

## Supplementary data: Comparative studies on sequence characteristics around translation initiation codon in four eukaryotes

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**Table 1.** Spearman's rank correlation coefficients of 39 base positions around the AUG codon in the four eukaryotic species studied.

	<b>-30</b>	<b>-29</b>	<b>-28</b>	<b>-27</b>	<b>-26</b>	<b>-25</b>	<b>-24</b>	<b>-23</b>	<b>-22</b>	<b>-21</b>	<b>-20</b>	<b>-19</b>	<b>-18</b>
<i>A. thaliana</i>	-0.248	-0.806**	-0.612	-0.709*	-0.030	-0.321	-0.576	-0.539	-0.188	-0.552	-0.636*	-0.442	0.006
<i>O. sativa</i>	0.236	0.442	-0.139	0.152	0.406	-0.049	0.467	0.176	-0.273	0.273	-0.224	0.430	-0.127
<i>D. melanogaster</i>	-0.709*	-0.030	0.188	-0.418	-0.273	-0.030	0.224	0.139	-0.273	-0.067	-0.358	0.697*	0.661*
<i>H. sapiens</i>	0.879**	0.915**	0.806**	0.903**	0.867**	0.758*	0.358	0.697*	0.879**	0.467	0.915**	0.442	0.867**
	<b>-17</b>	<b>-16</b>	<b>-15</b>	<b>-14</b>	<b>-13</b>	<b>-12</b>	<b>-11</b>	<b>-10</b>	<b>-9</b>	<b>-8</b>	<b>-7</b>	<b>-6</b>	<b>-5</b>
<i>A. thaliana</i>	-0.915**	-0.515	-0.042	-0.224	-0.394	-0.479	-0.758*	-0.564	-0.648*	-0.830**	-0.224	0.030	-0.055
<i>O. sativa</i>	0.248	-0.697*	0.018	0.176	-0.127	-0.067	0.297	-0.042	-0.285	0.552	0.345	0.455	0.661*
<i>D. melanogaster</i>	0.067	0.358	0.782**	0.079	0.612	0.200	0.164	0.152	0.067	0.879**	0.503	0.648*	0.455
<i>H. sapiens</i>	0.891**	0.806**	0.903**	0.733*	0.442	0.721*	0.782**	0.939**	0.745*	0.939**	0.636*	0.855**	0.818**
	<b>-4</b>	<b>-3</b>	<b>-2</b>	<b>-1</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<i>A. thaliana</i>	0.564	0.648*	0.624	0.030	0.891**	0.903**	0.855**	-0.382	0.576	-0.624	0.152	-0.152	-0.515
<i>O. sativa</i>	0.705*	0.624	0.697*	0.382	0.243	0.770**	0.552	0.333	-0.467	0.164	0.285	-0.552	0.309
<i>D. melanogaster</i>	0.721*	0.939**	0.200	0.661*	0.903**	0.721*	0.830**	0.770**	0.067	0.770**	0.564	0.491	0.018
<i>H. sapiens</i>	0.818**	0.976**	0.939**	0.709*	0.733*	0.903**	0.879**	0.770**	0.309	0.915**	-0.042	-0.394	0.842**

Note: \* and \*\* indicate statistical significance at the 0.05 and 0.01 level respectively.

**Table 2.** Spearman's rank correlation coefficients of four kinds of bases with information content in the four eukaryotic species studied.

<i>A. thaliana</i>	<b>- 30</b>	<b>- 29</b>	<b>- 28</b>	<b>- 27</b>	<b>- 26</b>	<b>- 25</b>	<b>- 24</b>	<b>- 23</b>	<b>- 22</b>	<b>- 21</b>	<b>- 20</b>	<b>- 19</b>	<b>- 18</b>
A	-0.636*	-0.333	-0.394	-0.733*	-0.418	-0.745*	-0.903**	-0.903**	-0.578	-0.818**	-0.685*	-0.867**	-0.770**
U	0.370	-0.201	-0.127	-0.115	0.418	0.661*	0.401	0.729*	0.248	0.225	-0.091	0.309	0.632*
C	0.632*	0.915**	0.778**	0.794**	0.600	-0.673*	0.806**	0.794**	0.770**	0.721*	0.596	0.855**	0.382
G	-0.164	-0.479	-0.067	0.200	-0.042	-0.055	-0.673*	-0.067	-0.152	0.103	0.042	-0.091	-0.345
	<b>- 17</b>	<b>- 16</b>	<b>- 15</b>	<b>- 14</b>	<b>- 13</b>	<b>- 12</b>	<b>- 11</b>	<b>- 10</b>	<b>- 9</b>	<b>- 8</b>	<b>- 7</b>	<b>- 6</b>	<b>- 5</b>
A	-0.806**	-0.321	-0.552	-0.503	-0.394	0.103	-0.231	-0.067	-0.152	-0.693*	-0.018	-0.358	-0.455
U	-0.224	-0.079	0.224	0.248	-0.067	-0.383	-0.394	-0.648*	-0.503	-0.778**	-0.539	0.091	-0.745*
C	0.927**	0.413	0.444	0.685*	0.579	0.576	0.418	0.612	0.479	0.818**	0.602	-0.636*	0.790**
G	0.292	-0.097	-0.018	-0.212	-0.207	-0.115	0.297	0.515	-0.139	0.042	-0.073	0.673*	-0.103
	<b>- 4</b>	<b>- 3</b>	<b>- 2</b>	<b>- 1</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
A	0.564	0.588	-0.122	-0.333	-0.891**	-0.709*	-0.855**	-0.867**	-0.830**	-0.673*	-0.345	-0.709*	-0.733*
U	-0.648*	-0.578	-0.576	-0.733*	-0.535	-0.867**	0.564	0.188	-0.103	-0.503	0.333	0.127	0.455
C	-0.176	-0.891**	0.867**	0.842**	-0.539	0.927**	-0.067	0.139	0.903**	0.709*	-0.273	0.733*	0.770**
G	0.103	-0.164	-0.806**	0.224	0.915**	-0.830**	0.818**	0.661*	-0.602	0.394	0.394	-0.006	-0.067
<i>O. sativa</i>	<b>- 30</b>	<b>- 29</b>	<b>- 28</b>	<b>- 27</b>	<b>- 26</b>	<b>- 25</b>	<b>- 24</b>	<b>- 23</b>	<b>- 22</b>	<b>- 21</b>	<b>- 20</b>	<b>- 19</b>	<b>- 18</b>
A	0.134	0.237	-0.261	0.200	-0.723*	0.012	0.030	0.049	0.537	-0.049	0.587	-0.024	-0.195
U	-0.430	-0.301	-0.055	-0.413	0.103	0.345	-0.503	-0.134	-0.152	-0.378	-0.309	-0.457	0.073
C	0.460	0.372	0.503	0.067	0.555	-0.311	0.575	0.231	0.195	-0.092	-0.079	0.055	0.564
G	-0.334	-0.310	-0.311	-0.079	-0.267	0.024	0.500	0.030	-0.482	0.055	-0.251	0.677*	-0.406
	<b>- 17</b>	<b>- 16</b>	<b>- 15</b>	<b>- 14</b>	<b>- 13</b>	<b>- 12</b>	<b>- 11</b>	<b>- 10</b>	<b>- 9</b>	<b>- 8</b>	<b>- 7</b>	<b>- 6</b>	<b>- 5</b>
A	-0.097	0.456	0.091	-0.012	-0.049	0.244	0.517	-0.390	-0.129	0.000	0.426	-0.543	-0.418
U	-0.178	-0.030	-0.025	-0.280	-0.261	0.098	-0.092	0.406	0.390	0.098	-0.231	-0.018	-0.360
C	0.139	0.767**	-0.055	0.444	0.091	-0.401	-0.109	-0.030	0.268	0.438	-0.418	-0.037	0.890**
G	-0.239	-0.584	0.036	0.249	-0.267	0.049	-0.176	0.018	-0.415	-0.624	0.043	0.632*	-0.407
	<b>- 4</b>	<b>- 3</b>	<b>- 2</b>	<b>- 1</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
A	0.117	0.456	-0.177	0.384	-0.086	-0.538	-0.826**	0.109	-0.109	-0.784**	0.262	0.650*	0.000
U	-0.267	-0.772**	-0.128	-0.585	0.433	-0.243	0.267	-0.320	0.433	0.451	-0.465	0.067	-0.213
C	0.143	-0.153	0.661*	0.596	-0.681*	0.890**	0.122	-0.462	0.178	0.697*	0.323	0.176	-0.128
G	-0.049	0.195	-0.584	-0.394	0.166	-0.369	0.018	0.285	-0.721*	-0.732*	-0.224	-0.600	0.227

Table 2. (Contd.)

<i>D. melanogaster</i>	<b>- 30</b>	<b>- 29</b>	<b>- 28</b>	<b>- 27</b>	<b>- 26</b>	<b>- 25</b>	<b>- 24</b>	<b>- 23</b>	<b>- 22</b>	<b>- 21</b>	<b>- 20</b>	<b>- 19</b>	<b>- 18</b>
A	-0.782**	-0.030	0.297	-0.503	-0.334	-0.139	0.042	0.248	-0.462	-0.042	-0.248	0.721*	0.648*
U	0.406	0.188	-0.430	-0.219	-0.024	-0.321	-0.564	-0.103	0.782**	0.127	-0.438	-0.794**	-0.778**
C	0.091	0.067	-0.766**	0.794**	0.176	0.200	0.200	-0.273	-0.188	0.212	0.539	-0.401	0.565
G	0.103	-0.042	0.782**	-0.152	0.309	-0.188	-0.170	-0.164	0.188	-0.055	0.527	-0.152	-0.699*
	<b>- 17</b>	<b>- 16</b>	<b>- 15</b>	<b>- 14</b>	<b>- 13</b>	<b>- 12</b>	<b>- 11</b>	<b>- 10</b>	<b>- 9</b>	<b>- 8</b>	<b>- 7</b>	<b>- 6</b>	<b>- 5</b>
A	-0.073	-0.395	0.733*	0.115	0.564	0.164	0.103	0.309	-0.213	0.467	0.455	0.479	-0.467
U	-0.673*	-0.903**	-0.285	-0.736*	-0.673*	-0.778**	-0.571	-0.467	0.079	-0.875**	-0.842**	-0.515	-0.539
C	0.321	0.624	-0.152	0.479	0.754*	0.555	-0.261	-0.539	-0.479	0.794**	0.042	-0.055	0.552
G	0.292	0.309	-0.612	-0.018	-0.588	0.091	0.661*	0.200	0.067	-0.255	-0.382	0.067	0.103
	<b>- 4</b>	<b>- 3</b>	<b>- 2</b>	<b>- 1</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
A	0.347	0.830**	0.127	0.267	-0.648*	-0.830**	-0.903**	0.200	0.292	0.139	-0.248	0.455	-0.122
U	-0.939**	-0.988**	-0.321	-0.782**	-0.067	-0.624	0.588	-0.467	-0.855**	-0.663*	-0.760*	-0.236	0.127
C	0.673*	-0.717*	-0.067	-0.103	-0.685*	0.855**	0.280	-0.782**	0.176	0.505	0.127	0.255	0.370
G	-0.406	-0.517	0.006	0.608	0.867**	0.188	-0.347	0.879**	0.624	-0.127	0.685*	-0.430	-0.442
<i>H. sapiens</i>	<b>- 30</b>	<b>- 29</b>	<b>- 28</b>	<b>- 27</b>	<b>- 26</b>	<b>- 25</b>	<b>- 24</b>	<b>- 23</b>	<b>- 22</b>	<b>- 21</b>	<b>- 20</b>	<b>- 19</b>	<b>- 18</b>
A	-0.879**	-0.915**	-0.450	-0.782**	-0.879**	-0.505	-0.407	-0.648*	-0.903**	-0.588	-0.624	-0.333	-0.687*
U	-0.661*	-0.139	-0.758*	-0.505	-0.309	-0.442	-0.212	-0.345	-0.685*	-0.091	-0.939**	-0.309	-0.830**
C	0.418	0.915**	0.588	0.225	0.274	0.612	0.018	0.419	0.515	0.382	0.661*	0.869**	0.709*
G	0.855**	0.503	0.486	0.721*	0.867**	-0.146	0.661*	0.818**	0.576	0.006	0.811**	0.030	0.733*
	<b>- 17</b>	<b>- 16</b>	<b>- 15</b>	<b>- 14</b>	<b>- 13</b>	<b>- 12</b>	<b>- 11</b>	<b>- 10</b>	<b>- 9</b>	<b>- 8</b>	<b>- 7</b>	<b>- 6</b>	<b>- 5</b>
A	-0.939**	-0.139	-0.648*	-0.486	-0.503	-0.867**	-0.600	-0.006	-0.754*	-0.588	-0.024	-0.632*	-0.915**
U	-0.624	-0.806**	-0.697*	-0.770**	0.225	-0.079	-0.721*	-0.661*	-0.382	-0.863**	-0.620	-0.903**	0.103
C	0.709*	0.758*	0.912**	0.418	0.273	0.772**	0.842**	0.842**	-0.164	0.903**	0.612	-0.419	0.794**
G	0.188	0.067	0.815**	0.733*	0.055	0.345	0.164	-0.012	0.770**	-0.055	-0.370	0.806**	0.049
	<b>- 4</b>	<b>- 3</b>	<b>- 2</b>	<b>- 1</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
A	-0.552	0.915**	-0.830**	-0.527	-0.815**	-0.721*	-0.809**	-0.468	0.432	-0.863**	-0.442	-0.588	-0.879**
U	-0.806**	-0.939**	-0.915**	-0.766**	0.280	-0.709*	-0.503	-0.389	-0.285	-0.685*	0.164	0.152	-0.442
C	0.855**	-0.709*	0.964**	0.745*	-0.723*	0.818**	0.600	-0.261	0.139	0.830**	0.224	0.353	0.152
G	-0.758*	0.903**	-0.815**	-0.626	0.709*	-0.358	0.790**	0.576	-0.115	0.470	0.139	0.212	0.612

Note: \* and \*\* indicate statistical significance at the 0.05 and 0.01 level respectively.