**Table S20. Pairwise semantic similarity values calculated on the set of significantly enriched Cellular Components GO terms between tissues (*nS*L in Europeans)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Tissue1** | **Tissue2** | **Empirical SS values** | **Permutation SS values** |
| adipose-tissue | blood-vessel | 0.99 | 0.265 |
| adipose-tissue | blood | 0.923 | 0.258 |
| adipose-tissue | brain | 1 | 0.272 |
| adipose-tissue | esophagus | 1 | 0.262 |
| adipose-tissue | eye | 0.955 | 0.266 |
| adipose-tissue | heart | 0.955 | 0.266 |
| adipose-tissue | large-intestine | 0.963 | 0.263 |
| adipose-tissue | lung | 0.977 | 0.259 |
| adipose-tissue | meninx | 0.972 | 0.266 |
| adipose-tissue | salivary-gland | 0.985 | 0.264 |
| adipose-tissue | skeletal-muscle | 0.923 | 0.26 |
| adipose-tissue | small-intestine | 0.985 | 0.264 |
| adipose-tissue | spleen | 0.99 | 0.27 |
| adipose-tissue | thymus | 0.972 | 0.264 |
| adipose-tissue | tonsil | 0.957 | 0.257 |
| adipose-tissue | urinary-bladder | 0.982 | 0.264 |
| adipose-tissue | vagina | 0.973 | 0.266 |
| blood-vessel | blood | 0.911 | 0.242 |
| blood-vessel | brain | 0.99 | 0.257 |
| blood-vessel | esophagus | 0.99 | 0.269 |
| blood-vessel | eye | 0.965 | 0.264 |
| blood-vessel | heart | 0.965 | 0.261 |
| blood-vessel | large-intestine | 0.953 | 0.259 |
| blood-vessel | lung | 0.967 | 0.257 |
| blood-vessel | meninx | 0.982 | 0.266 |
| blood-vessel | salivary-gland | 0.974 | 0.259 |
| blood-vessel | skeletal-muscle | 0.913 | 0.26 |
| blood-vessel | small-intestine | 0.974 | 0.253 |
| blood-vessel | spleen | 1 | 0.26 |
| blood-vessel | thymus | 0.982 | 0.257 |
| blood-vessel | tonsil | 0.947 | 0.267 |
| blood-vessel | urinary-bladder | 0.972 | 0.271 |
| blood-vessel | vagina | 0.963 | 0.263 |
| blood | brain | 0.923 | 0.242 |
| blood | esophagus | 0.923 | 0.248 |
| blood | eye | 0.898 | 0.241 |
| blood | heart | 0.898 | 0.237 |
| blood | large-intestine | 0.884 | 0.236 |
| blood | lung | 0.953 | 0.242 |
| blood | meninx | 0.888 | 0.247 |
| blood | salivary-gland | 0.936 | 0.252 |
| blood | skeletal-muscle | 0.864 | 0.243 |
| blood | small-intestine | 0.936 | 0.256 |
| blood | spleen | 0.911 | 0.248 |
| blood | thymus | 0.888 | 0.246 |
| blood | tonsil | 0.928 | 0.253 |
| blood | urinary-bladder | 0.9 | 0.25 |
| blood | vagina | 0.89 | 0.249 |
| brain | esophagus | 1 | 0.261 |
| brain | eye | 0.955 | 0.261 |
| brain | heart | 0.955 | 0.256 |
| brain | large-intestine | 0.963 | 0.261 |
| brain | lung | 0.977 | 0.264 |
| brain | meninx | 0.972 | 0.262 |
| brain | salivary-gland | 0.985 | 0.26 |
| brain | skeletal-muscle | 0.923 | 0.262 |
| brain | small-intestine | 0.985 | 0.255 |
| brain | spleen | 0.99 | 0.255 |
| brain | thymus | 0.972 | 0.258 |
| brain | tonsil | 0.957 | 0.251 |
| brain | urinary-bladder | 0.982 | 0.265 |
| brain | vagina | 0.973 | 0.256 |
| esophagus | eye | 0.955 | 0.257 |
| esophagus | heart | 0.955 | 0.258 |
| esophagus | large-intestine | 0.963 | 0.257 |
| esophagus | lung | 0.977 | 0.256 |
| esophagus | meninx | 0.972 | 0.255 |
| esophagus | salivary-gland | 0.985 | 0.258 |
| esophagus | skeletal-muscle | 0.923 | 0.27 |
| esophagus | small-intestine | 0.985 | 0.257 |
| esophagus | spleen | 0.99 | 0.253 |
| esophagus | thymus | 0.972 | 0.264 |
| esophagus | tonsil | 0.957 | 0.26 |
| esophagus | urinary-bladder | 0.982 | 0.266 |
| esophagus | vagina | 0.973 | 0.261 |
| eye | heart | 1 | 0.263 |
| eye | large-intestine | 0.917 | 0.258 |
| eye | lung | 0.927 | 0.258 |
| eye | meninx | 0.985 | 0.256 |
| eye | salivary-gland | 0.968 | 0.277 |
| eye | skeletal-muscle | 0.903 | 0.258 |
| eye | small-intestine | 0.968 | 0.261 |
| eye | spleen | 0.965 | 0.255 |
| eye | thymus | 0.985 | 0.258 |
| eye | tonsil | 0.948 | 0.257 |
| eye | urinary-bladder | 0.974 | 0.268 |
| eye | vagina | 0.921 | 0.264 |
| heart | large-intestine | 0.917 | 0.258 |
| heart | lung | 0.927 | 0.258 |
| heart | meninx | 0.985 | 0.255 |
| heart | salivary-gland | 0.968 | 0.254 |
| heart | skeletal-muscle | 0.903 | 0.258 |
| heart | small-intestine | 0.968 | 0.262 |
| heart | spleen | 0.965 | 0.259 |
| heart | thymus | 0.985 | 0.262 |
| heart | tonsil | 0.948 | 0.262 |
| heart | urinary-bladder | 0.974 | 0.257 |
| heart | vagina | 0.921 | 0.261 |
| large-intestine | lung | 0.94 | 0.254 |
| large-intestine | meninx | 0.936 | 0.262 |
| large-intestine | salivary-gland | 0.947 | 0.265 |
| large-intestine | skeletal-muscle | 0.891 | 0.261 |
| large-intestine | small-intestine | 0.947 | 0.268 |
| large-intestine | spleen | 0.953 | 0.263 |
| large-intestine | thymus | 0.936 | 0.263 |
| large-intestine | tonsil | 0.921 | 0.26 |
| large-intestine | urinary-bladder | 0.946 | 0.263 |
| large-intestine | vagina | 0.938 | 0.256 |
| lung | meninx | 0.947 | 0.253 |
| lung | salivary-gland | 0.959 | 0.259 |
| lung | skeletal-muscle | 0.895 | 0.262 |
| lung | small-intestine | 0.959 | 0.252 |
| lung | spleen | 0.967 | 0.254 |
| lung | thymus | 0.947 | 0.258 |
| lung | tonsil | 0.979 | 0.253 |
| lung | urinary-bladder | 0.957 | 0.26 |
| lung | vagina | 0.948 | 0.264 |
| meninx | salivary-gland | 0.955 | 0.263 |
| meninx | skeletal-muscle | 0.895 | 0.272 |
| meninx | small-intestine | 0.955 | 0.266 |
| meninx | spleen | 0.982 | 0.257 |
| meninx | thymus | 1 | 0.262 |
| meninx | tonsil | 0.967 | 0.257 |
| meninx | urinary-bladder | 0.99 | 0.26 |
| meninx | vagina | 0.94 | 0.265 |
| salivary-gland | skeletal-muscle | 0.933 | 0.263 |
| salivary-gland | small-intestine | 1 | 0.259 |
| salivary-gland | spleen | 0.974 | 0.266 |
| salivary-gland | thymus | 0.955 | 0.268 |
| salivary-gland | tonsil | 0.938 | 0.268 |
| salivary-gland | urinary-bladder | 0.965 | 0.27 |
| salivary-gland | vagina | 0.956 | 0.263 |
| skeletal-muscle | small-intestine | 0.933 | 0.255 |
| skeletal-muscle | spleen | 0.913 | 0.259 |
| skeletal-muscle | thymus | 0.895 | 0.268 |
| skeletal-muscle | tonsil | 0.875 | 0.261 |
| skeletal-muscle | urinary-bladder | 0.905 | 0.27 |
| skeletal-muscle | vagina | 0.896 | 0.271 |
| small-intestine | spleen | 0.974 | 0.259 |
| small-intestine | thymus | 0.955 | 0.265 |
| small-intestine | tonsil | 0.938 | 0.254 |
| small-intestine | urinary-bladder | 0.965 | 0.262 |
| small-intestine | vagina | 0.956 | 0.268 |
| spleen | thymus | 0.982 | 0.264 |
| spleen | tonsil | 0.947 | 0.258 |
| spleen | urinary-bladder | 0.972 | 0.256 |
| spleen | vagina | 0.963 | 0.259 |
| thymus | tonsil | 0.967 | 0.263 |
| thymus | urinary-bladder | 0.99 | 0.26 |
| thymus | vagina | 0.94 | 0.265 |
| tonsil | urinary-bladder | 0.977 | 0.259 |
| tonsil | vagina | 0.923 | 0.266 |
| urinary-bladder | vagina | 0.95 | 0.262 |

All values have been rounded to the 3rd decimal place. “Permutation SS values” refer to the 95th

percentile values of the distribution of 1,000 semantic similarity scores calculated on the randomly sampled GO terms for each pair of tissues.