3	2.47
TGM3	IPI00300376	77 kDa	10	4	6	3	23	0.28	0.18	0.23	0.09	0.2	0.08	0.14
SERPINB5	IPI00783625	42 kDa	7	6	6	4	23	0.56	0.27	0.25	0.34	0.36	0.14	0.26
DSC3	IPI00031549	100 kDa	5	12	4	2	23	0.15	0.37	0.11	0.03	0.16	0.15	0.12
TUBA1A	IPI00180675	50 kDa	5	4	8	4	21	0	0.24	0.55	0	0.2	0.26	0.14
CALML3	IPI00216984	17 kDa	5	4	6	5	20	1.47	1.47	1.47	1.47	1.47	0	1.06
FABP5	IPI00007797	15 kDa	4	6	5	5	20	1.67	1.67	1.67	1.2	1.55	0.24	1.12
LDHA	IPI00217966	40 kDa	7	4	5	4	20	0.82	0.53	0.53	0.67	0.64	0.14	0.46
PPIA-like	IPI00887678	24 kDa	7	5	5	3	20	0	0	0.18	0	0.04	0.09	0.03
CALML5	IPI00021536	16 kDa	3	5	6	6	20	0	0.78	1.62	0.78	0.8	0.66	0.57
KRT36	IPI00008692	52 kDa	4	5	6	4	19	0.71	0.71	0.81	0.52	0.69	0.12	0.5
CRYAB	IPI00021369	20 kDa	6	6	4	3	19	1.35	0.67	1.52	0.19	0.93	0.62	0.67
TUBB2A	IPI00013475	50 kDa	5	2	7	5	19	0	0.21	0.55	0.29	0.26	0.23	0.19
YWHAZ	IPI00021263	28 kDa	3	5	6	5	19	0.75	1	1.25	0.4	0.85	0.36	0.61
TPI1	IPI00465028	31 kDa	5	5	5	4	19	0.79	0.79	0.73	0.73	0.76	0.03	0.55

29 kDa protein	IPI00453476 ( 29 kDa	5	3	5	5	18	0.38	0.13	0.72	0.38	0.4	0.24	0.29
AHNAK	IPI00021812 629 kDa	2	2	9	4	17	0	0.02	0.03	0.02	0.018	0.01	0.015
ALDOC	IPI00418262 48 kDa	2	6	4	5	17	0	0.27	0.27	0.17	0.18	0.13	0.13
POF1B	IPI00103242 ( 69 kDa	5	3	6	3	17	0.15	0.15	0.32	0.1	0.18	0.1	0.13
LGALS3	IPI00465431 26 kDa	6	4	2	4	16	0.43	0.13	0	0.13	0.17	0.18	0.12
EZR	IPI00843975 ( 69 kDa	4	3	4	4	15	0.15	0.1	0.15	0.1	0.12	0.03	0.09
S100A11	IPI00013895 12 kDa	4	2	5	4	15	1.14	0	0.29	0.66	0.52	0.49	0.38
KRT81	IPI00760863 55 kDa	4	4	2	4	14	6.95	21.3	9.43	10.13	11.95	6.38	8.64
HIST1H2BB	IPI00220403 14 kDa	4	3	4	3	14	1.96	0.55	0	0.55	0.76	0.84	0.55
H3F3B;H3F3A	IPI00219038 15 kDa	5	3	3	3	14	1.21	0.81	0	0.81	0.71	0.51	0.51
HSPA2	IPI00007702 70 kDa	5	3	2	3	13	0.26	0.26	0.2	0.2	0.23	0.03	0.17
SERPINB2	IPI00007117 47 kDa	4	2	4	3	13	0.23	0.15	0.31	0.23	0.23	0.07	0.17
EEF1G	IPI00000875 ( 56 kDa	5	2	3	3	13	0.29	0.13	0.13	0.21	0.19	0.08	0.14
EIF4A1	IPI00025491 ( 46 kDa	2	3	4	2	11	0.15	0.2	0.2	0.15	0.18	0.03	0.13
KRT83	IPI00297795 54 kDa	2	3	2	3	10	3.91	0.07	3.14	5.16	3.07	2.17	2.22
PLCD1	IPI00016461 ( 88 kDa	3	3	2	2	10	0	0.08	0.07	0.12	0.07	0.05	0.05
H2AFY	IPI00059366 ( 39 kDa	3	2	3	2	10	0.5	0.38	0.49	0.27	0.41	0.11	0.3
RNH1	IPI00550069 50 kDa	3	2	2	2	9	0.06	0.13	0.13	0.2	0.13	0.06	0.09
GNB2L1	IPI00641950 ( 38 kDa	2	2	2	3	9	0.23	0.23	0.37	0	0.21	0.15	0.15
RPS10	IPI00008438 19 kDa	2	3	2	2	9	0.59	0.22	0	0.22	0.26	0.24	0.19
CBR1	IPI00295386 30 kDa	2	2	3	2	9	0.13	0	0.23	0	0.09	0.11	0.07
DUSP14	IPI00013031 22 kDa	2	2	2	2	8	0.32	0.15	0.15	0.32	0.24	0.14	0.17

**Table S3A. Hair samples from Mongolia (unique peptides)**

Proteins	Accession	MW	High arsenic, insoluble			
			HA3P	HA15P	HA24P	HA25P
KRT86 Keratin, type II cuticular Hb6	IPI00182655	53 kDa	60	44	49	85
KRT33B Keratin, type I cuticular Ha3-II	IPI00031423	46 kDa	29	24	31	55
KRT85 Keratin, type II cuticular Hb5	IPI00032541	56 kDa	23	23	27	33
DSP Isoform DPI of Desmoplakin	IPI00013933	332 kDa	53	68	75	43
KRT31 Keratin, type I cuticular Ha1	IPI00032513	47 kDa	16	12	11	25
KRT34 45 kDa protein	IPI00917731	45 kDa	15	14	19	22
KRT84 Keratin, type II cuticular Hb4	IPI00300052	65 kDa	0	0	10	0
LRRC15 Leucine-rich repeat-containing protein 1	IPI00152871	64 kDa	10	11	13	4
KRT81 Keratin, type II cuticular Hb1	IPI00760863	55 kDa	4	0	2	4
JUP Junction plakoglobin	IPI00554711	82 kDa	17	22	26	19
PKP1 Isoform 1 of Plakophilin-1	IPI00218528	80 kDa	24	22	24	16
KRT36 Isoform 1 of Keratin, type I cuticular Ha6	IPI00008692	52 kDa	0	3	3	4
KRT82 Keratin, type II cuticular Hb2	IPI00300053	57 kDa	45	51	48	29
VSIG8 Isoform 1 of V-set and immunoglobulin do	IPI00376274	44 kDa	15	16	16	8
KRT32 Keratin, type I cuticular Ha2	IPI00291540	50 kDa	28	23	23	16
KRT83 Keratin, type II cuticular Hb3	IPI00297795	54 kDa	7	6	7	13
KRTAP2-4;LOC728934;KAP2.1B;LOC644350;LOC7	IPI00013265	13 kDa	5	5	4	8
FABP4 Fatty acid-binding protein, adipocyte	IPI00215746	15 kDa	5	3	4	0
KRTAP13-2 Keratin-associated protein 13-2	IPI00373959	19 kDa	0	3	0	2
HIST1H2BB Histone H2B type 1-B	IPI00220403	14 kDa	9	9	9	4
SELENBP1 cDNA FLJ55757, highly similar to Selen	IPI00012303	57 kDa	18	23	20	22
LGALS7;LGALS7B Galectin-7	IPI00219221	15 kDa	5	4	5	0
KRT35 Keratin, type I cuticular Ha5	IPI00790172	50 kDa	18	21	16	15
SFN Isoform 1 of 14-3-3 protein sigma	IPI00013890	28 kDa	10	13	14	9
KRTAP11-1 Keratin-associated protein 11-1	IPI00216711	17 kDa	14	11	17	7
HSPB1 Heat shock protein beta-1	IPI00025512	23 kDa	0	0	0	0
GAPDH Glyceraldehyde-3-phosphate dehydroger	IPI00219018	36 kDa	7	7	4	4
ACTB Actin, cytoplasmic 1	IPI00021439	42 kDa	8	6	10	7
KRT39 Keratin, type I cytoskeletal 39	IPI00741855	56 kDa	13	14	14	9
KRTAP13-1 21 kDa protein	IPI00328109	21 kDa	0	0	0	0
KRT35 46 kDa protein	IPI00798228	46 kDa	3	0	3	7
HIST1H2AH Histone H2A type 1-H	IPI00081836	14 kDa	7	9	11	6
DSG4 Isoform 1 of Desmoglein-4	IPI00515022	114 kDa	11	12	14	9
PRDX6 Peroxiredoxin-6	IPI00220301	25 kDa	8	7	9	4
KRTAP3-1;LOC100132802 Keratin-associated pro	IPI00011212	11 kDa	0	0	0	3
HIST1H4D;HIST1H4K;HIST1H4B;HIST1H4A;HIST1f	IPI00453473	11 kDa	9	13	9	5
EEF1A1 Elongation factor 1-alpha 1	IPI00396485	50 kDa	5	8	7	5
TAGLN2 Transgelin-2	IPI00550363	22 kDa	0	5	3	2
HSPA5 HSPA5 protein	IPI00003362	72 kDa	4	6	7	3
LAP3 Isoform 1 of Cytosol aminopeptidase	IPI00419237	56 kDa	8	7	6	0
EEF2 Elongation factor 2	IPI00186290	95 kDa	2	11	9	0
AHNAK Neuroblast differentiation-associated prc	IPI00021812	629 kDa	0	4	2	2
ANXA2 annexin A2 isoform 1	IPI00418169	40 kDa	4	4	6	3
CALML3 Calmodulin-like protein 3	IPI00216984	17 kDa	4	3	6	5
PKP3 Plakophilin-3	IPI00026952	87 kDa	9	4	4	2
PPL Periplakin	IPI00298057	205 kDa	3	3	6	0
ANXA1 Annexin A1	IPI00218918	39 kDa	0	2	3	0

CRYAB Alpha-crystallin B chain	IPI00021369	20 kDa	3	2	5	3
ENO1 Isoform alpha-enolase of Alpha-enolase	IPI00465248	47 kDa	0	2	5	4
FLJ54554, highly similar to Pyruvate kinase isozyme I	IPI00910979	56 kDa	0	2	2	0
S100A3 Protein S100-A3	IPI00016752	12 kDa	6	7	6	0
TUBA1A Tubulin alpha-1A chain	IPI00180675	50 kDa	8	6	9	6
KRT33A Keratin, type I cuticular Ha3-I	IPI00297632	46 kDa	0	0	2	2
LGALS3 Galectin-3	IPI00465431	26 kDa	6	6	5	2
HSPA2 Heat shock-related 70 kDa protein 2	IPI00007702	70 kDa	6	6	8	2
TUBB2A Tubulin beta-2A chain	IPI00013475	50 kDa	7	9	9	4
TGM3 Protein-glutamine gamma-glutamyltransferase 3	IPI00300376	77 kDa	5	8	7	4
PGK1 Phosphoglycerate kinase 1	IPI00169383	45 kDa	2	2	2	0
YWHAZ 14-3-3 protein zeta/delta	IPI00021263	28 kDa	0	2	0	0
TPI1 Isoform 1 of Triosephosphate isomerase	IPI00465028	31 kDa	3	4	5	5
LDHA cDNA FLJ55792, highly similar to L-lactate dehydrogenase	IPI00217966	40 kDa	2	4	2	0
KRTAP3-3;LOC100132276 Keratin-associated protein 3	IPI00013267	10 kDa	2	0	0	2
KRT80 Isoform 2 of Keratin, type II cytoskeletal 8	IPI00431749	47 kDa	0	4	4	0
LOC440926;H3F3B;H3F3A Histone H3.3	IPI00219038	15 kDa	3	0	0	2
LMNA Isoform A of Lamin-A/C	IPI00021405	74 kDa	3	2	8	3
29 kDa protein	IPI00453476	(29 kDa)	5	3	5	0
PLCD1 phospholipase C, delta 1 isoform 1	IPI00016461	(88 kDa)	5	4	7	4
LOC654188 similar to peptidylprolyl isomerase A	IPI00887678	24 kDa	3	3	0	0
SERPINB5 Serpin B5	IPI00783625	42 kDa	3	3	4	2
KRTAP3-2;LOC100128819 Keratin-associated protein 3	IPI00011214	10 kDa	0	0	0	0
LOC100131696 Putative keratin-associated protein 6	IPI00791014	54 kDa	12	9	8	5
PLEC1 Isoform 3 of Plectin-1	IPI00398002	518 kDa	6	10	6	0
EZR Ezrin	IPI00843975	(69 kDa)	2	2	4	0
CTNNB1 Isoform 1 of Catenin beta-1	IPI00017292	(85 kDa)	5	8	11	0
KRT40 Keratin, type I cytoskeletal 40	IPI00552959	48 kDa	7	7	8	3
HIST2H2AA3;HIST2H2AA4 Histone H2A type 2-A	IPI00216457	(14 kDa)	2	2	2	0
PABPC1 Isoform 1 of Polyadenylate-binding protein 1	IPI00008524	(71 kDa)	4	7	4	0
HIST1H1E Histone H1.4	IPI00217467	22 kDa	4	6	7	4
CALML5 Calmodulin-like protein 5	IPI00021536	16 kDa	0	0	0	0
HIST1H1B Histone H1.5	IPI00217468	23 kDa	4	4	7	4
S100A11 Protein S100-A11	IPI00013895	12 kDa	0	0	0	0
RPSA 33 kDa protein	IPI00413108	(33 kDa)	2	4	2	2
Keratin-81-like protein	IPI00008669	53 kDa	0	0	0	0
RNH1 Ribonuclease inhibitor	IPI00550069	50 kDa	2	0	0	0
DUSP14 Dual specificity protein phosphatase 14	IPI00013031	22 kDa	2	2	2	0
UBA52 ubiquitin and ribosomal protein L40 precursor	IPI00456429	15 kDa	3	2	3	3
EEF1G cDNA FLJ56389, highly similar to EEF1G	IPI00000875	(56 kDa)	2	2	3	0
RPS3 40S ribosomal protein S3	IPI00011253	27 kDa	0	5	0	0
EIF4A1 Eukaryotic initiation factor 4A-I	IPI00025491	(46 kDa)	2	4	7	0
TXNRD1 Isoform 5 of Thioredoxin reductase 1, cytosolic	IPI00554786	55 kDa	4	8	5	0
KRTAP24-1 Keratin-associated protein 24-1	IPI00414750	28 kDa	4	6	4	0
HSP90AB1 Heat shock protein HSP 90-beta	IPI00414676	83 kDa	3	4	3	0
ATP5B ATP synthase subunit beta, mitochondrial	IPI00303476	57 kDa	10	9	5	0
HIST2H3D;HIST2H3A;HIST2H3C Histone H3.2	IPI00171611	15 kDa	0	2	0	0
YWHAE 14-3-3 protein epsilon	IPI00000816	29 kDa	3	5	3	0
RPLP2 60S acidic ribosomal protein P2	IPI00008529	12 kDa	2	3	0	0

CFL1 Cofilin-1	IPI00012011	19 kDa	0	0	2	0
RPL4 60S ribosomal protein L4	IPI00003918	48 kDa	3	0	2	0
RPLP0 60S acidic ribosomal protein P0	IPI00008530	34 kDa	0	2	2	0
KRT38 Keratin, type I cuticular Ha8	IPI00297641	50 kDa	0	0	0	5
HSD17B4 Peroxisomal multifunctional enzyme ty	IPI00019912	80 kDa	3	4	4	2
AIM1 Absent in melanoma 1 protein	IPI00294840	189 kDa	3	5	5	0
HSPA1A Heat shock 70 kDa protein 1	IPI00304925	(70 kDa	0	0	0	0
HEPHL1 Hephaestin-like protein 1	IPI00848044	132 kDa	3	9	5	3
MDH2 Malate dehydrogenase, mitochondrial	IPI00291006	36 kDa	5	8	4	0
H2AFY H2A histone family, member Y isoform 2	IPI00059366	(39 kDa	2	2	4	0
GDI2 cDNA FLJ60299, highly similar to Rab GDP d	IPI00031461	51 kDa	2	3	3	0
RPS8 40S ribosomal protein S8	IPI00216587	(24 kDa	0	2	0	0
KRTAP9-9 Isoform 2 of Keratin-associated protei	IPI00788020	(18 kDa	0	0	0	0
PRDX2 Peroxiredoxin-2	IPI00027350	(22 kDa	0	2	3	0
EFHD1 EF-hand domain-containing protein D1	IPI00031091	27 kDa	0	2	3	0
RPL3 60S ribosomal protein L3	IPI00550021	46 kDa	0	2	0	0
Putative uncharacterized protein ENSP00000260	IPI00871908	32 kDa	0	2	2	0
HSPA8 Isoform 1 of Heat shock cognate 71 kDa p	IPI00003865	71 kDa	3	2	2	0
FASN Fatty acid synthase	IPI00026781	273 kDa	4	8	3	0
ALDOA Fructose-bisphosphate aldolase A	IPI00465439	39 kDa	0	0	0	0
TUBA1B cDNA FLJ60097, highly similar to Tubulir	IPI00792677	46 kDa	2	2	2	0
NACA nascent polypeptide-associated complex a	IPI00797126	95 kDa	2	2	2	0
LYG2 Lysozyme g-like protein 2	IPI00328398	(23 kDa	4	5	3	0
FAM26D Isoform 1 of Protein FAM26D	IPI00065530	35 kDa	4	5	4	2
CLTC Isoform 1 of Clathrin heavy chain 1	IPI00024067	(192 kDa	3	3	0	0
GNB2L1 38 kDa protein	IPI00641950	(38 kDa	2	3	0	0
DYNC1H1 Cytoplasmic dynein 1 heavy chain 1	IPI00456969	532 kDa	0	0	0	0
ACADVL cDNA FLJ56425, highly similar to Very-lo	IPI00028031	(75 kDa	3	6	7	0
HNRNPA1 Isoform A1-B of Heterogeneous nuclea	IPI00215965	(39 kDa	3	2	3	0
TRIM29 Isoform Alpha of Tripartite motif-contair	IPI00073096	(66 kDa	0	0	0	0
RPL6 60S ribosomal protein L6	IPI00329389	(33 kDa	0	3	0	0
RPS2P5 hypothetical protein isoform 1	IPI00165486	(31 kDa	2	2	0	0
PADI3 Protein-arginine deiminase type-3	IPI00008486	75 kDa	3	9	3	0
RPL14 Ribosomal protein L14 variant	IPI00555744	24 kDa	0	2	0	0
GARS Glycyl-tRNA synthetase	IPI00783097	(83 kDa	0	2	0	0
H2AFV Histone H2A.V	IPI00018278	(14 kDa	0	0	0	2
ME1 NADP-dependent malic enzyme	IPI00008215	64 kDa	0	2	0	0
TUBA4A Tubulin alpha-4A chain	IPI00007750	(50 kDa	0	2	3	2
RPS9 40S ribosomal protein S9	IPI00221088	23 kDa	0	2	0	0
TGM1 Protein-glutamine gamma-glutamyltransfe	IPI00305622	90 kDa	3	5	4	0
KRTAP10-12 Keratin-associated protein 10-12	IPI00394683	25 kDa	0	4	7	0
RPL15 21 kDa protein	IPI00927715	21 kDa	0	2	0	0
KRTAP4-4 Keratin-associated protein 4-4	IPI00000143	18 kDa	0	5	0	0
EEF1D eukaryotic translation elongation factor 1	IPI00642971	(71 kDa	2	0	2	0
Polypyrimidine tract-binding protein 1	IPI00179964	(57 kDa	2	2	2	0
PA2G4 Proliferation-associated protein 2G4	IPI00299000	(44 kDa	0	3	0	0
LY6G6D;LY6G6F Lymphocyte antigen 6 complex,	IPI00168619	(19 kDa	4	3	3	2
RPL11 Isoform 1 of 60S ribosomal protein L11	IPI00376798	(20 kDa	0	2	0	0
RPLP1 60S acidic ribosomal protein P1	IPI00008527	12 kDa	0	2	2	0

VCP Transitional endoplasmic reticulum ATPase	IPI00022774	89 kDa	2	2	2	0
PDCD6IP PDCD6IP protein	IPI00246058	97 kDa	0	2	0	0
MIF;LOC284889 Macrophage migration inhibitor	IPI00293276	12 kDa	0	2	2	0
NEU2 Sialidase-2	IPI00022482	42 kDa	2	2	4	0
RTN4 Isoform 2 of Reticulon-4	IPI00298289	40 kDa	0	0	0	2
RPS15A 40S ribosomal protein S15a	IPI00221091	15 kDa	0	0	2	0
GSTP1 Glutathione S-transferase P	IPI00219757	23 kDa	0	0	2	0
RPS4X 40S ribosomal protein S4, X isoform	IPI00217030	30 kDa	0	0	2	0
RAB11A cDNA FLJ61136, highly similar to Ras-rel	IPI00429190	29 kDa	0	2	0	0
CRAT Isoform 1 of Carnitine O-acetyltransferase	IPI00016457	(71 kDa	0	6	4	0
PHGDH Phosphoglycerate dehydrogenase	IPI00642548	53 kDa	0	0	0	0
ACTN4 Alpha-actinin-4	IPI00013808	105 kDa	0	0	0	0
PCBP1 Poly(rC)-binding protein 1	IPI00016610	37 kDa	0	0	2	0
HIST1H2BF;HIST1H2BC;HIST1H2BI;HIST1H2BG;HI	IPI00020101	(14 kDa	0	0	0	0
NME1;NME2 Isoform 1 of Nucleoside diphosphat	IPI00026260	(17 kDa	2	3	2	0
cDNA FLJ51392, highly similar to Keratin, type II c	IPI00922826	32 kDa	0	0	0	0
CTSD Cathepsin D	IPI00011229	45 kDa	0	0	2	0
ATP5A1 ATP synthase subunit alpha, mitochondr	IPI00440493	60 kDa	2	2	0	0
RPS14 40S ribosomal protein S14	IPI00026271	16 kDa	0	2	0	0
HSP90AA1 heat shock 90kDa protein 1, alpha iso	IPI00382470	(98 kDa	0	4	0	0
KRTAP4-3 Keratin-associated protein 4-3	IPI00457200	21 kDa	2	0	0	2
RPS16 40S ribosomal protein S16	IPI00221092	16 kDa	2	0	0	0
LMNB1 Lamin-B1	IPI00217975	(66 kDa	2	0	3	0
cDNA FLJ56429, highly similar to Glucose-6-phos	IPI00910781	64 kDa	0	0	2	0
IL1F10 Isoform 1 of Interleukin-1 family member	IPI00103482	(17 kDa	2	2	2	0
RPS18;LOC100130553 40S ribosomal protein S18	IPI00013296	18 kDa	0	0	3	0
HNRNPC Isoform C1 of Heterogeneous nuclear ri	IPI00216592	(32 kDa	0	0	0	0
KRTAP10-11 Keratin-associated protein 10-11	IPI00394674	30 kDa	0	2	5	0
TUBB2C Tubulin beta-2C chain	IPI00007752	50 kDa	0	2	0	2
CA2 Carbonic anhydrase 2	IPI00218414	29 kDa	0	0	0	0
HNRNPH1 Heterogeneous nuclear ribonucleopro	IPI00013881	(49 kDa	3	0	2	0
DST dystonin isoform 3	IPI00008756	(634 kDa	2	0	0	0
H1FO Histone H1.0	IPI00550239	21 kDa	0	0	0	0
SFPQ Isoform Long of Splicing factor, proline- an	IPI00010740	76 kDa	2	0	2	0
cDNA FLJ60029, highly similar to Keratin, type II c	IPI00910810	29 kDa	2	0	0	0
ATP6V1B2 V-type proton ATPase subunit B, brair	IPI00007812	57 kDa	0	2	2	0
CSNK1E Casein kinase I isoform epsilon	IPI00027729	47 kDa	2	3	2	0
EIF3M Eukaryotic translation initiation factor 3 s	IPI00102069	43 kDa	0	2	0	0
RNPEP Putative uncharacterized protein RNPEP	IPI00647400	68 kDa	0	2	2	0
RPS20 40S ribosomal protein S20	IPI00012493	(13 kDa	2	0	0	0
ACTBL2 Beta-actin-like protein 2	IPI00003269	42 kDa	2	0	0	0
DYNLL1 Dynein light chain 1, cytoplasmic	IPI00019329	10 kDa	0	2	0	0
RAN GTP-binding nuclear protein Ran	IPI00643041	(24 kDa	2	0	0	0
RAB1C Putative Ras-related protein Rab-1C	IPI00374519	22 kDa	0	0	0	0
ATG9B Isoform 1 of Autophagy-related protein 9	IPI00465328	101 kDa	0	2	0	0
CTNNA1 Isoform 1 of Catenin alpha-1	IPI00215948	(100 kDa	0	0	0	0
TXN Thioredoxin	IPI00216298	(12 kDa	0	0	0	0
TARS Threonyl-tRNA synthetase, cytoplasmic	IPI00329633	(83 kDa	2	2	0	0
cDNA FLJ51495, highly similar to ADP-ribosylatio	IPI00909515	25 kDa	0	3	0	0

ALDH2 Aldehyde dehydrogenase, mitochondrial	IPI00006663	56 kDa	2	2	0	0
BAT1 Isoform 2 of Spliceosome RNA helicase BAT1	IPI00641829	( 51 kDa	3	3	0	0
RTN3 Isoform 2 of Reticulon-3	IPI00398795	( 111 kDa	0	2	0	0
G6PD Isoform Long of Glucose-6-phosphate 1-de	IPI00216008	( 64 kDa	0	3	0	0
Protein	IPI00902893	27 kDa	0	0	2	0
GPNMB Isoform 2 of Transmembrane glycoprote	IPI00001592	( 63 kDa	0	0	0	0
RPS25 40S ribosomal protein S25	IPI00012750	( 14 kDa	0	0	0	0
HIP1R Huntingtin-interacting protein 1-related pr	IPI00024417	119 kDa	2	2	2	0
KRTAP4-9 hypothetical protein	IPI00880032	24 kDa	0	0	0	0
LAMP1 Lysosome-associated membrane glycopro	IPI00884105	45 kDa	2	0	0	0
CLIC3 Chloride intracellular channel 3	IPI00644062	19 kDa	0	0	0	0
VPS35 Vacuolar protein sorting-associated protei	IPI00018931	92 kDa	0	0	0	0
KRT83 similar to Keratin 83, partial	IPI00888663	20 kDa	0	0	0	0
HSD17B10 Isoform 1 of 3-hydroxyacyl-CoA dehyd	IPI00017726	27 kDa	0	2	3	0
HNRNPM Isoform 1 of Heterogeneous nuclear rib	IPI00171903	( 78 kDa	0	0	0	0
COL1A2 Collagen alpha-2(I) chain	IPI00304962	129 kDa	0	0	2	0
PREP Prolyl endopeptidase	IPI00008164	81 kDa	0	2	0	0
UNC84B UNC84B protein	IPI00878697	83 kDa	0	2	0	0
ACIN1 Isoform 1 of Apoptotic chromatin condens	IPI00007334	152 kDa	0	0	2	0
SLC25A6 ADP/ATP translocase 3	IPI00291467	( 33 kDa	0	2	0	0
LMNB2 Lamin-B2	IPI00009771	70 kDa	0	0	0	0
GJA1 Gap junction alpha-1 protein	IPI00218487	( 43 kDa	2	0	0	0
HADHB Trifunctional enzyme subunit beta, mitoc	IPI00022793	51 kDa	4	0	0	0
ENGASE Isoform 1 of Cytosolic endo-beta-N-acet	IPI00168838	84 kDa	0	0	3	0
HSP90B1 Endoplasmic	IPI00027230	92 kDa	2	0	0	0
PPIB Peptidyl-prolyl cis-trans isomerase B	IPI00646304	24 kDa	2	0	0	0
NPC1 Niemann-Pick C1 protein	IPI00005107	( 142 kDa	0	0	2	0
HSPE1 10 kDa heat shock protein, mitochondrial	IPI00220362	11 kDa	2	0	2	0
C1QBP Complement component 1 Q subcompon	IPI00014230	31 kDa	0	0	0	0
PROCR Endothelial protein C receptor precursor	IPI00009276	31 kDa	0	0	0	0
SLC40A1 Solute carrier family 40 member 1	IPI00005547	63 kDa	0	2	0	0
DBI Isoform 1 of Acyl-CoA-binding protein	IPI00010182	( 10 kDa	0	4	0	0
COMT Isoform Membrane-bound of Catechol O-m	IPI00011284	( 30 kDa	0	3	0	0
CS Citrate synthase, mitochondrial	IPI00025366	( 52 kDa	2	0	0	0
TKT cDNA FLJ54957, highly similar to Transketola	IPI00643920	69 kDa	2	0	0	0
RPS23 40S ribosomal protein S23	IPI00218606	( 16 kDa	0	2	0	0
RPS28P9 similar to 40S ribosomal protein S28	IPI00787692	( 10 kDa	0	0	0	0
PLD3 Phospholipase D3	IPI00328243	( 55 kDa	0	2	0	0
GOT2 Aspartate aminotransferase, mitochondria	IPI00018206	( 47 kDa	0	0	0	0
ATP5O ATP synthase subunit O, mitochondrial	IPI00007611	23 kDa	0	2	2	0
HEXB Beta-hexosaminidase subunit beta	IPI00012585	63 kDa	0	2	0	0
TYRP1 5,6-dihydroxyindole-2-carboxylic acid oxid	IPI00015913	61 kDa	0	0	0	0
SLC27A6 Long-chain fatty acid transport protein	IPI00470637	70 kDa	0	0	0	0
LEMD3 Inner nuclear membrane protein Man1	IPI00032491	100 kDa	0	0	0	0
C10orf140 Protein DLN-1	IPI00166533	90 kDa	2	0	0	0
SETDB2 Isoform 1 of Histone-lysine N-methyltran	IPI00045922	( 82 kDa	0	0	0	0



High arsenic, solubilized				Low arsenic, insoluble				Low arsenic, solubilized			
HA3S	HA15S	HA24S	HA25S	HC128P	HC129P	HC130P	HC133P	HC128S	HC129S	HC130S	HC133S
91	82	93	80	48	64	44	47	92	72	76	78
66	61	64	64	29	40	21	26	59	55	57	57
35	38	37	34	19	27	21	16	34	34	34	33
9	5	10	7	66	46	58	58	9	3	12	2
23	23	26	24	14	16	10	11	26	21	21	17
20	25	25	15	15	17	10	15	23	12	19	16
0	0	0	0	4	0	0	2	0	0	0	0
0	0	0	0	10	0	7	10	0	0	0	0
7	5	9	5	3	3	2	2	7	6	6	7
0	0	3	0	25	13	18	16	4	0	4	0
0	0	0	0	21	14	18	20	0	0	0	0
0	0	0	0	2	0	2	2	0	0	0	0
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3	7	9	10	22	8	11	13	4	0	0	0
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19	22	19	20	12	6	12	15	26	18	15	15
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6	10	6	4	4	8	2	3	8	8	7	8
3	3	3	6	12	6	8	8	2	0	2	0
7	3	4	5	13	10	8	10	5	0	5	5
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0	0	0	0	2	0	0	2	0	0	0	0





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0	0	0	0	0	0	0	2	0	0	0	0

**Table S3B. Nail samples from Mongolia (unique peptides)**

Proteins	Accession	MW	High arsenic, insoluble			
			Na24p	Na28p	Na29p	Na30p
DSP Isoform DPI of Desmoplakin	IPI00013933	332 kDa	41	78	143	129
KRT86 Keratin, type II cuticular Hb6	IPI00182655	53 kDa	47	50	50	53
KRT33B Keratin, type I cuticular Ha3-II	IPI00031423	46 kDa	39	29	31	31
EPPK1 epiplakin 1	IPI00010951	556 kDa	6	9	44	32
JUP Junction plakoglobin	IPI00554711	82 kDa	9	24	39	28
LRRC15 Leucine-rich repeat-containing protein 15	IPI00152871	64 kDa	8	21	26	28
PKP1 Isoform 1 of Plakophilin-1	IPI00218528	80 kDa	8	18	23	24
SELENBP1 cDNA FLJ55757, highly similar to Selenium	IPI00012303	57 kDa	0	7	22	14
KRT84 Keratin, type II cuticular Hb4	IPI00300052	65 kDa	11	19	34	25
KRT85 Keratin, type II cuticular Hb5	IPI00032541	56 kDa	21	17	21	17
KRT14 Keratin, type I cytoskeletal 14	IPI00384444	52 kDa	10	15	24	19
DSG1 Desmoglein-1	IPI00025753	114 kDa	3	5	19	16
KRT6A Keratin, type II cytoskeletal 6A	IPI00300725	60 kDa	5	10	19	24
SFN Isoform 1 of 14-3-3 protein sigma	IPI00013890	28 kDa	3	9	18	12
KRT34 45 kDa protein	IPI00917731	45 kDa	14	13	16	18
ACTB Actin, cytoplasmic 1	IPI00021439	42 kDa	2	9	15	14
KPRP Keratinocyte proline-rich protein	IPI00514908	64 kDa	5	7	19	22
KRTAP13-2 Keratin-associated protein 13-2	IPI00373959	19 kDa	7	11	15	12
KRT5 Keratin, type II cytoskeletal 5	IPI00009867	62 kDa	8	12	18	14
HSPB1 Heat shock protein beta-1	IPI00025512	23 kDa	4	10	12	13
KRTAP13-4 Keratin-associated protein 13-4	IPI00373947	18 kDa	7	10	14	10
FLJ54554, highly similar to Pyruvate kinase isozymes	IPI00910979	56 kDa	0	6	9	14
KRT31 Keratin, type I cuticular Ha1	IPI00032513	47 kDa	16	16	13	13
EEF2 Elongation factor 2	IPI00186290	95 kDa	0	3	14	10
PPL Perioplakin	IPI00298057	205 kDa	0	8	22	12
VSIG8 Isoform 1 of V-set and immunoglobulin domain	IPI00376274	44 kDa	2	10	10	11
GAPDH Glyceraldehyde-3-phosphate dehydrogenase	IPI00219018	36 kDa	0	7	14	13
DSG4 Isoform 1 of Desmoglein-4	IPI00515022	114 kDa	0	8	6	8
PKP3 Plakophilin-3	IPI00026952	87 kDa	3	4	12	9
PRDX6 Peroxiredoxin-6	IPI00220301	25 kDa	0	5	12	11
HSPA5 HSPA5 protein	IPI00003362	72 kDa	0	4	21	15
LAP3 Isoform 1 of Cytosol aminopeptidase	IPI00419237	56 kDa	0	0	11	17
EEF1A1 Elongation factor 1-alpha 1	IPI00396485	50 kDa	3	5	12	12
KRT39 Keratin, type I cytoskeletal 39	IPI00741855	56 kDa	2	5	10	9
FABP4 Fatty acid-binding protein, adipocyte	IPI00215746	15 kDa	3	10	10	10
ENO1 Isoform alpha-enolase of Alpha-enolase	IPI00465248	47 kDa	0	5	9	10
SERPINB2 Plasminogen activator inhibitor 2	IPI00007117	47 kDa	0	7	11	13
KRT17 Keratin, type I cytoskeletal 17	IPI00450768	48 kDa	2	7	11	11
KRTAP11-1 Keratin-associated protein 11-1	IPI00216711	17 kDa	14	11	5	7
TAGLN2 Transgelin-2	IPI00550363	22 kDa	2	5	10	11
ANXA2 annexin A2 isoform 1	IPI00418169	40 kDa	3	7	8	13
KRTAP2-4;LOC728934;KAP2.1B;LOC644350;LOC7307	IPI00013265	13 kDa	8	11	7	7

LGALS7;LGALS7B Galectin-7	IPI00219221	15 kDa	5	6	9	10
ANXA1 Annexin A1	IPI00218918	39 kDa	2	5	13	8
CKB Creatine kinase B-type	IPI00022977	43 kDa	0	2	7	8
KRT36 Isoform 1 of Keratin, type I cuticular Ha6	IPI00008692	52 kDa	6	8	14	9
LMNA Isoform A of Lamin-A/C	IPI00021405	74 kDa	2	7	7	2
KRTAP13-1 21 kDa protein	IPI00328109	21 kDa	3	6	9	6
CRYAB Alpha-crystallin B chain	IPI00021369	20 kDa	0	4	7	7
PGK1 Phosphoglycerate kinase 1	IPI00169383	45 kDa	0	2	8	9
DSC3 Isoform 3A of Desmocollin-3	IPI00031549	100 kDa	0	0	6	5
KRT16 Keratin, type I cytoskeletal 16	IPI00217963	51 kDa	4	2	6	11
RNH1 Ribonuclease inhibitor	IPI00550069	50 kDa	0	0	7	4
AHNAK Neuroblast differentiation-associated protein	IPI00021812	629 kDa	0	6	12	4
HSPA2 Heat shock-related 70 kDa protein 2	IPI00007702	70 kDa	0	5	10	10
KRT80 Isoform 2 of Keratin, type II cytoskeletal 80	IPI00431749	47 kDa	2	4	9	4
IVL cDNA FLJ61407, highly similar to Involucrin	IPI00011692	70 kDa	0	6	5	7
PLEC1 Isoform 3 of Plectin-1	IPI00398002	518 kDa	0	0	4	5
HIST1H4D;HIST1H4K;HIST1H4B;HIST1H4A;HIST1H4L;IPI00453473	IPI00453473	11 kDa	0	6	9	6
LDHA cDNA FLJ55792, highly similar to L-lactate dehydrogenase	IPI00217966	40 kDa	3	4	6	7
ALDOC cDNA FLJ56450, highly similar to Fructose-bisphosphate aldolase C	IPI00418262	48 kDa	0	4	7	5
29 kDa protein	IPI00453476	29 kDa	0	0	3	5
TGM3 Protein-glutamine gamma-glutamyltransferase 3	IPI00300376	77 kDa	2	3	8	5
HIST1H2AH Histone H2A type 1-H	IPI00081836	14 kDa	0	3	6	6
TUBA1A Tubulin alpha-1A chain	IPI00180675	50 kDa	0	0	8	8
YWHAZ 14-3-3 protein zeta/delta	IPI00021263	28 kDa	3	5	10	5
TPI1 Isoform 1 of Triosephosphate isomerase	IPI00465028	31 kDa	0	3	8	9
POF1B Isoform 1 of Protein POF1B	IPI00103242	69 kDa	0	0	10	3
SERPINB5 Serpin B5	IPI00783625	42 kDa	0	2	5	4
EZR Ezrin	IPI00843975	69 kDa	0	2	7	5
PABPC1 Isoform 1 of Polyadenylate-binding protein 1	IPI00008524	71 kDa	0	0	4	0
CALML5 Calmodulin-like protein 5	IPI00021536	16 kDa	0	0	6	5
EEF1G cDNA FLJ56389, highly similar to Elongation factor 1 gamma	IPI00000875	56 kDa	0	0	2	5
EVPL Envoplakin	IPI00023711	232 kDa	0	0	12	4
HIST1H2BB Histone H2B type 1-B	IPI00220403	14 kDa	3	4	5	4
TUBB2A Tubulin beta-2A chain	IPI00013475	50 kDa	0	0	6	3
PLCD1 phospholipase C, delta 1 isoform 1	IPI00016461	88 kDa	0	2	6	3
CALML3 Calmodulin-like protein 3	IPI00216984	17 kDa	3	4	4	6
FABP5;FABP5L7 Fatty acid-binding protein, epidermal	IPI00007797	15 kDa	0	3	7	6
LGALS3 Galectin-3	IPI00465431	26 kDa	0	3	4	4
LOC654188 similar to peptidylprolyl isomerase A-like 1	IPI00887678	24 kDa	0	0	6	4
RPSA 33 kDa protein	IPI00413108	33 kDa	0	0	3	7
RPLP0 60S acidic ribosomal protein P0	IPI00008530	34 kDa	0	0	5	2
S100A11 Protein S100-A11	IPI00013895	12 kDa	0	0	4	4
DSC1 Isoform 1A of Desmocollin-1	IPI00216099	100 kDa	0	3	4	0
HSPA1A Heat shock 70 kDa protein 1	IPI00304925	70 kDa	0	3	6	2

EIF4A1 Eukaryotic initiation factor 4A-I	IPI00025491	46 kDa	0	3	4	2
SERPINB13 Isoform 2 of Serpin B13	IPI00220494	38 kDa	0	0	8	2
RPLP2 60S acidic ribosomal protein P2	IPI00008529	12 kDa	0	0	3	0
CFL1 Cofilin-1	IPI00012011	19 kDa	0	0	4	3
EFHD1 EF-hand domain-containing protein D1	IPI00031091	27 kDa	0	0	0	0
S100A3 Protein S100-A3	IPI00016752	12 kDa	0	4	0	4
RPS3 40S ribosomal protein S3	IPI00011253	27 kDa	2	3	2	4
KRT81 Keratin, type II cuticular Hb1	IPI00760863	55 kDa	6	4	3	3
HSP90AB1 Heat shock protein HSP 90-beta	IPI00414676	83 kDa	0	5	6	4
RPS8 40S ribosomal protein S8	IPI00216587	24 kDa	0	0	2	3
ALDOA Fructose-bisphosphate aldolase A	IPI00465439	39 kDa	0	3	3	4
KRTAP3-1;LOC100132802 Keratin-associated protein	IPI00011212	11 kDa	4	2	0	2
FLNA Isoform 2 of Filamin-A	IPI00302592	280 kDa	0	0	2	4
FLG Filaggrin	IPI00026256	435 kDa	0	0	0	8
DSC2 cDNA FLJ55716, highly similar to Desmocollin-1	IPI00025846	101 kDa	0	0	0	2
RPL3 60S ribosomal protein L3	IPI00550021	46 kDa	0	0	5	0
RPL4 60S ribosomal protein L4	IPI00003918	48 kDa	0	0	3	2
GNB2L1 38 kDa protein	IPI00641950	38 kDa	0	0	0	0
KRT32 Keratin, type I cuticular Ha2	IPI00291540	50 kDa	0	2	0	2
RPL6 60S ribosomal protein L6	IPI00329389	33 kDa	0	0	3	3
RPS9 40S ribosomal protein S9	IPI00221088	23 kDa	0	0	3	2
RPS7 40S ribosomal protein S7	IPI00013415	22 kDa	0	0	0	2
GSTP1 Glutathione S-transferase P	IPI00219757	23 kDa	0	0	0	0
KRTAP3-3;LOC100132276 Keratin-associated protein	IPI00013267	10 kDa	3	2	2	0
HIST2H2AA3;HIST2H2AA4 Histone H2A type 2-A	IPI00216457	14 kDa	0	0	2	0
HIST1H1B Histone H1.5	IPI00217468	23 kDa	0	0	3	2
NACA nascent polypeptide-associated complex alpha	IPI00797126	95 kDa	0	0	2	0
GARS Glycyl-tRNA synthetase	IPI00783097	83 kDa	0	0	3	3
PDCD6IP PDCD6IP protein	IPI00246058	97 kDa	0	0	6	0
RPS4X 40S ribosomal protein S4, X isoform	IPI00217030	30 kDa	0	0	0	0
HIST1H1E Histone H1.4	IPI00217467	22 kDa	0	0	4	0
PRDX2 Peroxiredoxin-2	IPI00027350	22 kDa	0	0	0	2
FASN Fatty acid synthase	IPI00026781	273 kDa	0	0	0	0
S100A16 Protein S100-A16	IPI00062120	12 kDa	0	0	3	0
MYH9 Isoform 1 of Myosin-9	IPI00019502	227 kDa	0	2	0	4
EEF1D eukaryotic translation elongation factor 1 delta	IPI00642971	71 kDa	0	0	2	0
PEBP1 Phosphatidylethanolamine-binding protein 1	IPI00219446	21 kDa	0	2	4	2
EEF1B2 Elongation factor 1-beta	IPI00178440	25 kDa	0	0	2	0
RPS15 40S ribosomal protein S15	IPI00479058	17 kDa	0	0	2	6
YOD1 Isoform 1 of Ubiquitin thioesterase OTU1	IPI00183503	38 kDa	0	0	3	0
KRT83 Keratin, type II cuticular Hb3	IPI00297795	54 kDa	4	4	0	0
KRT35 Keratin, type I cuticular Ha5	IPI00790172	50 kDa	0	2	0	0
LOC440926;H3F3B;H3F3A Histone H3.3	IPI00219038	15 kDa	0	0	0	0
HSPA8 Isoform 1 of Heat shock cognate 71 kDa protein	IPI00003865	71 kDa	0	0	5	3



TUBA1B cDNA FLJ60097, highly similar to Tubulin alpha	IPI00792677	46 kDa	0	0	2	2
HNRNPA1 Isoform A1-B of Heterogeneous nuclear ribonucleoprotein A1	IPI00215965	39 kDa	0	0	0	0
RPL14 Ribosomal protein L14 variant	IPI00555744	24 kDa	0	0	3	0
SPRR2G Small proline-rich protein 2G	IPI00000849	8 kDa	0	2	2	2
RPLP1 60S acidic ribosomal protein P1	IPI00008527	12 kDa	0	0	2	2
PKM2 Isoform M1 of Pyruvate kinase isozymes M1/II	IPI00220644	58 kDa	0	0	2	0
ACTN4 Alpha-actinin-4	IPI00013808	105 kDa	0	0	3	2
TPM4 Isoform 2 of Tropomyosin alpha-4 chain	IPI00216975	33 kDa	0	0	0	0
TPPP3 Tubulin polymerization-promoting protein family 3 member 3	IPI00306413	19 kDa	0	0	4	2
LOC728946;KRTAP1-1 Keratin-associated protein 1-1	IPI00008915	18 kDa	0	0	0	0
ALB Isoform 1 of Serum albumin	IPI00745872	69 kDa	0	0	0	0
UBA52 ubiquitin and ribosomal protein L40 precursor	IPI00456429	15 kDa	0	0	0	3
YWHAE 14-3-3 protein epsilon	IPI00000816	29 kDa	0	2	2	2
AIM1 Absent in melanoma 1 protein	IPI00294840	189 kDa	0	3	4	3
SPRR1A Cornifin-A	IPI00017987	10 kDa	0	3	0	0
RPS2P5 hypothetical protein isoform 1	IPI00165486	31 kDa	0	0	2	3
EIF4G1 Isoform B of Eukaryotic translation initiation factor 4G	IPI00479262	176 kDa	0	0	0	2
RPS16 40S ribosomal protein S16	IPI00221092	16 kDa	0	0	0	0
KRT1 Keratin, type II cytoskeletal 1	IPI00220327	66 kDa	0	0	0	0
HSD17B4 Peroxisomal multifunctional enzyme type 4	IPI00019912	80 kDa	0	0	0	0
GDI2 cDNA FLJ60299, highly similar to Rab GDP dissociation inhibitor 2	IPI00031461	51 kDa	0	0	0	0
Putative uncharacterized protein ENSP00000260536	IPI00871908	32 kDa	0	0	2	2
DYNC1H1 Cytoplasmic dynein 1 heavy chain 1	IPI00456969	532 kDa	0	0	0	3
CSTB Cystatin-B	IPI00021828	11 kDa	0	0	2	0
PERP p53 apoptosis effector related to PMP-22	IPI00293189	21 kDa	0	2	0	0
RPL7A 60S ribosomal protein L7a	IPI00299573	30 kDa	0	2	0	0
Polypyrimidine tract-binding protein 1	IPI00179964	57 kDa	0	0	2	0
VCP Transitional endoplasmic reticulum ATPase	IPI00022774	89 kDa	0	0	0	0
LDHB L-lactate dehydrogenase B chain	IPI00219217	37 kDa	0	0	0	0
PCBP1 Poly(rC)-binding protein 1	IPI00016610	37 kDa	0	0	0	0
RPS24 Isoform 1 of 40S ribosomal protein S24	IPI00029750	15 kDa	0	0	0	2
RPS14 40S ribosomal protein S14	IPI00026271	16 kDa	0	0	0	2
VCL Isoform 1 of Vinculin	IPI00291175	117 kDa	0	0	0	0
CALM2;CALM3;CALM1 Calmodulin	IPI00075248	17 kDa	0	0	3	0
MYL12B Myosin regulatory light chain MRLC2	IPI00033494	20 kDa	0	0	0	0
KRT4 cDNA FLJ55805, highly similar to Keratin, type II cytoskeletal 4	IPI00797452	52 kDa	0	0	2	0
KRT9 Keratin, type I cytoskeletal 9	IPI00019359	62 kDa	0	0	0	0
KRTAP3-2;LOC100128819 Keratin-associated protein 3-2	IPI00011214	10 kDa	5	2	0	0
KRT6C Keratin, type II cytoskeletal 6C	IPI00299145	60 kDa	0	0	0	0
KRT10 Keratin, type I cytoskeletal 10	IPI00009865	60 kDa	0	0	0	0
Keratin-81-like protein	IPI00008669	53 kDa	0	0	0	0
48 kDa protein	IPI00798387	48 kDa	0	0	0	0
CBR1 Carbonyl reductase [NADPH] 1	IPI00295386	30 kDa	0	0	2	3

Low arsenic, insoluble

High arsenic, solubilized

Low Arsenic, solubilized

Nc127p	Nc129p	Nc130p	Nc134p	Na24s	Na28s	Na29s	Na30s	Nc127s	Nc129s	Nc130s	Nc134s
126	121	124	137	25	40	28	25	16	41	35	22
49	62	56	51	83	83	90	76	84	87	73	72
31	44	35	34	63	59	58	46	59	58	53	55
32	29	36	34	6	4	8	5	0	7	10	7
34	32	32	30	3	6	3	3	3	8	5	6
30	30	27	28	14	9	10	9	9	9	10	7
31	27	25	28	0	0	0	0	0	0	0	0
27	24	20	20	0	0	2	0	5	2	2	3
10	18	28	27	55	44	54	51	24	38	41	44
16	25	20	18	41	36	40	34	30	35	34	29
18	18	24	19	33	35	33	30	26	42	36	35
17	20	18	16	5	6	4	4	0	7	5	3
10	12	29	18	35	50	35	45	30	50	57	45
18	14	19	17	4	0	2	3	0	3	0	0
13	17	18	15	28	21	22	27	19	26	19	25
14	16	16	12	0	6	3	5	0	7	5	0
6	17	16	19	3	3	4	9	0	0	4	4
16	15	12	14	16	10	16	17	15	17	14	15
9	14	17	15	21	23	20	21	22	30	26	29
11	13	17	13	3	11	5	6	0	9	9	5
13	11	14	15	10	5	12	12	8	15	12	13
13	13	13	14	0	0	0	0	0	0	3	0
13	13	13	13	21	20	21	19	22	25	19	22
13	14	11	14	0	0	0	0	0	0	0	0
20	9	10	11	0	0	0	0	0	0	0	0
13	14	11	10	3	0	0	5	7	5	4	5
11	11	13	12	4	5	6	8	6	6	8	5
13	11	14	9	0	0	0	0	0	0	0	0
10	11	13	13	0	0	0	0	0	0	0	0
12	11	13	10	0	0	0	0	0	0	0	0
10	12	12	12	0	0	0	0	0	0	0	0
13	12	9	12	0	0	0	0	0	0	0	0
10	11	11	12	0	0	0	0	0	0	0	0
11	11	9	12	4	4	4	6	4	6	4	4
12	9	9	11	6	5	6	3	4	6	5	4
9	10	11	9	0	0	0	0	0	3	3	0
4	14	9	12	0	0	0	0	0	0	0	0
0	9	17	12	18	29	19	26	9	26	29	22
13	10	5	10	5	5	5	5	7	5	5	4
9	10	10	9	0	0	0	0	0	0	0	0
10	12	9	7	0	0	0	0	0	3	3	2
9	12	5	11	8	8	10	11	15	9	12	12

10	8	7	10	3	3	4	0	4	4	2	3
6	11	9	9	0	0	0	0	0	0	0	0
5	10	9	9	0	0	0	0	0	0	0	0
3	9	8	12	25	21	24	23	19	21	21	21
9	6	6		0	0	0	0	0	0	2	0
8	6	8	9	8	7	9	8	7	10	7	9
7	6	8	10	0	0	0	0	0	0	0	0
10	6	8	7	0	0	0	0	0	0	0	0
12	6	8	5	0	0	0	0	0	0	0	0
4	4	12	10	15	23	18	22	6	28	23	24
11	5	7	6	0	0	0	0	0	0	0	0
8	8	6	6	0	0	0	0	0	0	0	0
5	6	9	8	0	0	0	0	0	0	0	0
5	8	5	9	0	4	4	0	0	6	2	0
5	7	8	7	0	0	0	0	0	0	0	0
7	6	7	6	0	0	0	0	0	0	0	0
6	5	7	7	0	2	0	0	0	0	0	0
4	6	7	8	0	0	0	0	0	0	0	0
4	6	8	7	0	0	0	0	0	0	0	0
6	5	7	6	0	0	0	0	0	0	0	0
5	9	4	5	3	0	0	4	0	0	3	0
8	5	4	5	0	0	0	0	0	0	0	0
3	7	7	5	0	2	0	0	0	3	0	0
4	6	6	6	0	0	0	0	0	3	6	0
5	5	6	6	0	0	0	0	0	0	0	0
6	2	3	11	0	0	0	0	0	0	0	0
6	5	5	5	0	0	0	0	0	0	0	0
6	3	6	5	0	0	0	0	0	0	0	0
5	4	5	6	0	0	0	0	0	0	0	0
5	5	4	5	0	0	0	0	0	0	0	0
3	6	4	6	0	0	0	0	0	0	0	0
4	4	6	5	0	0	0	0	0	0	0	0
5	5	3	5	0	0	0	0	0	0	2	0
4	4	5	5	0	0	0	0	0	0	0	0
5	4	6	3	0	0	0	0	0	0	0	0
5	4	5	3	3	2	0	0	0	0	3	0
4	3	6	4	6	6	4	5	3	5	4	5
5	4	4	4	0	0	0	0	0	0	0	0
3	4	5	5	0	0	0	0	0	0	0	0
4	4	3	6	0	0	0	0	0	0	0	0
6	4	3	4	0	0	0	0	0	0	0	0
5	4	3	4	0	0	0	0	0	0	0	0
6	4	4	2	0	0	0	0	0	0	0	0
4	3	5	4	0	0	0	0	0	0	0	0

4	6	3	2	0	0	0	0	0	0	0	0
3	3	4	5	0	0	0	0	0	0	0	0
5	4	3	3	0	0	0	0	0	0	0	0
3	4	4	4	0	0	0	0	0	0	0	0
5	3	3	4	0	0	0	0	0	0	0	0
5	4	5	0	0	0	0	0	0	0	0	0
5	2	4	3	0	0	0	0	0	0	0	0
3	4	3	3	6	6	6	6	6	6	5	6
3	2	4	4	0	0	0	0	0	0	0	0
3	4	4	2	0	0	0	0	0	0	0	0
3	3	3	4	0	0	0	0	0	0	0	0
4	2	3	3	5	2	3	3	4	3	3	2
0	3	6	3	0	0	0	0	0	0	0	0
0	0	4	7	0	4	0	3	0	6	3	3
2	3	4	2	0	0	0	0	0	0	0	0
2	2	4	3	0	0	0	0	0	0	0	0
3	5	2	0	0	0	0	0	0	0	0	0
3	0	3	4	0	0	0	0	0	0	0	0
0	3	3	3	3	5	4	4	6	7	4	5
2	3	2	2	0	0	0	0	0	0	0	0
2	0	3	4	0	0	0	0	0	0	0	0
2	2	3	2	0	0	0	0	0	0	0	0
3	0	4	2	0	0	0	0	0	0	0	0
2	2	2	2	0	0	0	0	0	0	2	0
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2	2	2	2	0	0	0	0	0	0	0	0
3	0	2	3	0	0	0	0	0	0	0	0
0	2	4	2	0	0	0	0	0	0	0	0
0	2	2	4	0	0	0	0	0	0	0	0
0	0	2	5	0	0	0	0	0	0	0	0
0	0	4	3	0	0	0	0	0	0	0	0
2	3	2	0	0	0	0	0	0	0	0	0
3	0	2	2	0	0	0	0	0	0	0	0
0	0	7	0	0	0	0	0	0	0	0	0
3	2	2	0	0	0	0	0	0	0	0	0
2	3	2	0	0	0	0	0	0	0	0	0
3	4	0	0	0	0	0	0	0	0	0	0
3	2	0	2	0	0	0	0	0	0	0	0
0	2	3	2	0	0	0	0	0	0	0	0
0	3	3	0	9	7	8	8	7	7	7	6
0	4	2	0	5	4	5	4	3	4	4	3
2	0	2	2	0	0	0	0	0	0	0	0
0	0	2	4	0	0	0	0	0	0	0	0

