Supplementary file I

Some more details

The division of codon domains on L- and H-chains

1. Codon domains in 1st base order divided on L- and H-chains:

Total sum here 1504 with Arg 1,2 and Lys charged as in Karlson 1976.

Amino acid side chains (R):

L- and H-chains divided on G+C-coded versus A+U-coded aa

	L-chain	**H-chain**
G1+C1:	**217**	**327**
	|	**|**
A1+U1:	**383**	**577**

Differences (G+C) − (A+U): quotient **~2/3:**

L-chain = 217 − 383 = − 166 = $\mathbf{2 \times 83}$
H-chain = 327 − 577 = − 250 = $\mathbf{3 \times 83, +1}$

In 2nd base order the sums change to C-atoms 312 and the rest 232, in A+U + 416.

2. Division of C-atoms in 2 - 3×192 in codon domains of aas, A2 + C2, G2 + U2:

There are three types of polarizations of codon domain pairs:
- purine - pyrimidine pairs: G+A — C+U
- complementary pairs: G+C — U+A
- keto-/amino base pairs: G+U — A+C

This last pairing shows in 2nd base order the division of C-atoms into 384 and 576:

C-atoms:

	L-chain	H-chain	
A2+C2:	132	252	= **384**
G2+U2	252	324	= **576**
	384	**576**	

The ‘substituents’ in both groups (L+H-chains) is 272,
hence an equal division of 544.

3. 1st and 2nd base domains of amino acids divided on L- and H-chains

L-chain		**H-chain**		**L→H**
1st base: 216 — 384 +/– 1		**1st base 328 — 576 –/+ 1**		
G1: GG-GC-GU-GA	= 118	G1: GA	= 73	– 45
C1: CC-CU	= 99	C1: CA-CA-CG	= 254	+155
6 aa	= **217**	4 aa	= **327** =	+110
U1: UC-UG-UU	= 135	U1: UU-UA-UGG	= 328	+193
A1: AG-AC-AU-AUA-AA	= 248	A1: AA-AUG-AG	= 249	+ 1
8 aa	= **383**	6 aa	= **577** =	+194
2nd base: 216 — 384 –/+ 4		**2nd base: 328 — 576 +/– 4**		
G2: GG-AG-UG	= 79	G2: CG-AG-UGG	= 332	+253
C2: GC-UC-CC-AC	= 133	C2: -	= 0	−133
7 aa	= **212**	3 aa	= **332** =	+120
U2: GU-CU-UU-AU-AUA	= 271	U2: AUG-UU	= 166	−105
A2: AA-GA	= 117	A2: CA-GA-AA-CA-UA	= 406	+289
7 aa	= **388**	7 aa	= **572** =	+184

4. Sums of 1st and 2nd base domains of amino acids divided on L- and H-chains

A pairing according to the keto-/amino acid polarity.
Note G1 + G2 = **602**, U1 + U2 = **900,** close to the division on L- and H-chains.

L-chain	**H-chain**
G1+G2: 197	G1+G2: 405
U1+U2: 406	U1+U2: 494
C1+C2: 232	C1+C2: 254
A1+A2: 365	A1+A2: 655
G1+G2 + U1+U2 = **600 + 3**	G1+G2 + U1+U2 = **904 – 5**
A1+A2 + C1+C2 = **600 – 3**	A1+A2 + C1+C2 = **904 + 5**