## Supplementary information: kS-AD test on risks being in error from case studies 1 to 10

(http://l.academicdirect.org/Statistics/tests/kS-AD/ with "Case_Statistics.txt" input data)

Compute k-sample Anderson-Darling test.
Refs:

- Scholz FW, Stephens MA. 1987. K-sample Anderson-Darling Tests. Journal of the American Statistical Association 82:918-924.
- Department of Defense Handbook. 2002. Composite Materials Handbook. Volume 1. Polymer Matrix Composites Guidelines for Characterization of Structural Materials. Chapter 8. Statistical Methods. 8.3.2.2 The k-sample Anderson-Darling test, MIL-HDBK-17-1F.
Name Table:

| Grp $\backslash$ Obs | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | Cnt |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| AD | 0.288 | 0.894 | 0.619 | 0.482 | 0.81 | 0.683 | 0.32 | 0.322 | 0.853 | 0.583 | 10 |
| KS | 0.132 | 0.884 | 0.742 | 0.42 | 0.963 | 0.675 | 0.202 | 0.556 | 0.869 | 0.753 | 10 |
| CM | 0.259 | 0.927 | 0.635 | 0.414 | 0.884 | 0.673 | 0.333 | 0.451 | 0.828 | 0.627 | 10 |
| KV | 0.028 | 0.814 | 0.486 | 0.19 | 0.85 | 0.578 | 0.067 | 0.248 | 0.728 | 0.488 | 10 |
| WU | 0.049 | 0.844 | 0.401 | 0.154 | 0.742 | 0.58 | 0.106 | 0.162 | 0.694 | 0.373 | 10 |
| H1 | 0.343 | 0.264 | 0.609 | 0.524 | 0.359 | 0.455 | 0.471 | 0.853 | 0.577 | 0.747 | 10 |
| g1 | 0.112 | 0.109 | 0.451 | 0.255 | 0.034 | 0.247 | 0.729 | 0.98 | 0.746 | 0.874 | 10 |
| TS | 0.27 | 0.107 | 0.627 | 0.395 | 0.533 | 0.305 | 0.249 | 0.978 | 0.507 | 0.879 | 10 |
| FCS | 0.045 | 0.596 | 0.797 | 0.346 | 0.661 | 0.687 | 0.188 | 0.655 | 0.952 | 0.895 | 10 |

Here X are split into it's components.
X=(AD, KS, CM, KV, WU, H1, g1, TS, FCS)

| Nr | X's | G.S | kAD | cAD | c/k | Groups | Interpretation |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 000000011 | 2 | 0.8946 | 2.3653 | 2.64 | TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 2 | 000000101 | 2 | 0.5426 | 2.3653 | 4.36 | g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 3 | 000000110 | 2 | 0.5793 | 2.3653 | 4.08 | g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 4 | 000000111 | 3 | 0.6768 | 1.9672 | 2.91 | g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 5 | 000001001 | 2 | 1.1767 | 2.3653 | 2.01 | H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 6 | 000001010 | 2 | 0.7073 | 2.3653 | 3.34 | H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 7 | 000001011 | 3 | 0.9044 | 1.9672 | 2.18 | H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 8 | 000001100 | 2 | 1.6960 | 2.3653 | 1.39 | H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 9 | 000001101 | 3 | 1.1149 | 1.9672 | 1.76 | H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 10 | 000001110 | 3 | 0.9726 | 1.9672 | 2.02 | H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 11 | 000001111 | 4 | 0.9136 | 1.7831 | 1.95 | H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 12 | 000010001 | 2 | 1.0046 | 2.3653 | 2.35 | WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 13 | 000010010 | 2 | 0.6654 | 2.3653 | 3.55 | WU, TS | Cannot be rejected that the groups were selected from identical populations. |


| 14 | 000010011 | 3 | 0.8476 | 1.9672 | 2.32 | WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 000010100 | 2 | 0.4233 | 2.3653 | 5.59 | WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 16 | 000010101 | 3 | 0.6289 | 1.9672 | 3.13 | WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 17 | 000010110 | 3 | 0.5246 | 1.9672 | 3.75 | WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 18 | 000010111 | 4 | 0.6628 | 1.7831 | 2.69 | WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 19 | 000011000 | 2 | 1.0621 | 2.3653 | 2.23 | WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 20 | 000011001 | 3 | 1.1048 | 1.9672 | 1.78 | WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 21 | 000011010 | 3 | 0.8378 | 1.9672 | 2.35 | WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 22 | 000011011 | 4 | 0.9223 | 1.7831 | 1.93 | WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 23 | 000011100 | 3 | 0.9940 | 1.9672 | 1.98 | WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 24 | 000011101 | 4 | 0.9405 | 1.7831 | 1.90 | WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 25 | 000011110 | 4 | 0.8097 | 1.7831 | 2.20 | WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 26 | 000011111 | 5 | 0.8432 | 1.6727 | 1.98 | WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 27 | 000100001 | 2 | 0.7643 | 2.3653 | 3.09 | KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 28 | 000100010 | 2 | 0.6654 | 2.3653 | 3.55 | KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 29 | 000100011 | 3 | 0.7586 | 1.9672 | 2.59 | KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 30 | 000100100 | 2 | 0.3981 | 2.3653 | 5.94 | KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 31 | 000100101 | 3 | 0.5486 | 1.9672 | 3.59 | KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 32 | 000100110 | 3 | 0.5166 | 1.9672 | 3.81 | KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 33 | 000100111 | 4 | 0.6193 | 1.7831 | 2.88 | KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 34 | 000101000 | 2 | 0.8991 | 2.3653 | 2.63 | KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 35 | 000101001 | 3 | 0.9436 | 1.9672 | 2.08 | KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 36 | 000101010 | 3 | 0.7841 | 1.9672 | 2.51 | KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 37 | 000101011 | 4 | 0.8402 | 1.7831 | 2.12 | KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 38 | 000101100 | 3 | 0.9327 | 1.9672 | 2.11 | KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |


| 39 | 000101101 | 4 | 0.8659 | 1.7831 | 2.06 | KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40 | 000101110 | 4 | 0.7791 | 1.7831 | 2.29 | KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 41 | 000101111 | 5 | 0.7970 | 1.6727 | 2.10 | KV, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 42 | 000110000 | 2 | 0.2655 | 2.3653 | 8.91 | KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 43 | 000110001 | 3 | 0.6977 | 1.9672 | 2.82 | KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 44 | 000110010 | 3 | 0.5244 | 1.9672 | 3.75 | KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 45 | 000110011 | 4 | 0.7003 | 1.7831 | 2.55 | KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 46 | 000110100 | 3 | 0.3802 | 1.9672 | 5.17 | KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 47 | 000110101 | 4 | 0.5564 | 1.7831 | 3.20 | KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 48 | 000110110 | 4 | 0.4747 | 1.7831 | 3.76 | KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 49 | 000110111 | 5 | 0.5987 | 1.6727 | 2.79 | KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 50 | 000111000 | 3 | 0.6771 | 1.9672 | 2.91 | KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 51 | 000111001 | 4 | 0.8591 | 1.7831 | 2.08 | KV, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 52 | 000111010 | 4 | 0.6987 | 1.7831 | 2.55 | KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 53 | 000111011 | 5 | 0.7991 | 1.6727 | 2.09 | KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 54 | 000111100 | 4 | 0.7361 | 1.7831 | 2.42 | KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 55 | 000111101 | 5 | 0.7829 | 1.6727 | 2.14 | KV, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 56 | 000111110 | 5 | 0.6884 | 1.6727 | 2.43 | KV, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 57 | 000111111 | 6 | 0.7471 | 1.5976 | 2.14 | KV, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 58 | 001000001 | 2 | 0.3497 | 2.3653 | 6.76 | CM, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 59 | 001000010 | 2 | 1.0316 | 2.3653 | 2.29 | CM, TS | Cannot be rejected that the groups were selected from identical populations. |
| 60 | 001000011 | 3 | 0.7386 | 1.9672 | 2.66 | CM, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 61 | 001000100 | 2 | 1.4738 | 2.3653 | 1.60 | CM, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 62 | 001000101 | 3 | 0.7847 | 1.9672 | 2.51 | CM, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 63 | 001000110 | 3 | 1.0166 | 1.9672 | 1.94 | CM, g1, TS | Cannot be rejected that the groups were selected from identical populations. |


| 64 | 001000111 | 4 | 0.8023 | 1.7831 | 2.22 | CM, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 65 | 001001000 | 2 | 0.8008 | 2.3653 | 2.95 | CM, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 66 | 001001001 | 3 | 0.7663 | 1.9672 | 2.57 | CM, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 67 | 001001010 | 3 | 0.8677 | 1.9672 | 2.27 | CM, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 68 | 001001011 | 4 | 0.8086 | 1.7831 | 2.21 | CM, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 69 | 001001100 | 3 | 1.4526 | 1.9672 | 1.35 | CM, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 70 | 001001101 | 4 | 1.0341 | 1.7831 | 1.72 | CM, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 71 | 001001110 | 4 | 1.0851 | 1.7831 | 1.64 | CM, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 72 | 001001111 | 5 | 0.9287 | 1.6727 | 1.80 | CM, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 73 | 001010000 | 2 | 1.5974 | 2.3653 | 1.48 | CM, WU | Cannot be rejected that the groups were selected from identical populations. |
| 74 | 001010001 | 3 | 0.9655 | 1.9672 | 2.04 | CM, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 75 | 001010010 | 3 | 1.0875 | 1.9672 | 1.81 | CM, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 76 | 001010011 | 4 | 0.9048 | 1.7831 | 1.97 | CM, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 77 | 001010100 | 3 | 1.0572 | 1.9672 | 1.86 | CM, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 78 | 001010101 | 4 | 0.8393 | 1.7831 | 2.12 | CM, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 79 | 001010110 | 4 | 0.8992 | 1.7831 | 1.98 | CM, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 80 | 001010111 | 5 | 0.8146 | 1.6727 | 2.05 | CM, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 81 | 001011000 | 3 | 1.2735 | 1.9672 | 1.54 | CM, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 82 | 001011001 | 4 | 1.0277 | 1.7831 | 1.73 | CM, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 83 | 001011010 | 4 | 1.0265 | 1.7831 | 1.74 | CM, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 84 | 001011011 | 5 | 0.9375 | 1.6727 | 1.78 | CM, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 85 | 001011100 | 4 | 1.1571 | 1.7831 | 1.54 | CM, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 86 | 001011101 | 5 | 0.9889 | 1.6727 | 1.69 | CM, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 87 | 001011110 | 5 | 0.9842 | 1.6727 | 1.70 | CM, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 88 | 001011111 | 6 | 0.9117 | 1.5976 | 1.75 | CM, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 89 | 001100000 | 2 | 1.2600 | 2.3653 | 1.88 | CM, KV | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 90 | 001100001 | 3 | 0.7504 | 1.9672 | 2.62 | CM, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 91 | 001100010 | 3 | 0.9784 | 1.9672 | 2.01 | CM, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 92 | 001100011 | 4 | 0.7965 | 1.7831 | 2.24 | CM, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 93 | 001100100 | 3 | 0.9423 | 1.9672 | 2.09 | CM, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 94 | 001100101 | 4 | 0.7384 | 1.7831 | 2.41 | CM, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 95 | 001100110 | 4 | 0.8421 | 1.7831 | 2.12 | CM, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 96 | 001100111 | 5 | 0.7529 | 1.6727 | 2.22 | CM, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 97 | 001101000 | 3 | 1.1032 | 1.9672 | 1.78 | CM, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 98 | 001101001 | 4 | 0.8788 | 1.7831 | 2.03 | CM, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 99 | 001101010 | 4 | 0.9437 | 1.7831 | 1.89 | CM, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 100 | 001101011 | 5 | 0.8494 | 1.6727 | 1.97 | CM, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 101 | 001101100 | 4 | 1.0714 | 1.7831 | 1.66 | CM, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 102 | 001101101 | 5 | 0.9070 | 1.6727 | 1.84 | CM, KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 103 | 001101110 | 5 | 0.9333 | 1.6727 | 1.79 | CM, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 104 | 001101111 | 6 | 0.8567 | 1.5976 | 1.86 | CM, KV, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 105 | 001110000 | 3 | 0.9963 | 1.9672 | 1.97 | CM, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 106 | 001110001 | 4 | 0.8364 | 1.7831 | 2.13 | CM, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 107 | 001110010 | 4 | 0.8735 | 1.7831 | 2.04 | CM, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 108 | 001110011 | 5 | 0.8153 | 1.6727 | 2.05 | CM, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 109 | 001110100 | 4 | 0.8171 | 1.7831 | 2.18 | CM, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 110 | 001110101 | 5 | 0.7480 | 1.6727 | 2.24 | CM, KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 111 | 001110110 | 5 | 0.7698 | 1.6727 | 2.17 | CM, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 112 | 001110111 | 6 | 0.7449 | 1.5976 | 2.14 | $\mathrm{CM}, \mathrm{KV}, \mathrm{WU}, \mathrm{~g} 1, \mathrm{TS},$ FCS | Cannot be rejected that the groups were selected from identical populations. |
| 113 | 001111000 | 4 | 1.0020 | 1.7831 | 1.78 | CM, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |


| 114 | 001111001 | 5 | 0.9128 | 1.6727 | 1.83 | CM, KV, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 115 | 001111010 | 5 | 0.8984 | 1.6727 | 1.86 | CM, KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 116 | 001111011 | 6 | 0.8646 | 1.5976 | 1.85 | CM, KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 117 | 001111100 | 5 | 0.9405 | 1.6727 | 1.78 | CM, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 118 | 001111101 | 6 | 0.8731 | 1.5976 | 1.83 | $\begin{aligned} & \text { CM, KV, WU, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 119 | 001111110 | 6 | 0.8613 | 1.5976 | 1.85 | CM, KV, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 120 | 001111111 | 7 | 0.8333 | 1.5423 | 1.85 | $\begin{aligned} & \text { CM, KV, WU, H1, g1, } \\ & \text { TS, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 121 | 010000001 | 2 | 0.2591 | 2.3653 | 9.13 | KS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 122 | 010000010 | 2 | 0.9833 | 2.3653 | 2.41 | KS, TS | Cannot be rejected that the groups were selected from identical populations. |
| 123 | 010000011 | 3 | 0.7109 | 1.9672 | 2.77 | KS, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 124 | 010000100 | 2 | 0.9355 | 2.3653 | 2.53 | KS, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 125 | 010000101 | 3 | 0.5888 | 1.9672 | 3.34 | KS, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 126 | 010000110 | 3 | 0.8387 | 1.9672 | 2.35 | KS, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 127 | 010000111 | 4 | 0.7057 | 1.7831 | 2.53 | KS, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 128 | 010001000 | 2 | 1.3360 | 2.3653 | 1.77 | KS, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 129 | 010001001 | 3 | 0.8737 | 1.9672 | 2.25 | KS, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 130 | 010001010 | 3 | 0.9816 | 1.9672 | 2.00 | KS, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 131 | 010001011 | 4 | 0.8560 | 1.7831 | 2.08 | KS, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 132 | 010001100 | 3 | 1.3410 | 1.9672 | 1.47 | KS, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 133 | 010001101 | 4 | 0.9775 | 1.7831 | 1.82 | KS, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 134 | 010001110 | 4 | 1.0334 | 1.7831 | 1.73 | KS, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 135 | 010001111 | 5 | 0.8959 | 1.6727 | 1.87 | KS, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 136 | 010010000 | 2 | 1.7279 | 2.3653 | 1.37 | KS, WU | Cannot be rejected that the groups were selected from identical populations. |
| 137 | 010010001 | 3 | 0.9776 | 1.9672 | 2.01 | KS, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 138 | 010010010 | 3 | 1.1333 | 1.9672 | 1.74 | KS, WU, TS | Cannot be rejected that the groups were selected from identical populations. |


| 139 | 010010011 | 4 | 0.9138 | 1.7831 | 1.95 | KS, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 140 | 010010100 | 3 | 0.9650 | 1.9672 | 2.04 | KS, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 141 | 010010101 | 4 | 0.7777 | 1.7831 | 2.29 | KS, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 142 | 010010110 | 4 | 0.8547 | 1.7831 | 2.09 | KS, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 143 | 010010111 | 5 | 0.7790 | 1.6727 | 2.15 | KS, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 144 | 010011000 | 3 | 1.4615 | 1.9672 | 1.35 | KS, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 145 | 010011001 | 4 | 1.0987 | 1.7831 | 1.62 | KS, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 146 | 010011010 | 4 | 1.1124 | 1.7831 | 1.60 | KS, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 147 | 010011011 | 5 | 0.9789 | 1.6727 | 1.71 | KS, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 148 | 010011100 | 4 | 1.1645 | 1.7831 | 1.53 | KS, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 149 | 010011101 | 5 | 0.9831 | 1.6727 | 1.70 | KS, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 150 | 010011110 | 5 | 0.9876 | 1.6727 | 1.69 | KS, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 151 | 010011111 | 6 | 0.9078 | 1.5976 | 1.76 | KS, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 152 | 010100000 | 2 | 1.2145 | 2.3653 | 1.95 | KS, KV | Cannot be rejected that the groups were selected from identical populations. |
| 153 | 010100001 | 3 | 0.7207 | 1.9672 | 2.73 | KS, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 154 | 010100010 | 3 | 0.9569 | 1.9672 | 2.06 | KS, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 155 | 010100011 | 4 | 0.7802 | 1.7831 | 2.29 | KS, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 156 | 010100100 | 3 | 0.7959 | 1.9672 | 2.47 | KS, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 157 | 010100101 | 4 | 0.6539 | 1.7831 | 2.73 | KS, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 158 | 010100110 | 4 | 0.7673 | 1.7831 | 2.32 | KS, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 159 | 010100111 | 5 | 0.7017 | 1.6727 | 2.38 | KS, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 160 | 010101000 | 3 | 1.2125 | 1.9672 | 1.62 | KS, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 161 | 010101001 | 4 | 0.9237 | 1.7831 | 1.93 | KS, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 162 | 010101010 | 4 | 0.9881 | 1.7831 | 1.80 | KS, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 163 | 010101011 | 5 | 0.8729 | 1.6727 | 1.92 | KS, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 164 | 010101100 | 4 | 1.0454 | 1.7831 | 1.71 | KS, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 165 | 010101101 | 5 | 0.8849 | 1.6727 | 1.89 | KS, KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 166 | 010101110 | 5 | 0.9153 | 1.6727 | 1.83 | KS, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 167 | 010101111 | 6 | 0.8410 | 1.5976 | 1.90 | KS, KV, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 168 | 010110000 | 3 | 1.1037 | 1.9672 | 1.78 | KS, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 169 | 010110001 | 4 | 0.8648 | 1.7831 | 2.06 | KS, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 170 | 010110010 | 4 | 0.9174 | 1.7831 | 1.94 | KS, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 171 | 010110011 | 5 | 0.8306 | 1.6727 | 2.01 | KS, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 172 | 010110100 | 4 | 0.7956 | 1.7831 | 2.24 | KS, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 173 | 010110101 | 5 | 0.7235 | 1.6727 | 2.31 | KS, KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 174 | 010110110 | 5 | 0.7553 | 1.6727 | 2.21 | KS, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 175 | 010110111 | 6 | 0.7283 | 1.5976 | 2.19 | KS, KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 176 | 010111000 | 4 | 1.1328 | 1.7831 | 1.57 | KS, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 177 | 010111001 | 5 | 0.9701 | 1.6727 | 1.72 | KS, KV, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 178 | 010111010 | 5 | 0.9637 | 1.6727 | 1.74 | KS, KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 179 | 010111011 | 6 | 0.8993 | 1.5976 | 1.78 | KS, KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 180 | 010111100 | 5 | 0.9643 | 1.6727 | 1.73 | KS, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 181 | 010111101 | 6 | 0.8795 | 1.5976 | 1.82 | $\begin{aligned} & \text { KS, KV, WU, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 182 | 010111110 | 6 | 0.8737 | 1.5976 | 1.83 | KS, KV, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 183 | 010111111 | 7 | 0.8366 | 1.5423 | 1.84 | $\begin{aligned} & \text { KS, KV, WU, H1, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 184 | 011000000 | 2 | 0.4621 | 2.3653 | 5.12 | KS, CM | Cannot be rejected that the groups were selected from identical populations. |
| 185 | 011000001 | 3 | 0.3400 | 1.9672 | 5.79 | KS, CM, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 186 | 011000010 | 3 | 0.8104 | 1.9672 | 2.43 | KS, CM, TS | Cannot be rejected that the groups were selected from identical populations. |
| 187 | 011000011 | 4 | 0.6463 | 1.7831 | 2.76 | KS, CM, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 188 | 011000100 | 3 | 0.9983 | 1.9672 | 1.97 | KS, CM, g1 | Cannot be rejected that the groups were selected from identical populations. |


| 189 | 011000101 | 4 | 0.6832 | 1.7831 | 2.61 | KS, CM, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 190 | 011000110 | 4 | 0.9182 | 1.7831 | 1.94 | KS, CM, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 191 | 011000111 | 5 | 0.7520 | 1.6727 | 2.22 | KS, CM, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 192 | 011001000 | 3 | 0.8558 | 1.9672 | 2.30 | KS, CM, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 193 | 011001001 | 4 | 0.6949 | 1.7831 | 2.57 | KS, CM, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 194 | 011001010 | 4 | 0.8687 | 1.7831 | 2.05 | KS, CM, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 195 | 011001011 | 5 | 0.7695 | 1.6727 | 2.17 | KS, CM, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 196 | 011001100 | 4 | 1.1885 | 1.7831 | 1.50 | KS, CM, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 197 | 011001101 | 5 | 0.9187 | 1.6727 | 1.82 | KS, CM, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 198 | 011001110 | 5 | 1.0218 | 1.6727 | 1.64 | KS, CM, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 199 | 011001111 | 6 | 0.8814 | 1.5976 | 1.81 | KS, CM, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 200 | 011010000 | 3 | 1.2659 | 1.9672 | 1.55 | KS, CM, WU | Cannot be rejected that the groups were selected from identical populations. |
| 201 | 011010001 | 4 | 0.8859 | 1.7831 | 2.01 | KS, CM, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 202 | 011010010 | 4 | 1.0791 | 1.7831 | 1.65 | KS, CM, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 203 | 011010011 | 5 | 0.8850 | 1.6727 | 1.89 | KS, CM, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 204 | 011010100 | 4 | 1.0449 | 1.7831 | 1.71 | KS, CM, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 205 | 011010101 | 5 | 0.8390 | 1.6727 | 1.99 | KS, CM, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 206 | 011010110 | 5 | 0.9513 | 1.6727 | 1.76 | KS, CM, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 207 | 011010111 | 6 | 0.8337 | 1.5976 | 1.92 | $\begin{aligned} & \text { KS, CM, WU, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 208 | 011011000 | 4 | 1.2276 | 1.7831 | 1.45 | KS, CM, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 209 | 011011001 | 5 | 0.9867 | 1.6727 | 1.70 | KS, CM, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 210 | 011011010 | 5 | 1.0686 | 1.6727 | 1.57 | KS, CM, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 211 | 011011011 | 6 | 0.9374 | 1.5976 | 1.70 | KS, CM, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 212 | 011011100 | 5 | 1.1438 | 1.6727 | 1.46 | KS, CM, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 213 | 011011101 | 6 | 0.9720 | 1.5976 | 1.64 | $\begin{aligned} & \text { KS, CM, WU, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |


| 214 | 011011110 | 6 | 1.0217 | 1.5976 | 1.56 | KS, CM, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 215 | 011011111 | 7 | 0.9214 | 1.5423 | 1.67 | $\begin{aligned} & \text { KS, CM, WU, H1, g1, } \\ & \text { TS, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 216 | 011100000 | 3 | 0.9643 | 1.9672 | 2.04 | KS, CM, KV | Cannot be rejected that the groups were selected from identical populations. |
| 217 | 011100001 | 4 | 0.6842 | 1.7831 | 2.61 | KS, CM, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 218 | 011100010 | 4 | 0.9297 | 1.7831 | 1.92 | KS, CM, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 219 | 011100011 | 5 | 0.7637 | 1.6727 | 2.19 | KS, CM, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 220 | 011100100 | 4 | 0.9005 | 1.7831 | 1.98 | KS, CM, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 221 | 011100101 | 5 | 0.7252 | 1.6727 | 2.31 | KS, CM, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 222 | 011100110 | 5 | 0.8640 | 1.6727 | 1.94 | KS, CM, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 223 | 011100111 | 6 | 0.7568 | 1.5976 | 2.11 | KS, CM, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 224 | 011101000 | 4 | 1.0382 | 1.7831 | 1.72 | KS, CM, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 225 | 011101001 | 5 | 0.8380 | 1.6727 | 2.00 | KS, CM, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 226 | 011101010 | 5 | 0.9571 | 1.6727 | 1.75 | KS, CM, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 227 | 011101011 | 6 | 0.8392 | 1.5976 | 1.90 | KS, CM, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 228 | 011101100 | 5 | 1.0361 | 1.6727 | 1.61 | KS, CM, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 229 | 011101101 | 6 | 0.8800 | 1.5976 | 1.82 | KS, CM, KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 230 | 011101110 | 6 | 0.9500 | 1.5976 | 1.68 | KS, CM, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 231 | 011101111 | 7 | 0.8554 | 1.5423 | 1.80 | $\begin{aligned} & \text { KS, CM, KV, H1, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 232 | 011110000 | 4 | 1.0626 | 1.7831 | 1.68 | KS, CM, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 233 | 011110001 | 5 | 0.8602 | 1.6727 | 1.94 | KS, CM, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 234 | 011110010 | 5 | 0.9635 | 1.6727 | 1.74 | KS, CM, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 235 | 011110011 | 6 | 0.8495 | 1.5976 | 1.88 | KS, CM, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 236 | 011110100 | 5 | 0.9116 | 1.6727 | 1.83 | KS, CM, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 237 | 011110101 | 6 | 0.7960 | 1.5976 | 2.01 | $\begin{aligned} & \mathrm{KS}, \mathrm{CM}, \mathrm{KV}, \mathrm{WU}, \mathrm{~g} 1, \\ & \mathrm{FCS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 238 | 011110110 | 6 | 0.8632 | 1.5976 | 1.85 | KS, CM, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |


| 239 | 011110111 | 7 | 0.7931 | 1.5423 | 1.94 | $\begin{aligned} & \text { KS, CM, KV, WU, g1, } \\ & \text { TS, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 240 | 011111000 | 5 | 1.0847 | 1.6727 | 1.54 | KS, CM, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 241 | 011111001 | 6 | 0.9380 | 1.5976 | 1.70 | $\begin{aligned} & \text { KS, CM, KV, WU, H1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 242 | 011111010 | 6 | 0.9846 | 1.5976 | 1.62 | KS, CM, KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 243 | 011111011 | 7 | 0.8994 | 1.5423 | 1.71 | $\begin{aligned} & \text { KS, CM, KV, WU, H1, } \\ & \mathrm{TS}, \mathrm{FCS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 244 | 011111100 | 6 | 1.0055 | 1.5976 | 1.59 | $\begin{aligned} & \mathrm{KS}, \mathrm{CM}, \mathrm{KV}, \mathrm{WU}, \mathrm{H} 1, \\ & \mathrm{~g} 1 \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 245 | 011111101 | 7 | 0.9023 | 1.5423 | 1.71 | $\begin{aligned} & \text { KS, CM, KV, WU, H1, } \\ & \text { g1, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 246 | 011111110 | 7 | 0.9328 | 1.5423 | 1.65 | $\begin{aligned} & \mathrm{KS}, \mathrm{CM}, \mathrm{KV}, \mathrm{WU}, \mathrm{H} 1, \\ & \mathrm{~g} 1, \mathrm{TS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 247 | 011111111 | 8 | 0.8694 | 1.4996 | 1.72 | KS, CM, KV, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 248 | 100000001 | 2 | 0.5242 | 2.3653 | 4.51 | AD, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 249 | 100000010 | 2 | 0.9563 | 2.3653 | 2.47 | AD, TS | Cannot be rejected that the groups were selected from identical populations. |
| 250 | 100000011 | 3 | 0.7639 | 1.9672 | 2.58 | AD, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 251 | 100000100 | 2 | 1.5151 | 2.3653 | 1.56 | AD, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 252 | 100000101 | 3 | 0.8532 | 1.9672 | 2.31 | AD, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 253 | 100000110 | 3 | 0.9883 | 1.9672 | 1.99 | AD, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 254 | 100000111 | 4 | 0.8159 | 1.7831 | 2.19 | AD, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 255 | 100001000 | 2 | 0.7064 | 2.3653 | 3.35 | AD, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 256 | 100001001 | 3 | 0.8209 | 1.9672 | 2.40 | AD, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 257 | 100001010 | 3 | 0.8104 | 1.9672 | 2.43 | AD, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 258 | 100001011 | 4 | 0.8146 | 1.7831 | 2.19 | AD, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 259 | 100001100 | 3 | 1.4355 | 1.9672 | 1.37 | AD, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 260 | 100001101 | 4 | 1.0611 | 1.7831 | 1.68 | AD, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 261 | 100001110 | 4 | 1.0551 | 1.7831 | 1.69 | AD, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 262 | 100001111 | 5 | 0.9313 | 1.6727 | 1.80 | AD, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 263 | 100010000 | 2 | 1.3830 | 2.3653 | 1.71 | AD, WU | Cannot be rejected that the groups were selected from identical populations. |


| 264 | 100010001 | 3 | 0.9702 | 1.9672 | 2.03 | AD, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 265 | 100010010 | 3 | 0.9757 | 1.9672 | 2.02 | AD, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 266 | 100010011 | 4 | 0.8831 | 1.7831 | 2.02 | AD, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 267 | 100010100 | 3 | 1.0025 | 1.9672 | 1.96 | AD, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 268 | 100010101 | 4 | 0.8443 | 1.7831 | 2.11 | AD, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 269 | 100010110 | 4 | 0.8496 | 1.7831 | 2.10 | AD, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 270 | 100010111 | 5 | 0.8038 | 1.6727 | 2.08 | AD, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 271 | 100011000 | 3 | 1.1570 | 1.9672 | 1.70 | AD, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 272 | 100011001 | 4 | 1.0248 | 1.7831 | 1.74 | AD, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 273 | 100011010 | 4 | 0.9523 | 1.7831 | 1.87 | AD, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 274 | 100011011 | 5 | 0.9191 | 1.6727 | 1.82 | AD, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 275 | 100011100 | 4 | 1.1113 | 1.7831 | 1.60 | AD, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 276 | 100011101 | 5 | 0.9863 | 1.6727 | 1.70 | AD, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 277 | 100011110 | 5 | 0.9438 | 1.6727 | 1.77 | AD, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 278 | 100011111 | 6 | 0.9000 | 1.5976 | 1.78 | AD, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 279 | 100100000 | 2 | 1.1947 | 2.3653 | 1.98 | AD, KV | Cannot be rejected that the groups were selected from identical populations. |
| 280 | 100100001 | 3 | 0.8072 | 1.9672 | 2.44 | AD, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 281 | 100100010 | 3 | 0.9139 | 1.9672 | 2.15 | AD, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 282 | 100100011 | 4 | 0.7993 | 1.7831 | 2.23 | AD, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 283 | 100100100 | 3 | 0.9357 | 1.9672 | 2.10 | AD, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 284 | 100100101 | 4 | 0.7686 | 1.7831 | 2.32 | AD, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 285 | 100100110 | 4 | 0.8160 | 1.7831 | 2.19 | AD, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 286 | 100100111 | 5 | 0.7567 | 1.6727 | 2.21 | AD, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 287 | 100101000 | 3 | 1.0358 | 1.9672 | 1.90 | AD, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 288 | 100101001 | 4 | 0.9016 | 1.7831 | 1.98 | AD, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 289 | 100101010 | 4 | 0.8930 | 1.7831 | 2.00 | AD, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 290 | 100101011 | 5 | 0.8456 | 1.6727 | 1.98 | AD, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 291 | 100101100 | 4 | 1.0497 | 1.7831 | 1.70 | AD, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 292 | 100101101 | 5 | 0.9195 | 1.6727 | 1.82 | AD, KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 293 | 100101110 | 5 | 0.9070 | 1.6727 | 1.84 | AD, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 294 | 100101111 | 6 | 0.8548 | 1.5976 | 1.87 | AD, KV, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 295 | 100110000 | 3 | 0.9008 | 1.9672 | 2.18 | AD, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 296 | 100110001 | 4 | 0.8380 | 1.7831 | 2.13 | AD, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 297 | 100110010 | 4 | 0.8037 | 1.7831 | 2.22 | AD, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 298 | 100110011 | 5 | 0.7980 | 1.6727 | 2.10 | AD, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 299 | 100110100 | 4 | 0.7781 | 1.7831 | 2.29 | AD, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 300 | 100110101 | 5 | 0.7481 | 1.6727 | 2.24 | AD, KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 301 | 100110110 | 5 | 0.7327 | 1.6727 | 2.28 | AD, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 302 | 100110111 | 6 | 0.7348 | 1.5976 | 2.17 | AD, KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 303 | 100111000 | 4 | 0.9271 | 1.7831 | 1.92 | AD, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 304 | 100111001 | 5 | 0.9089 | 1.6727 | 1.84 | AD, KV, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 305 | 100111010 | 5 | 0.8440 | 1.6727 | 1.98 | AD, KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 306 | 100111011 | 6 | 0.8488 | 1.5976 | 1.88 | AD, KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 307 | 100111100 | 5 | 0.9048 | 1.6727 | 1.85 | AD, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 308 | 100111101 | 6 | 0.8688 | 1.5976 | 1.84 | $\begin{aligned} & \text { AD, KV, WU, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 309 | 100111110 | 6 | 0.8288 | 1.5976 | 1.93 | AD, KV, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 310 | 100111111 | 7 | 0.8224 | 1.5423 | 1.88 | $\begin{aligned} & \text { AD, KV, WU, H1, g1, } \\ & \text { TS, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 311 | 101000000 | 2 | 0.2825 | 2.3653 | 8.37 | AD, CM | Cannot be rejected that the groups were selected from identical populations. |
| 312 | 101000001 | 3 | 0.3989 | 1.9672 | 4.93 | AD, CM, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 313 | 101000010 | 3 | 0.7821 | 1.9672 | 2.52 | AD, CM, TS | Cannot be rejected that the groups were selected from identical populations. |


| 314 | 101000011 | 4 | 0.6635 | 1.7831 | 2.69 | AD, CM, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 315 | 101000100 | 3 | 1.2331 | 1.9672 | 1.60 | AD, CM, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 316 | 101000101 | 4 | 0.8267 | 1.7831 | 2.16 | AD, CM, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 317 | 101000110 | 4 | 1.0106 | 1.7831 | 1.76 | AD, CM, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 318 | 101000111 | 5 | 0.8242 | 1.6727 | 2.03 | AD, CM, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 319 | 101001000 | 3 | 0.5803 | 1.9672 | 3.39 | AD, CM, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 320 | 101001001 | 4 | 0.6459 | 1.7831 | 2.76 | AD, CM, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 321 | 101001010 | 4 | 0.7706 | 1.7831 | 2.31 | AD, CM, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 322 | 101001011 | 5 | 0.7360 | 1.6727 | 2.27 | AD, CM, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 323 | 101001100 | 4 | 1.2576 | 1.7831 | 1.42 | AD, CM, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 324 | 101001101 | 5 | 0.9741 | 1.6727 | 1.72 | AD, CM, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 325 | 101001110 | 5 | 1.0457 | 1.6727 | 1.60 | AD, CM, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 326 | 101001111 | 6 | 0.9083 | 1.5976 | 1.76 | AD, CM, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 327 | 101010000 | 3 | 1.1589 | 1.9672 | 1.70 | AD, CM, WU | Cannot be rejected that the groups were selected from identical populations. |
| 328 | 101010001 | 4 | 0.8763 | 1.7831 | 2.03 | AD, CM, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 329 | 101010010 | 4 | 1.0055 | 1.7831 | 1.77 | AD, CM, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 330 | 101010011 | 5 | 0.8657 | 1.6727 | 1.93 | AD, CM, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 331 | 101010100 | 4 | 1.0760 | 1.7831 | 1.66 | AD, CM, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 332 | 101010101 | 5 | 0.8827 | 1.6727 | 1.89 | AD, CM, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 333 | 101010110 | 5 | 0.9562 | 1.6727 | 1.75 | AD, CM, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 334 | 101010111 | 6 | 0.8534 | 1.5976 | 1.87 | AD, CM, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 335 | 101011000 | 4 | 1.0917 | 1.7831 | 1.63 | AD, CM, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 336 | 101011001 | 5 | 0.9383 | 1.6727 | 1.78 | AD, CM, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 337 | 101011010 | 5 | 0.9782 | 1.6727 | 1.71 | AD, CM, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 338 | 101011011 | 6 | 0.8967 | 1.5976 | 1.78 | AD, CM, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 339 | 101011100 | 5 | 1.1231 | 1.6727 | 1.49 | AD, CM, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 340 | 101011101 | 6 | 0.9770 | 1.5976 | 1.64 | AD, CM, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 341 | 101011110 | 6 | 0.9993 | 1.5976 | 1.60 | AD, CM, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 342 | 101011111 | 7 | 0.9182 | 1.5423 | 1.68 | AD, CM, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 343 | 101100000 | 3 | 0.9831 | 1.9672 | 2.00 | AD, CM, KV | Cannot be rejected that the groups were selected from identical populations. |
| 344 | 101100001 | 4 | 0.7261 | 1.7831 | 2.46 | AD, CM, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 345 | 101100010 | 4 | 0.9198 | 1.7831 | 1.94 | AD, CM, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 346 | 101100011 | 5 | 0.7766 | 1.6727 | 2.15 | AD, CM, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 347 | 101100100 | 4 | 0.9880 | 1.7831 | 1.80 | AD, CM, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 348 | 101100101 | 5 | 0.8000 | 1.6727 | 2.09 | AD, CM, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 349 | 101100110 | 5 | 0.9038 | 1.6727 | 1.85 | AD, CM, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 350 | 101100111 | 6 | 0.7978 | 1.5976 | 2.00 | AD, CM, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 351 | 101101000 | 4 | 0.9740 | 1.7831 | 1.83 | AD, CM, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 352 | 101101001 | 5 | 0.8230 | 1.6727 | 2.03 | AD, CM, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 353 | 101101010 | 5 | 0.9092 | 1.6727 | 1.84 | AD, CM, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 354 | 101101011 | 6 | 0.8216 | 1.5976 | 1.94 | AD, CM, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 355 | 101101100 | 5 | 1.0529 | 1.6727 | 1.59 | AD, CM, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 356 | 101101101 | 6 | 0.9073 | 1.5976 | 1.76 | $\begin{aligned} & \text { AD, CM, KV, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 357 | 101101110 | 6 | 0.9529 | 1.5976 | 1.68 | AD, CM, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 358 | 101101111 | 7 | 0.8685 | 1.5423 | 1.78 | $\begin{aligned} & \text { AD, CM, KV, H1, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 359 | 101110000 | 4 | 0.9793 | 1.7831 | 1.82 | AD, CM, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 360 | 101110001 | 5 | 0.8434 | 1.6727 | 1.98 | AD, CM, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 361 | 101110010 | 5 | 0.9038 | 1.6727 | 1.85 | AD, CM, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 362 | 101110011 | 6 | 0.8293 | 1.5976 | 1.93 | AD, CM, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 363 | 101110100 | 5 | 0.9107 | 1.6727 | 1.84 | AD, CM, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |


| 364 | 101110101 | 6 | 0.8154 | 1.5976 | 1.96 | AD, CM, KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 365 | 101110110 | 6 | 0.8546 | 1.5976 | 1.87 | AD, CM, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 366 | 101110111 | 7 | 0.8004 | 1.5423 | 1.93 | AD, CM, KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 367 | 101111000 | 5 | 0.9833 | 1.6727 | 1.70 | AD, CM, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 368 | 101111001 | 6 | 0.8978 | 1.5976 | 1.78 | AD, CM, KV, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 369 | 101111010 | 6 | 0.9134 | 1.5976 | 1.75 | $\begin{aligned} & \text { AD, CM, KV, WU, H1, } \\ & \text { TS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 370 | 101111011 | 7 | 0.8649 | 1.5423 | 1.78 | AD, CM, KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 371 | 101111100 | 6 | 0.9758 | 1.5976 | 1.64 | AD, CM, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 372 | 101111101 | 7 | 0.8975 | 1.5423 | 1.72 | AD, CM, KV, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 373 | 101111110 | 7 | 0.9069 | 1.5423 | 1.70 | AD, CM, KV, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 374 | 101111111 | 8 | 0.8612 | 1.4996 | 1.74 | AD, CM, KV, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 375 | 110000000 | 2 | 0.4570 | 2.3653 | 5.18 | AD, KS | Cannot be rejected that the groups were selected from identical populations. |
| 376 | 110000001 | 3 | 0.3930 | 1.9672 | 5.01 | AD, KS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 377 | 110000010 | 3 | 0.7765 | 1.9672 | 2.53 | AD, KS, TS | Cannot be rejected that the groups were selected from identical populations. |
| 378 | 110000011 | 4 | 0.6554 | 1.7831 | 2.72 | AD, KS, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 379 | 110000100 | 3 | 1.0110 | 1.9672 | 1.95 | AD, KS, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 380 | 110000101 | 4 | 0.7164 | 1.7831 | 2.49 | AD, KS, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 381 | 110000110 | 4 | 0.9038 | 1.7831 | 1.97 | AD, KS, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 382 | 110000111 | 5 | 0.7595 | 1.6727 | 2.20 | AD, KS, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 383 | 110001000 | 3 | 0.8382 | 1.9672 | 2.35 | AD, KS, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 384 | 110001001 | 4 | 0.7190 | 1.7831 | 2.48 | AD, KS, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 385 | 110001010 | 4 | 0.8413 | 1.7831 | 2.12 | AD, KS, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 386 | 110001011 | 5 | 0.7717 | 1.6727 | 2.17 | AD, KS, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 387 | 110001100 | 4 | 1.1840 | 1.7831 | 1.51 | AD, KS, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 388 | 110001101 | 5 | 0.9348 | 1.6727 | 1.79 | AD, KS, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 389 | 110001110 | 5 | 1.0059 | 1.6727 | 1.66 | AD, KS, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 390 | 110001111 | 6 | 0.8832 | 1.5976 | 1.81 | AD, KS, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 391 | 110010000 | 3 | 1.1898 | 1.9672 | 1.65 | AD, KS, WU | Cannot be rejected that the groups were selected from identical populations. |
| 392 | 110010001 | 4 | 0.8806 | 1.7831 | 2.02 | AD, KS, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 393 | 110010010 | 4 | 1.0220 | 1.7831 | 1.74 | AD, KS, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 394 | 110010011 | 5 | 0.8694 | 1.6727 | 1.92 | AD, KS, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 395 | 110010100 | 4 | 1.0159 | 1.7831 | 1.76 | AD, KS, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 396 | 110010101 | 5 | 0.8398 | 1.6727 | 1.99 | AD, KS, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 397 | 110010110 | 5 | 0.9211 | 1.6727 | 1.82 | AD, KS, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 398 | 110010111 | 6 | 0.8255 | 1.5976 | 1.94 | AD, KS, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 399 | 110011000 | 4 | 1.1794 | 1.7831 | 1.51 | AD, KS, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 400 | 110011001 | 5 | 0.9812 | 1.6727 | 1.70 | AD, KS, WU, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 401 | 110011010 | 5 | 1.0272 | 1.6727 | 1.63 | AD, KS, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 402 | 110011011 | 6 | 0.9242 | 1.5976 | 1.73 | AD, KS, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 403 | 110011100 | 5 | 1.1190 | 1.6727 | 1.49 | AD, KS, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 404 | 110011101 | 6 | 0.9696 | 1.5976 | 1.65 | AD, KS, WU, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 405 | 110011110 | 6 | 0.9962 | 1.5976 | 1.60 | AD, KS, WU, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 406 | 110011111 | 7 | 0.9129 | 1.5423 | 1.69 | AD, KS, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 407 | 110100000 | 3 | 0.9465 | 1.9672 | 2.08 | AD, KS, KV | Cannot be rejected that the groups were selected from identical populations. |
| 408 | 110100001 | 4 | 0.7080 | 1.7831 | 2.52 | AD, KS, KV, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 409 | 110100010 | 4 | 0.8991 | 1.7831 | 1.98 | AD, KS, KV, TS | Cannot be rejected that the groups were selected from identical populations. |
| 410 | 110100011 | 5 | 0.7642 | 1.6727 | 2.19 | AD, KS, KV, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 411 | 110100100 | 4 | 0.8986 | 1.7831 | 1.98 | AD, KS, KV, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 412 | 110100101 | 5 | 0.7425 | 1.6727 | 2.25 | AD, KS, KV, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 413 | 110100110 | 5 | 0.8493 | 1.6727 | 1.97 | AD, KS, KV, g1, TS | Cannot be rejected that the groups were selected from identical populations. |


| 414 | 110100111 | 6 | 0.7591 | 1.5976 | 2.10 | AD, KS, KV, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 415 | 110101000 | 4 | 1.0185 | 1.7831 | 1.75 | AD, KS, KV, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 416 | 110101001 | 5 | 0.8497 | 1.6727 | 1.97 | AD, KS, KV, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 417 | 110101010 | 5 | 0.9314 | 1.6727 | 1.80 | AD, KS, KV, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 418 | 110101011 | 6 | 0.8367 | 1.5976 | 1.91 | AD, KS, KV, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 419 | 110101100 | 5 | 1.0275 | 1.6727 | 1.63 | AD, KS, KV, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 420 | 110101101 | 6 | 0.8885 | 1.5976 | 1.80 | AD, KS, KV, H1, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 421 | 110101110 | 6 | 0.9348 | 1.5976 | 1.71 | AD, KS, KV, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 422 | 110101111 | 7 | 0.8544 | 1.5423 | 1.81 | $\begin{aligned} & \text { AD, KS, KV, H1, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 423 | 110110000 | 4 | 1.0173 | 1.7831 | 1.75 | AD, KS, KV, WU | Cannot be rejected that the groups were selected from identical populations. |
| 424 | 110110001 | 5 | 0.8559 | 1.6727 | 1.95 | AD, KS, KV, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 425 | 110110010 | 5 | 0.9229 | 1.6727 | 1.81 | AD, KS, KV, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 426 | 110110011 | 6 | 0.8366 | 1.5976 | 1.91 | AD, KS, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 427 | 110110100 | 5 | 0.8891 | 1.6727 | 1.88 | AD, KS, KV, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 428 | 110110101 | 6 | 0.7947 | 1.5976 | 2.01 | $\begin{aligned} & \text { AD, KS, KV, WU, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 429 | 110110110 | 6 | 0.8391 | 1.5976 | 1.90 | AD, KS, KV, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 430 | 110110111 | 7 | 0.7853 | 1.5423 | 1.96 | AD, KS, KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 431 | 110111000 | 5 | 1.0501 | 1.6727 | 1.59 | AD, KS, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 432 | 110111001 | 6 | 0.9329 | 1.5976 | 1.71 | $\begin{aligned} & \text { AD, KS, KV, WU, H1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 433 | 110111010 | 6 | 0.9521 | 1.5976 | 1.68 | AD, KS, KV, WU, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 434 | 110111011 | 7 | 0.8879 | 1.5423 | 1.74 | $\begin{aligned} & \text { AD, KS, KV, WU, H1, } \\ & \text { TS, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 435 | 110111100 | 6 | 0.9850 | 1.5976 | 1.62 | AD, KS, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 436 | 110111101 | 7 | 0.8990 | 1.5423 | 1.72 | $\begin{aligned} & \text { AD, KS, KV, WU, H1, } \\ & \text { g1, FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 437 | 110111110 | 7 | 0.9115 | 1.5423 | 1.69 | $\begin{aligned} & \text { AD, KS, KV, WU, H1, } \\ & \text { g1, TS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 438 | 110111111 | 8 | 0.8614 | 1.4996 | 1.74 | AD, KS, KV, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |


| 439 | 111000000 | 3 | 0.4171 | 1.9672 | 4.72 | AD, KS, CM | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 440 | 111000001 | 4 | 0.3802 | 1.7831 | 4.69 | AD, KS, CM, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 441 | 111000010 | 4 | 0.6905 | 1.7831 | 2.58 | AD, KS, CM, TS | Cannot be rejected that the groups were selected from identical populations. |
| 442 | 111000011 | 5 | 0.6043 | 1.6727 | 2.77 | AD, KS, CM, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 443 | 111000100 | 4 | 0.9474 | 1.7831 | 1.88 | AD, KS, CM, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 444 | 111000101 | 5 | 0.7164 | 1.6727 | 2.33 | AD, KS, CM, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 445 | 111000110 | 5 | 0.8979 | 1.6727 | 1.86 | AD, KS, CM, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 446 | 111000111 | 6 | 0.7601 | 1.5976 | 2.10 | AD, KS, CM, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 447 | 111001000 | 4 | 0.6768 | 1.7831 | 2.63 | AD, KS, CM, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 448 | 111001001 | 5 | 0.6177 | 1.6727 | 2.71 | AD, KS, CM, H1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 449 | 111001010 | 5 | 0.7651 | 1.6727 | 2.19 | AD, KS, CM, H1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 450 | 111001011 | 6 | 0.7077 | 1.5976 | 2.26 | AD, KS, CM, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 451 | 111001100 | 5 | 1.0735 | 1.6727 | 1.56 | AD, KS, CM, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 452 | 111001101 | 6 | 0.8769 | 1.5976 | 1.82 | $\begin{aligned} & \text { AD, KS, CM, H1, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 453 | 111001110 | 6 | 0.9723 | 1.5976 | 1.64 | AD, KS, CM, H1, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 454 | 111001111 | 7 | 0.8567 | 1.5423 | 1.80 | $\begin{aligned} & \text { AD, KS, CM, H1, g1, TS, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 455 | 111010000 | 4 | 1.0210 | 1.7831 | 1.75 | AD, KS, CM, WU | Cannot be rejected that the groups were selected from identical populations. |
| 456 | 111010001 | 5 | 0.8105 | 1.6727 | 2.06 | AD, KS, CM, WU, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 457 | 111010010 | 5 | 0.9687 | 1.6727 | 1.73 | AD, KS, CM, WU, TS | Cannot be rejected that the groups were selected from identical populations. |
| 458 | 111010011 | 6 | 0.8340 | 1.5976 | 1.92 | AD, KS, CM, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 459 | 111010100 | 5 | 1.0092 | 1.6727 | 1.66 | AD, KS, CM, WU, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 460 | 111010101 | 6 | 0.8458 | 1.5976 | 1.89 | $\begin{aligned} & \text { AD, KS, CM, WU, g1, } \\ & \text { FCS } \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 461 | 111010110 | 6 | 0.9462 | 1.5976 | 1.69 | AD, KS, CM, WU, g1, TS | Cannot be rejected that the groups were selected from identical populations. |
| 462 | 111010111 | 7 | 0.8406 | 1.5423 | 1.83 | $\begin{aligned} & \text { AD, KS, CM, WU, g1, } \\ & \mathrm{TS}, \mathrm{FCS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 463 | 111011000 | 5 | 1.0507 | 1.6727 | 1.59 | AD, KS, CM, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |

$\left.\begin{array}{|l|l|l|l|l|l|l|l|l|}\hline 464 & 111011001 & 6 & 0.8992 & 1.5976 & 1.78 & & \text { AD, KS, CM, WU, H1, } & \begin{array}{l}\text { FCS }\end{array} \\ \text { selected from identical populations. }\end{array}\right]$

| 489 | 111110010 | 6 | 0.9260 | 1.5976 | 1.73 | $A D, K S, C M, K V, W U$, TS | Cannot be rejected that the groups were selected from identical populations. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 490 | 111110011 | 7 | 0.8322 | 1.5423 | 1.85 | AD, KS, CM, KV, WU, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 491 | 111110100 | 6 | 0.9244 | 1.5976 | 1.73 | $\begin{aligned} & \mathrm{AD}, \mathrm{KS}, \mathrm{CM}, \mathrm{KV}, \mathrm{WU}, \\ & \mathrm{~g} 1 \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 492 | 111110101 | 7 | 0.8193 | 1.5423 | 1.88 | AD, KS, CM, KV, WU, g1, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 493 | 111110110 | 7 | 0.8853 | 1.5423 | 1.74 | $\begin{aligned} & \text { AD, KS, CM, KV, WU, } \\ & \mathrm{g} 1, \mathrm{TS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 494 | 111110111 | 8 | 0.8141 | 1.4996 | 1.84 | AD, KS, CM, KV, WU, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 495 | 111111000 | 6 | 1.0046 | 1.5976 | 1.59 | AD, KS, CM, KV, WU, H1 | Cannot be rejected that the groups were selected from identical populations. |
| 496 | 111111001 | 7 | 0.8957 | 1.5423 | 1.72 | $\begin{aligned} & \text { AD, KS, CM, KV, WU, } \\ & \mathrm{H} 1, \mathrm{FCS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 497 | 111111010 | 7 | 0.9477 | 1.5423 | 1.63 | $\begin{aligned} & \text { AD, KS, CM, KV, WU, } \\ & \mathrm{H} 1, \mathrm{TS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 498 | 111111011 | 8 | 0.8750 | 1.4996 | 1.71 | AD, KS, CM, KV, WU, H1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |
| 499 | 111111100 | 7 | 0.9906 | 1.5423 | 1.56 | AD, KS, CM, KV, WU, H1, g1 | Cannot be rejected that the groups were selected from identical populations. |
| 500 | 111111101 | 8 | 0.8991 | 1.4996 | 1.67 | $\begin{aligned} & \text { AD, KS, CM, KV, WU, } \\ & \mathrm{H} 1, \mathrm{~g} 1, \mathrm{FCS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 501 | 111111110 | 8 | 0.9354 | 1.4996 | 1.60 | $\begin{aligned} & \text { AD, KS, CM, KV, WU, } \\ & \mathrm{H} 1, \mathrm{~g} 1, \mathrm{TS} \end{aligned}$ | Cannot be rejected that the groups were selected from identical populations. |
| 502 | 111111111 | 9 | 0.8731 | 1.4653 | 1.68 | AD, KS, CM, KV, WU, H1, g1, TS, FCS | Cannot be rejected that the groups were selected from identical populations. |

Algorithm:

- Let ( $\mathrm{X}_{\mathrm{i}, \mathrm{j}} ; \mathrm{i}=1 . . \mathrm{k}$ ) be k groups (samples) of independent observations; let ( $\mathrm{n}_{\mathrm{i}}$; $\mathrm{i}=1 . . \mathrm{k}$ ) be the sizes of the samples;
- Let $\mathrm{n}=\mathrm{S}\left(\mathrm{n}_{\mathrm{i}} ; \mathrm{i}=1 . . \mathrm{k}\right)$ be the total number of observations;
- Let dn be the number of distinct values from ( $\mathrm{X}_{\mathrm{i}, \mathrm{j}}$ ); note that dn is less (tied observations) or equal (no tied observations) to $n$;
- Let ( $\mathrm{z}_{\mathrm{j}} ; \mathrm{j}=1 . . \mathrm{dn}$ ) be the distinct values from ( $\mathrm{X}_{\mathrm{i}, \mathrm{j}}$ ); let ( $\mathrm{h}_{\mathrm{j}} ; \mathrm{j}=1 . . \mathrm{dn}$ ) be numbers of ties corresponding to ( $\mathrm{z}_{\mathrm{j}}$; $j=1 . . d n$ ) from ( $X_{i, j}$ );
- Let $H_{j}=S\left(h_{m} ; m=1 . .(j-1)\right)+h_{j} / 2$; let $F_{i, j}$ be the number of values from $i$-th group similarly with $H$;
- kAD statistic is:

```
- kAD =S(S(Vi,j; j=1..dn)/n; i=1..k)*(n-1)/n2}/(k-1)
- V Vi,j = hi**(n* Fi,j-niH}\mp@subsup{H}{j}{}\mp@subsup{)}{}{2}/(\mp@subsup{H}{j}{*}*(n-\mp@subsup{H}{j}{})-n*\mp@subsup{h}{j}{}/4)
```

- cAD critical value ( $5 \%$ significance level) is

```
- \(\quad c A D=1+s_{n}{ }^{*}\left(1.645+0.678^{*}(k-1)^{-0.5}-0.362 *(k-1)^{-1}\right)\),
- \(s_{n}{ }^{2}=2^{*}\left(a^{*} n^{3}+b^{*} n^{2}+c^{*} n+d\right)^{*}(n-1)^{-1 *}(n-2)^{-1}(n-3)^{-1}(k-1)^{-2}\),
- \(a=\left(2^{*} g-3\right)^{*}(k-1)+\left(5-3^{*} g\right)^{*} w\),
- \(\mathrm{b}=(\mathrm{g}-2)^{*} \mathrm{k}^{2}+4^{*} \mathrm{t} * \mathrm{k}+(\mathrm{g}-7 * \mathrm{t}-2)^{*} \mathrm{w}-4^{*} \mathrm{t}+2^{*} \mathrm{~g}-3\),
- \(\mathrm{c}=\left(3^{*} \mathrm{t}+\mathrm{g}-1\right)^{*} \mathrm{k}^{2}+\left(2^{*} \mathrm{t}-2^{*} \mathrm{~g}+3\right)^{*} \mathrm{k}+(\mathrm{t}-3)^{*} \mathrm{w}+2^{*} \mathrm{t}\),
- \(d=(t+3) * k^{2}-2 * t * k\),
- \(w=S\left(n_{i}^{-1} ; i=1 . . k\right)\),
- \(t=S\left(i^{-1} ; i=1 . .(n-1)\right)\),
- \(g=S\left(S\left((n-i)^{-1} j^{-1} ; j=(i+1) . .(n-1)\right) ; i=1 . .(n-2)\right)\);
```

- If cAD < kAD Then (with a $5 \%$ risk being in error) "The groups were drawn from different populations";
- Else the hypothesis that whe groups were selected from identical populations is not rejected and the data can be considered unstructured with respect of the random fixed effect in question.

