|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (DE is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 3.23303E-05 | 3.23308E-05 | 3.23308E-05 | 3.23303E-05 |
| WW | Friedman Aligned | 3.09062E-10 | 8.13039E-10 | 7.96436E-10 | 8.13039E-10 |
| WW | Quade | 7.59275E-01 | 1.0 | 1.0 | 7.97323E-01 |
| CWOA | Friedman | 1.22067E-04 | 2.25367E-04 | 2.25367E-04 | 2.25343E-04 |
| CWOA | Friedman Aligned | 3.09062E-10 | 7.84543E-10 | 7.65346E-10 | 7.84543E-10 |
| CWOA | Quade | 7.59275E-01 | 1.0 | 1.0 | 7.97323E-01 |
| NNA | Friedman | 1.53477E-04 | 3.89619E-04 | 3.89619E-04 | 3.89550E-04 |
| NNA | Friedman Aligned | 3.09062E-10 | 8.13039E-10 | 7.74680E-10 | 8.13039E-10 |
| NNA | Quade | 7.59275E-01 | 1.0 | 1.0 | 7.81433E-01 |
| ISCA | Friedman | 1.56918E-04 | 4.82851E-04 | 4.82851E-04 | 4.82746E-04 |
| ISCA | Friedman Aligned | 3.09062E-10 | 8.13039E-10 | 7.65346E-10 | 8.13039E-10 |
| ISCA | Quade | 7.59275E-01 | 1.0 | 1.0 | 7.59275E-01 |
| GOTLBO | Friedman | 2.31597E-03 | 8.02254E-03 | 8.02254E-03 | 7.99400E-03 |
| GOTLBO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| GOTLBO | Quade | 7.59275E-01 | 1.0 | 1.0 | 9.45886E-01 |
| PSO | Friedman | 6.30413E-02 | 2.36852E-01 | 2.36852E-01 | 2.13709E-01 |
| PSO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| PSO | Quade | 8.41580E-01 | 1.0 | 1.0 | 9.98890E-01 |
| MABC | Friedman | 6.64164E-01 | 1.0 | 1.0 | 9.83637E-01 |
| MABC | Friedman Aligned | 3.09062E-10 | 8.13039E-10 | 7.65346E-10 | 8.13039E-10 |
| MABC | Quade | 9.59880E-01 | 1.0 | 1.0 | 9.99995E-01 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (EBLSHADE is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| ISCA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 1.45556E-03 | 1.45654E-03 | 1.45654E-03 | 1.45556E-03 |
| NNA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 1.45556E-03 | 1.77232E-03 | 1.77232E-03 | 1.77088E-03 |
| CWOA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 1.45556E-03 | 2.10264E-03 | 2.10264E-03 | 2.10063E-03 |
| WW | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 1.45556E-03 | 2.18579E-03 | 2.18579E-03 | 2.18364E-03 |
| MABC | Friedman | 1.41904E-12 | 4.91207E-12 | 4.91207E-12 | 4.91207E-12 |
| MABC | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| MABC | Quade | 2.56699E-02 | 9.73363E-02 | 9.73363E-02 | 9.33686E-02 |
| PSO | Friedman | 4.78499E-12 | 1.76676E-11 | 1.76676E-11 | 1.76676E-11 |
| PSO | Friedman Aligned | 1.80279E-10 | 6.65645E-10 | 6.65645E-10 | 6.65645E-10 |
| PSO | Quade | 1.10383E-02 | 4.08787E-02 | 4.08787E-02 | 4.01550E-02 |
| DE | Friedman | 1.99447E-10 | 7.51762E-10 | 7.51762E-10 | 7.51762E-10 |
| DE | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| DE | Quade | 4.08670E-02 | 1.52102E-01 | 1.52102E-01 | 1.42782E-01 |
| GOTLBO | Friedman | 1.22587E-09 | 4.52629E-09 | 4.52629E-09 | 4.52629E-09 |
| GOTLBO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| GOTLBO | Quade | 2.30921E-03 | 7.99910E-03 | 7.99910E-03 | 7.97072E-03 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| IJAYA | Friedman | 1.01726E-06 | 3.52129E-06 | 3.52129E-06 | 3.52128E-06 |
| IJAYA | Friedman Aligned | 3.40542E-06 | 1.17880E-05 | 1.17880E-05 | 1.17879E-05 |
| IJAYA | Quade | 1.25398E-01 | 4.42937E-01 | 4.42937E-01 | 3.71110E-01 |
| NDE | Friedman | 3.37287E-03 | 1.03821E-02 | 1.03821E-02 | 1.03418E-02 |
| NDE | Friedman Aligned | 1.50714E-02 | 4.64546E-02 | 4.64546E-02 | 4.56516E-02 |
| NDE | Quade | 3.66833E-01 | 1.0 | 1.0 | 7.54932E-01 |
| TLBO | Friedman | 4.20792E-01 | 1.0 | 1.0 | 7.49986E-01 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 7.93916E-01 | 1.0 | 1.0 | 9.81856E-01 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (ADELI is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| ISCA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 1.09625E-03 | 1.09680E-03 | 1.09680E-03 | 1.09625E-03 |
| NNA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 1.09625E-03 | 1.34054E-03 | 1.34054E-03 | 1.33971E-03 |
| CWOA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 1.09625E-03 | 1.59708E-03 | 1.59708E-03 | 1.59592E-03 |
| MABC | Friedman | 2.33813E-13 | 7.19425E-13 | 7.19425E-13 | 7.19425E-13 |
| MABC | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| MABC | Quade | 2.11738E-02 | 8.02031E-02 | 8.02031E-02 | 7.74983E-02 |
| PSO | Friedman | 2.85766E-11 | 9.89189E-11 | 9.89189E-11 | 9.89189E-11 |
| PSO | Friedman Aligned | 1.82294E-10 | 6.73084E-10 | 6.73084E-10 | 6.73084E-10 |
| PSO | Quade | 8.90739E-03 | 3.29680E-02 | 3.29680E-02 | 3.24964E-02 |
| DE | Friedman | 3.71229E-11 | 1.37069E-10 | 1.37069E-10 | 1.37069E-10 |
| DE | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| DE | Quade | 3.41907E-02 | 1.27086E-01 | 1.27086E-01 | 1.20544E-01 |
| WW | Friedman | 3.79121E-10 | 1.42899E-09 | 1.42899E-09 | 1.42899E-09 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 1.09625E-03 | 1.66392E-03 | 1.66392E-03 | 1.66267E-03 |
| GOTLBO | Friedman | 3.71983E-09 | 1.37348E-08 | 1.37348E-08 | 1.37348E-08 |
| GOTLBO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| GOTLBO | Quade | 1.80120E-03 | 6.23839E-03 | 6.23839E-03 | 6.22112E-03 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| IJAYA | Friedman | 2.38212E-07 | 8.24579E-07 | 8.24579E-07 | 8.24578E-07 |
| IJAYA | Friedman Aligned | 1.92652E-06 | 6.66873E-06 | 6.66873E-06 | 6.66871E-06 |
| IJAYA | Quade | 1.08536E-01 | 3.82291E-01 | 3.82291E-01 | 3.28134E-01 |
| NDE | Friedman | 1.31676E-03 | 4.05218E-03 | 4.05218E-03 | 4.04603E-03 |
| NDE | Friedman Aligned | 1.08197E-02 | 3.33332E-02 | 3.33332E-02 | 3.29189E-02 |
| NDE | Quade | 3.30743E-01 | 1.0 | 1.0 | 7.09355E-01 |
| TLBO | Friedman | 2.78642E-01 | 7.24406E-01 | 7.24406E-01 | 5.63564E-01 |
| TLBO | Friedman Aligned | 9.40972E-01 | 1.0 | 1.0 | 9.99241E-01 |
| TLBO | Quade | 7.45664E-01 | 1.0 | 1.0 | 9.69051E-01 |
| EBLSHADE | Friedman | 8.09315E-01 | 1.0 | 1.0 | 9.53081E-01 |
| EBLSHADE | Friedman Aligned | 9.40972E-01 | 1.0 | 1.0 | 9.99241E-01 |
| EBLSHADE | Quade | 9.56989E-01 | 1.0 | 1.0 | 9.96998E-01 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (NDE is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| CWOA | Friedman | 2.04947E-13 | 2.04947E-13 | 2.04947E-13 | 2.04947E-13 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 6.08936E-02 | 7.94811E-02 | 7.94811E-02 | 7.66710E-02 |
| NNA | Friedman | 2.51132E-13 | 4.63629E-13 | 4.63629E-13 | 4.63629E-13 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 6.08936E-02 | 7.13516E-02 | 7.13516E-02 | 6.90638E-02 |
| ISCA | Friedman | 2.84809E-13 | 7.22977E-13 | 7.22977E-13 | 7.22977E-13 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 6.08936E-02 | 6.26749E-02 | 6.26749E-02 | 6.08936E-02 |
| WW | Friedman | 2.98039E-13 | 9.17044E-13 | 9.17044E-13 | 9.17044E-13 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 6.08936E-02 | 7.99347E-02 | 7.99347E-02 | 7.71198E-02 |
| GOTLBO | Friedman | 3.48809E-11 | 1.20741E-10 | 1.20741E-10 | 1.20741E-10 |
| GOTLBO | Friedman Aligned | 1.79116E-10 | 6.61351E-10 | 6.61351E-10 | 6.61351E-10 |
| GOTLBO | Quade | 6.08936E-02 | 2.03799E-01 | 2.03799E-01 | 1.86283E-01 |
| PSO | Friedman | 4.01794E-08 | 1.48355E-07 | 1.48355E-07 | 1.48355E-07 |
| PSO | Friedman Aligned | 1.19200E-10 | 4.49293E-10 | 4.49293E-10 | 4.49293E-10 |
| PSO | Quade | 1.63536E-01 | 6.32903E-01 | 6.32903E-01 | 4.82809E-01 |
| MABC | Friedman | 4.55403E-05 | 1.71654E-04 | 1.71654E-04 | 1.71641E-04 |
| MABC | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| MABC | Quade | 2.71658E-01 | 1.0 | 1.0 | 6.97232E-01 |
| DE | Friedman | 8.96693E-04 | 3.31144E-03 | 3.31144E-03 | 3.30687E-03 |
| DE | Friedman Aligned | 1.27875E-12 | 4.72156E-12 | 4.72156E-12 | 4.72156E-12 |
| DE | Quade | 3.50621E-01 | 1.0 | 1.0 | 7.96911E-01 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| IJAYA | Friedman | 7.33717E-02 | 2.56942E-01 | 2.56942E-01 | 2.31857E-01 |
| IJAYA | Friedman Aligned | 4.02808E-02 | 1.40313E-01 | 1.40313E-01 | 1.32656E-01 |
| IJAYA | Quade | 6.43209E-01 | 1.0 | 1.0 | 9.71773E-01 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (MABC is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 1.04014E-03 | 1.04064E-03 | 1.04064E-03 | 1.04014E-03 |
| WW | Friedman Aligned | 3.59772E-11 | 1.24536E-10 | 1.24536E-10 | 1.24536E-10 |
| WW | Quade | 8.97219E-01 | 1.0 | 1.0 | 9.18511E-01 |
| CWOA | Friedman | 2.86600E-03 | 5.29751E-03 | 5.29751E-03 | 5.28467E-03 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 8.97219E-01 | 1.0 | 1.0 | 9.18511E-01 |
| ISCA | Friedman | 3.24679E-03 | 9.70884E-03 | 9.70884E-03 | 9.66653E-03 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 8.97219E-01 | 1.0 | 1.0 | 8.97219E-01 |
| NNA | Friedman | 3.24679E-03 | 8.25217E-03 | 8.25217E-03 | 8.22129E-03 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 8.97219E-01 | 1.0 | 1.0 | 9.09994E-01 |
| GOTLBO | Friedman | 2.71581E-02 | 9.48059E-02 | 9.48059E-02 | 9.09078E-02 |
| GOTLBO | Friedman Aligned | 1.40579E-09 | 5.19061E-09 | 5.19061E-09 | 5.19061E-09 |
| GOTLBO | Quade | 8.97219E-01 | 1.0 | 1.0 | 9.87898E-01 |
| PSO | Friedman | 3.11831E-01 | 1.0 | 1.0 | 7.48395E-01 |
| PSO | Friedman Aligned | 1.73195E-13 | 5.32907E-13 | 5.32907E-13 | 5.32907E-13 |
| PSO | Quade | 9.43078E-01 | 1.0 | 1.0 | 9.99975E-01 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (TLBO is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| PSO | Friedman | 1.96287E-13 | 1.96287E-13 | 1.96287E-13 | 1.96287E-13 |
| PSO | Friedman Aligned | 1.80688E-10 | 6.67154E-10 | 6.67154E-10 | 6.67154E-10 |
| PSO | Quade | 2.94896E-02 | 1.09763E-01 | 1.09763E-01 | 1.04634E-01 |
| GOTLBO | Friedman | 6.25031E-11 | 1.15390E-10 | 1.15390E-10 | 1.15390E-10 |
| GOTLBO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| GOTLBO | Quade | 7.28397E-03 | 2.52705E-02 | 2.52705E-02 | 2.49885E-02 |
| MABC | Friedman | 1.09197E-09 | 2.77193E-09 | 2.77193E-09 | 2.77193E-09 |
| MABC | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| MABC | Quade | 6.15993E-02 | 2.35585E-01 | 2.35585E-01 | 2.13090E-01 |
| ISCA | Friedman | 1.25475E-09 | 3.86077E-09 | 3.86077E-09 | 3.86077E-09 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 5.44202E-03 | 5.45574E-03 | 5.45574E-03 | 5.44202E-03 |
| NNA | Friedman | 1.37295E-09 | 4.75250E-09 | 4.75250E-09 | 4.75250E-09 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 5.44202E-03 | 6.49673E-03 | 6.49673E-03 | 6.47742E-03 |
| CWOA | Friedman | 2.09713E-09 | 7.74326E-09 | 7.74326E-09 | 7.74326E-09 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 5.44202E-03 | 7.55156E-03 | 7.55156E-03 | 7.52569E-03 |
| WW | Friedman | 9.53069E-09 | 3.59234E-08 | 3.59234E-08 | 3.59234E-08 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 5.44202E-03 | 7.76630E-03 | 7.76630E-03 | 7.73921E-03 |
| DE | Friedman | 4.24571E-08 | 1.56765E-07 | 1.56765E-07 | 1.56765E-07 |
| DE | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| DE | Quade | 9.15391E-02 | 3.44207E-01 | 3.44207E-01 | 2.98458E-01 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| IJAYA | Friedman | 6.97445E-05 | 2.41426E-04 | 2.41426E-04 | 2.41402E-04 |
| IJAYA | Friedman Aligned | 3.05560E-06 | 1.05771E-05 | 1.05771E-05 | 1.05770E-05 |
| IJAYA | Quade | 2.37971E-01 | 8.57542E-01 | 8.57542E-01 | 6.09662E-01 |
| NDE | Friedman | 4.44651E-02 | 1.37531E-01 | 1.37531E-01 | 1.30599E-01 |
| NDE | Friedman Aligned | 1.41555E-02 | 4.36271E-02 | 4.36271E-02 | 4.29185E-02 |
| NDE | Quade | 5.71073E-01 | 1.0 | 1.0 | 9.26061E-01 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 9.91583E-01 | 1.0 | 1.0 | 9.99995E-01 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (GOTLBO is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 9.04976E-01 | 1.0 | 1.0 | 9.04976E-01 |
| WW | Friedman Aligned | 1.67999E-12 | 1.67999E-12 | 1.67999E-12 | 1.67999E-12 |
| WW | Quade | 9.99991E-01 | 1.0 | 1.0 | 9.99997E-01 |
| ISCA | Friedman | 9.32174E-01 | 1.0 | 1.0 | 9.97839E-01 |
| ISCA | Friedman Aligned | 7.66599E-08 | 1.94598E-07 | 1.94598E-07 | 1.94598E-07 |
| ISCA | Quade | 9.99991E-01 | 1.0 | 1.0 | 9.99991E-01 |
| NNA | Friedman | 9.32174E-01 | 1.0 | 1.0 | 9.97323E-01 |
| NNA | Friedman Aligned | 3.08669E-09 | 5.69850E-09 | 5.69850E-09 | 5.69850E-09 |
| NNA | Quade | 9.99991E-01 | 1.0 | 1.0 | 9.99995E-01 |
| CWOA | Friedman | 9.32174E-01 | 1.0 | 1.0 | 9.93041E-01 |
| CWOA | Friedman Aligned | 2.23479E-06 | 6.87627E-06 | 6.87627E-06 | 6.87625E-06 |
| CWOA | Quade | 9.99991E-01 | 1.0 | 1.0 | 9.99997E-01 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (STLBO is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| ISCA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 1.09625E-03 | 1.09680E-03 | 1.09680E-03 | 1.09625E-03 |
| NNA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 1.09625E-03 | 1.34054E-03 | 1.34054E-03 | 1.33971E-03 |
| CWOA | Friedman | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 1.09625E-03 | 1.59708E-03 | 1.59708E-03 | 1.59592E-03 |
| MABC | Friedman | 2.33813E-13 | 7.19425E-13 | 7.19425E-13 | 7.19425E-13 |
| MABC | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| MABC | Quade | 2.11738E-02 | 8.02031E-02 | 8.02031E-02 | 7.74983E-02 |
| PSO | Friedman | 2.85766E-11 | 9.89189E-11 | 9.89189E-11 | 9.89189E-11 |
| PSO | Friedman Aligned | 1.82294E-10 | 6.73084E-10 | 6.73084E-10 | 6.73084E-10 |
| PSO | Quade | 8.90739E-03 | 3.29680E-02 | 3.29680E-02 | 3.24964E-02 |
| DE | Friedman | 3.71229E-11 | 1.37069E-10 | 1.37069E-10 | 1.37069E-10 |
| DE | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| DE | Quade | 3.41907E-02 | 1.27086E-01 | 1.27086E-01 | 1.20544E-01 |
| WW | Friedman | 3.79121E-10 | 1.42899E-09 | 1.42899E-09 | 1.42899E-09 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 1.09625E-03 | 1.66392E-03 | 1.66392E-03 | 1.66267E-03 |
| GOTLBO | Friedman | 3.71983E-09 | 1.37348E-08 | 1.37348E-08 | 1.37348E-08 |
| GOTLBO | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| GOTLBO | Quade | 1.80120E-03 | 6.23839E-03 | 6.23839E-03 | 6.22112E-03 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| IJAYA | Friedman | 2.38212E-07 | 8.24579E-07 | 8.24579E-07 | 8.24578E-07 |
| IJAYA | Friedman Aligned | 1.92652E-06 | 6.66873E-06 | 6.66873E-06 | 6.66871E-06 |
| IJAYA | Quade | 1.08536E-01 | 3.82291E-01 | 3.82291E-01 | 3.28134E-01 |
| NDE | Friedman | 1.31676E-03 | 4.05218E-03 | 4.05218E-03 | 4.04603E-03 |
| NDE | Friedman Aligned | 1.08197E-02 | 3.33332E-02 | 3.33332E-02 | 3.29189E-02 |
| NDE | Quade | 3.30743E-01 | 1.0 | 1.0 | 7.09355E-01 |
| TLBO | Friedman | 2.78642E-01 | 7.24406E-01 | 7.24406E-01 | 5.63564E-01 |
| TLBO | Friedman Aligned | 9.40972E-01 | 1.0 | 1.0 | 9.99241E-01 |
| TLBO | Quade | 7.45664E-01 | 1.0 | 1.0 | 9.69051E-01 |
| EBLSHADE | Friedman | 8.09315E-01 | 1.0 | 1.0 | 9.53081E-01 |
| EBLSHADE | Friedman Aligned | 9.40972E-01 | 1.0 | 1.0 | 9.99241E-01 |
| EBLSHADE | Quade | 9.56989E-01 | 1.0 | 1.0 | 9.96998E-01 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (PSO is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 1.37121E-01 | 1.46648E-01 | 1.46648E-01 | 1.37121E-01 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 9.87878E-01 | 1.0 | 1.0 | 9.91564E-01 |
| ISCA | Friedman | 2.08923E-01 | 5.89641E-01 | 5.89641E-01 | 4.55419E-01 |
| ISCA | Friedman Aligned | 7.82109E-10 | 1.98535E-09 | 1.98535E-09 | 1.98535E-09 |
| ISCA | Quade | 9.87878E-01 | 1.0 | 1.0 | 9.87878E-01 |
| NNA | Friedman | 2.08923E-01 | 5.49729E-01 | 5.49729E-01 | 4.31038E-01 |
| NNA | Friedman Aligned | 7.43077E-09 | 2.28639E-08 | 2.28639E-08 | 2.28639E-08 |
| NNA | Quade | 9.87878E-01 | 1.0 | 1.0 | 9.90189E-01 |
| CWOA | Friedman | 2.08923E-01 | 4.24958E-01 | 4.24958E-01 | 3.51222E-01 |
| CWOA | Friedman Aligned | 3.54082E-11 | 6.53690E-11 | 6.53690E-11 | 6.53690E-11 |
| CWOA | Quade | 9.87878E-01 | 1.0 | 1.0 | 9.91564E-01 |
| GOTLBO | Friedman | 5.28655E-01 | 1.0 | 1.0 | 9.25997E-01 |
| GOTLBO | Friedman Aligned | 3.35675E-04 | 1.16207E-03 | 1.16207E-03 | 1.16147E-03 |
| GOTLBO | Quade | 9.87878E-01 | 1.0 | 1.0 | 9.99741E-01 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (IJAYA is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 7.01424E-09 | 7.01424E-09 | 7.01424E-09 | 7.01424E-09 |
| WW | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| WW | Quade | 3.33895E-01 | 4.68680E-01 | 4.61937E-01 | 3.80571E-01 |
| CWOA | Friedman | 4.86623E-08 | 8.98381E-08 | 8.98381E-08 | 8.98381E-08 |
| CWOA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| CWOA | Quade | 3.33895E-01 | 4.68680E-01 | 4.61937E-01 | 3.80571E-01 |
| NNA | Friedman | 7.50035E-08 | 1.90393E-07 | 1.90393E-07 | 1.90393E-07 |
| NNA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| NNA | Quade | 3.33895E-01 | 4.37241E-01 | 4.37241E-01 | 3.59435E-01 |
| ISCA | Friedman | 8.49143E-08 | 2.61275E-07 | 2.61275E-07 | 2.61275E-07 |
| ISCA | Friedman Aligned | <1E-13 | <1E-13 | <1E-13 | <1E-13 |
| ISCA | Quade | 3.33895E-01 | 4.00024E-01 | 4.00024E-01 | 3.33895E-01 |
| GOTLBO | Friedman | 3.57285E-06 | 1.23676E-05 | 1.23676E-05 | 1.23675E-05 |
| GOTLBO | Friedman Aligned | 2.09884E-10 | 7.74957E-10 | 7.74957E-10 | 7.74957E-10 |
| GOTLBO | Quade | 3.33895E-01 | 9.45824E-01 | 9.45824E-01 | 6.31865E-01 |
| PSO | Friedman | 5.02694E-04 | 1.85635E-03 | 1.85635E-03 | 1.85485E-03 |
| PSO | Friedman Aligned | 7.43825E-11 | 2.57478E-10 | 2.57478E-10 | 2.57478E-10 |
| PSO | Quade | 4.98202E-01 | 1.0 | 1.0 | 9.21610E-01 |
| MABC | Friedman | 4.25676E-02 | 1.62057E-01 | 1.62057E-01 | 1.51226E-01 |
| MABC | Friedman Aligned | 6.05896E-09 | 2.23716E-08 | 2.23716E-08 | 2.23716E-08 |
| MABC | Quade | 6.69600E-01 | 1.0 | 1.0 | 9.84613E-01 |
| DE | Friedman | 2.05603E-01 | 7.92421E-01 | 7.92421E-01 | 5.72528E-01 |
| DE | Friedman Aligned | 8.71728E-10 | 3.28574E-09 | 3.28574E-09 | 3.28574E-09 |
| DE | Quade | 7.68822E-01 | 1.0 | 1.0 | 9.95518E-01 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (ISCA is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 9.99926E-01 | 1.0 | 1.0 | 9.99926E-01 |
| WW | Friedman Aligned | 6.29593E-01 | 9.56165E-01 | 9.56165E-01 | 6.29593E-01 |
| WW | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman | 9.99990E-01 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman | 9.99996E-01 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman Aligned | 9.94434E-01 | 1.0 | 1.0 | 9.99931E-01 |
| NNA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (NNA is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 9.99981E-01 | 1.0 | 1.0 | 9.99981E-01 |
| WW | Friedman Aligned | 9.68408E-01 | 1.0 | 1.0 | 9.68408E-01 |
| WW | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman | 9.99999E-01 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| GOTLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (CWOA is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| WW | Friedman | 9.99999E-01 | 1.0 | 1.0 | 9.99999E-01 |
| WW | Friedman Aligned | 1.65346E-01 | 1.79488E-01 | 1.79488E-01 | 1.65346E-01 |
| WW | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman Aligned | 9.50839E-01 | 1.0 | 1.0 | 9.99523E-01 |
| ISCA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman Aligned | 7.72845E-01 | 1.0 | 1.0 | 9.35186E-01 |
| NNA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Table S3.** Adjusted *p*-values for multiple comparisons 1×*N* tests in single-IV case (WW is the control algorithm, RMSPE value). | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| DE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| DE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| EBLSHADE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ADELI | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NDE | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| MABC | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| TLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| GOTLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| STLBO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| **Table S3** (*continued*) | | | | | |
| Algorithm | Test | post-hoc procedure | | | |
| Finner | Holm | Hochberg | Holland |
| PSO | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| PSO | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| IJAYA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| ISCA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| NNA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Friedman Aligned | 1.0 | 1.0 | 1.0 | 1.0 |
| CWOA | Quade | 1.0 | 1.0 | 1.0 | 1.0 |