

| Ti11      | No.     | 39       | 20       | 19       | 19       | 19       | 20       |
|-----------|---------|----------|----------|----------|----------|----------|----------|
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 6917.141 | 7185.44  | 7366.867 | 7526.03  | 7682.376 | 7761.69  |
| [MPa]     | Std Dev | 465.541  | 221.105  | 146.304  | 124.273  | 80.999   | 65.593   |
| EIT (O&P) | Mean    | 84.873   | 80.595   | 79.921   | 80.442   | 80.393   | 80.417   |
| [GPa]     | Std Dev | 2.698    | 1.111    | 0.788    | 0.421    | 0.357    | 0.337    |
| E* (O&P)  | Mean    | 89.484   | 84.974   | 84.263   | 84.812   | 84.761   | 84.786   |
| [GPa]     | Std Dev | 2.845    | 1.172    | 0.831    | 0.444    | 0.377    | 0.355    |
| Er (O&P)  | Mean    | 83       | 79.11    | 78.494   | 78.971   | 78.926   | 78.948   |
| [GPa]     | Std Dev | 2.452    | 1.015    | 0.721    | 0.385    | 0.327    | 0.308    |
| hm (O&P)  | Mean    | 72.653   | 193.899  | 360.038  | 472.818  | 684.228  | 844.966  |
| [nm]      | Std Dev | 1.977    | 1.769    | 2.479    | 2.67     | 2.185    | 1.683    |
| Fm (O&P)  | Mean    | 1        | 5.005    | 15.033   | 25.037   | 50.082   | 75.079   |
| [mN]      | Std Dev | 0.003    | 0.006    | 0.005    | 0.039    | 0.006    | 0.005    |
| m (O&P)   | Mean    | 1.627    | 1.508    | 1.47     | 1.466    | 1.43     | 1.435    |
| []        | Std Dev | 0.209    | 0.061    | 0.035    | 0.027    | 0.024    | 0.02     |
|           |         |          |          |          |          |          |          |
| Ti12      | No.     | 40       | 20       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 6678.95  | 6932.937 | 7111.995 | 7317.399 | 7466.127 | 7561.75  |
| [MPa]     | Std Dev | 517.07   | 187.089  | 132.076  | 74.296   | 56.658   | 64.362   |
| EIT (O&P) | Mean    | 82.393   | 78.831   | 79.08    | 79.259   | 79.544   | 79.202   |
| [GPa]     | Std Dev | 2.221    | 1.175    | 0.627    | 0.367    | 0.287    | 0.274    |
| E* (O&P)  | Mean    | 86.869   | 83.114   | 83.376   | 83.565   | 83.866   | 83.505   |
| [GPa]     | Std Dev | 2.342    | 1.238    | 0.661    | 0.387    | 0.303    | 0.289    |
| Er (O&P)  | Mean    | 80.747   | 77.495   | 77.724   | 77.888   | 78.149   | 77.837   |
| [GPa]     | Std Dev | 2.026    | 1.077    | 0.574    | 0.336    | 0.263    | 0.251    |
| hm (O&P)  | Mean    | 74.133   | 196.954  | 364.183  | 478.763  | 691.54   | 853.598  |
| [nm]      | Std Dev | 2.073    | 1.569    | 2.097    | 1.825    | 1.864    | 1.865    |
| Fm (O&P)  | Mean    | 1.001    | 5.007    | 15.037   | 25.024   | 50.082   | 75.076   |
| [mN]      | Std Dev | 0.003    | 0.005    | 0.005    | 0.035    | 0.005    | 0.007    |
| m (O&P)   | Mean    | 1.677    | 1.506    | 1.502    | 1.469    | 1.443    | 1.427    |
| []        | Std Dev | 0.192    | 0.064    | 0.041    | 0.024    | 0.015    | 0.014    |
|           |         |          |          |          |          |          |          |
| Ti13      | No.     | 40       | 20       | 20       | 19       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 6228.386 | 6549.951 | 6834.84  | 7035.738 | 7143.944 | 7181.487 |
| [MPa]     | Std Dev | 335.414  | 155.123  | 102.129  | 67.575   | 35.583   | 50.137   |
| EIT (O&P) | Mean    | 79.831   | 77.917   | 77.233   | 77.961   | 78.039   | 77.349   |
| [GPa]     | Std Dev | 2.015    | 0.848    | 0.603    | 0.475    | 0.378    | 0.265    |
| E* (O&P)  | Mean    | 83.663   | 81.657   | 80.939   | 81.702   | 81.784   | 81.061   |
| [GPa]     | Std Dev | 2.112    | 0.889    | 0.632    | 0.498    | 0.396    | 0.278    |
| Er (O&P)  | Mean    | 77.97    | 76.228   | 75.602   | 76.268   | 76.339   | 75.709   |
| [GPa]     | Std Dev | 1.836    | 0.775    | 0.551    | 0.434    | 0.345    | 0.242    |
| hm (O&P)  | Mean    | 76.816   | 200.753  | 370.733  | 487.572  | 704.588  | 870.611  |
| [nm]      | Std Dev | 1.169    | 1.25     | 1.623    | 1.882    | 1.489    | 1.907    |
| Fm (O&P)  | Mean    | 1.002    | 5.005    | 15.035   | 25.024   | 50.08    | 75.076   |

|         |         |       |       |       |       |       |       |
|---------|---------|-------|-------|-------|-------|-------|-------|
| [mN]    | Std Dev | 0.002 | 0.004 | 0.004 | 0.035 | 0.006 | 0.005 |
| m (O&P) | Mean    | 1.652 | 1.583 | 1.501 | 1.479 | 1.46  | 1.426 |
| []      | Std Dev | 0.185 | 0.061 | 0.034 | 0.022 | 0.016 | 0.009 |

|           |         |          |          |          |          |          |         |
|-----------|---------|----------|----------|----------|----------|----------|---------|
| Ti14      | No.     | 40       | 20       | 20       | 20       | 20       | 20      |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN   |
| HIT (O&P) | Mean    | 5474.693 | 5899.835 | 6257.481 | 6535.877 | 6707.551 | 6677.53 |
| [MPa]     | Std Dev | 318.228  | 119.819  | 77.423   | 61.366   | 43.896   | 38.912  |
| EIT (O&P) | Mean    | 72.716   | 73.29    | 73.878   | 74.983   | 74.959   | 74.198  |
| [GPa]     | Std Dev | 2.018    | 0.966    | 0.402    | 0.472    | 0.255    | 0.195   |
| E* (O&P)  | Mean    | 76.071   | 76.671   | 77.287   | 78.442   | 78.418   | 77.621  |
| [GPa]     | Std Dev | 2.111    | 1.011    | 0.42     | 0.494    | 0.266    | 0.204   |
| Er (O&P)  | Mean    | 71.335   | 71.865   | 72.406   | 73.419   | 73.398   | 72.699  |
| [GPa]     | Std Dev | 1.859    | 0.888    | 0.369    | 0.432    | 0.234    | 0.179   |
| hm (O&P)  | Mean    | 82.09    | 211.369  | 384.24   | 504.074  | 725.082  | 895.064 |
| [nm]      | Std Dev | 1.537    | 1.84     | 1.483    | 1.459    | 1.666    | 1.576   |
| Fm (O&P)  | Mean    | 1.001    | 5.006    | 15.032   | 25.05    | 50.08    | 75.073  |
| [mN]      | Std Dev | 0.008    | 0.019    | 0.035    | 0.051    | 0.044    | 0.006   |
| m (O&P)   | Mean    | 1.812    | 1.611    | 1.537    | 1.52     | 1.472    | 1.449   |
| []        | Std Dev | 0.192    | 0.072    | 0.029    | 0.029    | 0.012    | 0.011   |



| Ti22      | No.     | 38       | 20       | 19       | 20       | 19       | 20       |
|-----------|---------|----------|----------|----------|----------|----------|----------|
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7429.268 | 7820.498 | 7895.722 | 7848.216 | 8017.573 | 8134.588 |
| [MPa]     | Std Dev | 1061.142 | 283.782  | 240.446  | 123.975  | 84.572   | 70.896   |
| EIT (O&P) | Mean    | 85.997   | 83.253   | 83.219   | 82.539   | 82.984   | 83.55    |
| [GPa]     | Std Dev | 4.306    | 0.989    | 0.621    | 0.52     | 0.407    | 0.415    |
| E* (O&P)  | Mean    | 90.934   | 88.032   | 87.996   | 87.277   | 87.748   | 88.347   |
| [GPa]     | Std Dev | 4.554    | 1.046    | 0.656    | 0.55     | 0.431    | 0.439    |
| Er (O&P)  | Mean    | 84.238   | 81.755   | 81.724   | 81.103   | 81.51    | 82.026   |
| [GPa]     | Std Dev | 3.931    | 0.902    | 0.566    | 0.475    | 0.372    | 0.378    |
| hm (O&P)  | Mean    | 68.218   | 187.645  | 350.188  | 463.488  | 670.748  | 827.714  |
| [nm]      | Std Dev | 9.307    | 1.672    | 2.257    | 2.64     | 1.963    | 1.955    |
| Fm (O&P)  | Mean    | 0.977    | 5.007    | 15.04    | 25.023   | 50.082   | 75.074   |
| [mN]      | Std Dev | 0.147    | 0.022    | 0.034    | 0.061    | 0.033    | 0.038    |
| m (O&P)   | Mean    | 1.65     | 1.469    | 1.464    | 1.433    | 1.414    | 1.42     |
| [J]       | Std Dev | 0.427    | 0.077    | 0.052    | 0.029    | 0.021    | 0.016    |
|           |         |          |          |          |          |          |          |
| Ti23      | No.     | 38       | 20       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7916.74  | 7824.69  | 7943.061 | 7970.705 | 8113.658 | 8234.498 |
| [MPa]     | Std Dev | 327.579  | 102.744  | 102.973  | 58.663   | 64.975   | 54.545   |
| EIT (O&P) | Mean    | 88.269   | 84.924   | 84.37    | 83.93    | 84.34    | 84.813   |
| [GPa]     | Std Dev | 2.87     | 1.141    | 0.494    | 0.339    | 0.375    | 0.303    |
| E* (O&P)  | Mean    | 93.382   | 89.844   | 89.257   | 88.792   | 89.226   | 89.726   |
| [GPa]     | Std Dev | 3.036    | 1.207    | 0.523    | 0.358    | 0.396    | 0.32     |
| Er (O&P)  | Mean    | 86.344   | 83.315   | 82.811   | 82.411   | 82.784   | 83.214   |
| [GPa]     | Std Dev | 2.596    | 1.037    | 0.45     | 0.309    | 0.341    | 0.275    |
| hm (O&P)  | Mean    | 67.961   | 186.62   | 348.84   | 459.395  | 665.849  | 822.811  |
| [nm]      | Std Dev | 1.339    | 0.887    | 1.18     | 1.311    | 1.648    | 1.452    |
| Fm (O&P)  | Mean    | 1.001    | 5.007    | 15.035   | 25.017   | 50.082   | 75.078   |
| [mN]      | Std Dev | 0.004    | 0.013    | 0.005    | 0.029    | 0.004    | 0.004    |
| m (O&P)   | Mean    | 1.574    | 1.478    | 1.426    | 1.421    | 1.418    | 1.395    |
| [J]       | Std Dev | 0.252    | 0.076    | 0.044    | 0.028    | 0.022    | 0.02     |
|           |         |          |          |          |          |          |          |
| Ti24      | No.     | 39       | 19       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7800.769 | 7952.497 | 8097.573 | 8082.608 | 8262.607 | 8449.009 |
| [MPa]     | Std Dev | 395.756  | 326.326  | 124.315  | 111.961  | 80.544   | 104.13   |
| EIT (O&P) | Mean    | 87.7     | 84.841   | 85.563   | 85.182   | 85.919   | 86.213   |
| [GPa]     | Std Dev | 3.164    | 1.226    | 0.529    | 0.468    | 0.362    | 0.276    |
| E* (O&P)  | Mean    | 92.827   | 89.801   | 90.564   | 90.161   | 90.942   | 91.253   |
| [GPa]     | Std Dev | 3.349    | 1.297    | 0.56     | 0.496    | 0.383    | 0.292    |
| Er (O&P)  | Mean    | 85.867   | 83.277   | 83.934   | 83.588   | 84.259   | 84.526   |
| [GPa]     | Std Dev | 2.865    | 1.115    | 0.481    | 0.426    | 0.329    | 0.25     |
| hm (O&P)  | Mean    | 68.56    | 186.019  | 346.122  | 455.925  | 660.061  | 814.576  |
| [nm]      | Std Dev | 1.818    | 2.31     | 1.262    | 2.066    | 1.747    | 2.207    |
| Fm (O&P)  | Mean    | 1        | 5.006    | 15.036   | 25.015   | 50.085   | 75.081   |

|         |         |       |       |       |       |       |       |
|---------|---------|-------|-------|-------|-------|-------|-------|
| [mN]    | Std Dev | 0.005 | 0.012 | 0.004 | 0.034 | 0.045 | 0.074 |
| m (O&P) | Mean    | 1.492 | 1.416 | 1.404 | 1.406 | 1.394 | 1.371 |
| []      | Std Dev | 0.147 | 0.068 | 0.034 | 0.023 | 0.021 | 0.023 |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti25      | No.     | 38       | 20       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7750.874 | 7986.719 | 8186.974 | 8129.593 | 8319.066 | 8494.245 |
| [MPa]     | Std Dev | 462.487  | 261.997  | 164.044  | 103.766  | 129.526  | 120.01   |
| EIT (O&P) | Mean    | 89.163   | 86.562   | 86.9     | 86.739   | 87.47    | 87.541   |
| [GPa]     | Std Dev | 2.553    | 0.681    | 0.955    | 0.405    | 0.399    | 0.265    |
| E* (O&P)  | Mean    | 94.375   | 91.622   | 91.98    | 91.809   | 92.583   | 92.658   |
| [GPa]     | Std Dev | 2.702    | 0.721    | 1.011    | 0.428    | 0.423    | 0.28     |
| Er (O&P)  | Mean    | 87.193   | 84.842   | 85.148   | 85.003   | 85.665   | 85.73    |
| [GPa]     | Std Dev | 2.306    | 0.618    | 0.867    | 0.367    | 0.362    | 0.24     |
| hm (O&P)  | Mean    | 68.512   | 184.802  | 343.726  | 453.521  | 656.079  | 810.301  |
| [nm]      | Std Dev | 2.028    | 2.11     | 2.055    | 1.769    | 2.795    | 3.099    |
| Fm (O&P)  | Mean    | 1        | 5.007    | 15.032   | 25.046   | 50.079   | 75.076   |
| [mN]      | Std Dev | 0.003    | 0.006    | 0.005    | 0.039    | 0.006    | 0.007    |
| m (O&P)   | Mean    | 1.456    | 1.413    | 1.411    | 1.407    | 1.398    | 1.379    |
| []        | Std Dev | 0.146    | 0.045    | 0.04     | 0.029    | 0.027    | 0.015    |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti26      | No.     | 39       | 20       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 8495.877 | 8306.635 | 8359.793 | 8381.986 | 8535.873 | 8611.152 |
| [MPa]     | Std Dev | 797.036  | 218.895  | 138.584  | 146.171  | 100.311  | 103.644  |
| EIT (O&P) | Mean    | 91.875   | 88.969   | 89.416   | 88.518   | 89.156   | 89.631   |
| [GPa]     | Std Dev | 3.98     | 1.527    | 0.585    | 0.577    | 0.516    | 0.279    |
| E* (O&P)  | Mean    | 97.342   | 94.264   | 94.737   | 93.786   | 94.462   | 94.965   |
| [GPa]     | Std Dev | 4.217    | 1.618    | 0.619    | 0.612    | 0.546    | 0.296    |
| Er (O&P)  | Mean    | 89.713   | 87.101   | 87.507   | 86.695   | 87.272   | 87.701   |
| [GPa]     | Std Dev | 3.582    | 1.383    | 0.528    | 0.523    | 0.466    | 0.252    |
| hm (O&P)  | Mean    | 65.388   | 180.914  | 339.213  | 446.719  | 648.924  | 803.086  |
| [nm]      | Std Dev | 1.966    | 1.7      | 1.854    | 1.848    | 1.731    | 2.6      |
| Fm (O&P)  | Mean    | 1.001    | 5.008    | 15.039   | 25.01    | 50.085   | 75.077   |
| [mN]      | Std Dev | 0.003    | 0.002    | 0.004    | 0.03     | 0.049    | 0.003    |
| m (O&P)   | Mean    | 1.412    | 1.429    | 1.424    | 1.392    | 1.371    | 1.369    |
| []        | Std Dev | 0.123    | 0.053    | 0.032    | 0.026    | 0.026    | 0.024    |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti27      | No.     | 39       | 20       | 20       | 20       | 20       | 19       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 8479.636 | 8484.998 | 8581.045 | 8482.729 | 8614.174 | 8725.508 |
| [MPa]     | Std Dev | 547.62   | 219.914  | 125.453  | 139.653  | 106.54   | 104.249  |
| EIT (O&P) | Mean    | 93.334   | 90.08    | 90.359   | 89.879   | 90.748   | 91.34    |
| [GPa]     | Std Dev | 2.625    | 0.8      | 0.421    | 0.503    | 0.313    | 0.332    |
| E* (O&P)  | Mean    | 99.039   | 95.586   | 95.882   | 95.372   | 96.294   | 96.923   |
| [GPa]     | Std Dev | 2.785    | 0.849    | 0.446    | 0.534    | 0.332    | 0.352    |
| Er (O&P)  | Mean    | 91.159   | 88.23    | 88.483   | 88.048   | 88.834   | 89.369   |

|          |         |       |         |         |         |         |        |
|----------|---------|-------|---------|---------|---------|---------|--------|
| [GPa]    | Std Dev | 2.36  | 0.723   | 0.38    | 0.455   | 0.283   | 0.3    |
| hm (O&P) | Mean    | 64.43 | 179.091 | 336.152 | 443.551 | 644.276 | 796.4  |
| [nm]     | Std Dev | 1.292 | 1.287   | 1.596   | 1.996   | 2.213   | 2.751  |
| Fm (O&P) | Mean    | 1.001 | 5.008   | 15.038  | 25.005  | 50.081  | 75.077 |
| [mN]     | Std Dev | 0.003 | 0.003   | 0.005   | 0.003   | 0.004   | 0.006  |
| m (O&P)  | Mean    | 1.471 | 1.409   | 1.375   | 1.375   | 1.376   | 1.37   |
| []       | Std Dev | 0.138 | 0.055   | 0.035   | 0.028   | 0.021   | 0.018  |

| Ti32      | No.     | 39       | 20       | 20       | 20       | 19       | 20       |
|-----------|---------|----------|----------|----------|----------|----------|----------|
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7235.938 | 7270.258 | 7470.126 | 7500.917 | 7669.627 | 7723.965 |
| [MPa]     | Std Dev | 421.866  | 216.196  | 125.021  | 77.932   | 67.162   | 64.345   |
| EIT (O&P) | Mean    | 84.662   | 80.798   | 80.532   | 80.612   | 81.04    | 80.655   |
| [GPa]     | Std Dev | 2.199    | 0.747    | 0.633    | 0.544    | 0.272    | 0.232    |
| E* (O&P)  | Mean    | 89.304   | 85.228   | 84.948   | 85.032   | 85.484   | 85.078   |
| [GPa]     | Std Dev | 2.32     | 0.788    | 0.667    | 0.574    | 0.286    | 0.244    |
| Er (O&P)  | Mean    | 82.848   | 79.331   | 79.089   | 79.161   | 79.553   | 79.201   |
| [GPa]     | Std Dev | 1.996    | 0.682    | 0.579    | 0.498    | 0.248    | 0.212    |
| hm (O&P)  | Mean    | 71.444   | 193.171  | 358.247  | 473.18   | 683.045  | 845.796  |
| [nm]      | Std Dev | 1.619    | 1.344    | 1.62     | 1.638    | 1.816    | 1.654    |
| Fm (O&P)  | Mean    | 1.001    | 5.007    | 15.036   | 25.022   | 50.079   | 75.074   |
| [mN]      | Std Dev | 0.002    | 0.005    | 0.004    | 0.032    | 0.004    | 0.005    |
| m (O&P)   | Mean    | 1.607    | 1.504    | 1.452    | 1.446    | 1.441    | 1.416    |
| []        | Std Dev | 0.178    | 0.053    | 0.037    | 0.031    | 0.017    | 0.015    |

| Ti33      | No.     | 40       | 20      | 20       | 19       | 20       | 20       |
|-----------|---------|----------|---------|----------|----------|----------|----------|
|           |         | 1 mN     | 5 mN    | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7251.375 | 7275.65 | 7376.388 | 7494.055 | 7641.373 | 7693.688 |
| [MPa]     | Std Dev | 435.867  | 192.699 | 114.388  | 83.449   | 64.03    | 91.166   |
| EIT (O&P) | Mean    | 84.209   | 80.91   | 80.673   | 80.713   | 80.767   | 80.976   |
| [GPa]     | Std Dev | 2.217    | 0.812   | 0.549    | 0.324    | 0.226    | 0.302    |
| E* (O&P)  | Mean    | 88.7     | 85.225  | 84.975   | 85.017   | 85.073   | 85.294   |
| [GPa]     | Std Dev | 2.335    | 0.856   | 0.578    | 0.341    | 0.239    | 0.318    |
| Er (O&P)  | Mean    | 82.327   | 79.328  | 79.112   | 79.148   | 79.197   | 79.388   |
| [GPa]     | Std Dev | 2.012    | 0.741   | 0.501    | 0.296    | 0.207    | 0.276    |
| hm (O&P)  | Mean    | 71.526   | 193.202 | 359.107  | 473.282  | 684.93   | 845.818  |
| [nm]      | Std Dev | 1.572    | 1.479   | 1.61     | 1.915    | 1.553    | 2.893    |
| Fm (O&P)  | Mean    | 1.002    | 5.007   | 15.037   | 25.026   | 50.079   | 75.075   |
| [mN]      | Std Dev | 0.002    | 0.004   | 0.003    | 0.036    | 0.005    | 0.008    |
| m (O&P)   | Mean    | 1.635    | 1.489   | 1.487    | 1.453    | 1.421    | 1.433    |
| []        | Std Dev | 0.176    | 0.063   | 0.036    | 0.023    | 0.017    | 0.015    |

| Ti34      | No.     | 39       | 20      | 20       | 19       | 20       | 20       |
|-----------|---------|----------|---------|----------|----------|----------|----------|
|           |         | 1 mN     | 5 mN    | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7365.982 | 7267.97 | 7470.142 | 7558.283 | 7701.794 | 7756.263 |
| [MPa]     | Std Dev | 398.093  | 171.735 | 93.738   | 112.287  | 101.927  | 63.681   |
| EIT (O&P) | Mean    | 84.129   | 81.329  | 80.657   | 80.805   | 81.304   | 81.243   |
| [GPa]     | Std Dev | 2.46     | 0.937   | 0.519    | 0.453    | 0.452    | 0.23     |
| E* (O&P)  | Mean    | 88.574   | 85.625  | 84.918   | 85.073   | 85.599   | 85.535   |
| [GPa]     | Std Dev | 2.59     | 0.987   | 0.546    | 0.476    | 0.476    | 0.242    |
| Er (O&P)  | Mean    | 82.218   | 79.675  | 79.063   | 79.197   | 79.653   | 79.597   |
| [GPa]     | Std Dev | 2.23     | 0.855   | 0.474    | 0.413    | 0.412    | 0.209    |
| hm (O&P)  | Mean    | 71.271   | 192.968 | 358.491  | 448.209  | 682.391  | 844.079  |
| [nm]      | Std Dev | 1.462    | 1.166   | 1.15     | 106.558  | 2.82     | 2.023    |
| Fm (O&P)  | Mean    | 1.001    | 5.006   | 15.041   | 25.01    | 50.075   | 75.083   |

|         |         |       |       |       |       |       |       |
|---------|---------|-------|-------|-------|-------|-------|-------|
| [mN]    | Std Dev | 0.006 | 0.018 | 0.033 | 0.042 | 0.021 | 0.026 |
| m (O&P) | Mean    | 1.533 | 1.505 | 1.434 | 1.427 | 1.42  | 1.412 |
| []      | Std Dev | 0.149 | 0.067 | 0.034 | 0.03  | 0.024 | 0.016 |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti35      | No.     | 20       | 19       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7189.554 | 7093.593 | 7272.573 | 7342.381 | 7489.206 | 7528.845 |
| [MPa]     | Std Dev | 442.184  | 203.03   | 118.328  | 83.425   | 77.95    | 69.872   |
| EIT (O&P) | Mean    | 84.137   | 79.255   | 78.606   | 78.848   | 78.706   | 78.862   |
| [GPa]     | Std Dev | 2.243    | 1.046    | 0.789    | 0.331    | 0.586    | 0.251    |
| E* (O&P)  | Mean    | 88.581   | 83.441   | 82.758   | 83.014   | 82.864   | 83.028   |
| [GPa]     | Std Dev | 2.362    | 1.101    | 0.831    | 0.348    | 0.616    | 0.265    |
| Er (O&P)  | Mean    | 82.225   | 77.78    | 77.187   | 77.409   | 77.279   | 77.421   |
| [GPa]     | Std Dev | 2.035    | 0.957    | 0.722    | 0.303    | 0.537    | 0.23     |
| hm (O&P)  | Mean    | 71.773   | 195.5    | 363.264  | 479.128  | 693.601  | 856.019  |
| [nm]      | Std Dev | 1.658    | 1.912    | 1.946    | 1.837    | 3.135    | 2.29     |
| Fm (O&P)  | Mean    | 1.001    | 5.006    | 15.04    | 25.004   | 50.085   | 75.079   |
| [mN]      | Std Dev | 0.002    | 0.005    | 0.003    | 0.003    | 0.005    | 0.008    |
| m (O&P)   | Mean    | 1.665    | 1.499    | 1.429    | 1.435    | 1.4      | 1.411    |
| []        | Std Dev | 0.241    | 0.049    | 0.028    | 0.022    | 0.016    | 0.013    |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti36      | No.     | 39       | 19       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7459.061 | 7335.235 | 7378.966 | 7448.647 | 7595.427 | 7605.048 |
| [MPa]     | Std Dev | 331.922  | 136.915  | 94.989   | 68.23    | 86.109   | 61.218   |
| EIT (O&P) | Mean    | 83.864   | 80.362   | 79.605   | 79.971   | 80.245   | 80.144   |
| [GPa]     | Std Dev | 1.98     | 0.669    | 0.52     | 0.344    | 0.474    | 0.289    |
| E* (O&P)  | Mean    | 88.378   | 84.688   | 83.89    | 84.275   | 84.564   | 84.458   |
| [GPa]     | Std Dev | 2.087    | 0.705    | 0.548    | 0.363    | 0.499    | 0.305    |
| Er (O&P)  | Mean    | 82.051   | 78.863   | 78.171   | 78.505   | 78.756   | 78.663   |
| [GPa]     | Std Dev | 1.799    | 0.612    | 0.475    | 0.315    | 0.432    | 0.265    |
| hm (O&P)  | Mean    | 70.931   | 193.209  | 360.623  | 475.482  | 687.368  | 850.853  |
| [nm]      | Std Dev | 1.432    | 1.111    | 1.356    | 1.717    | 2.775    | 1.768    |
| Fm (O&P)  | Mean    | 1.002    | 5.006    | 15.037   | 25.019   | 50.079   | 75.077   |
| [mN]      | Std Dev | 0.002    | 0.003    | 0.004    | 0.032    | 0.006    | 0.003    |
| m (O&P)   | Mean    | 1.543    | 1.458    | 1.435    | 1.425    | 1.409    | 1.404    |
| []        | Std Dev | 0.143    | 0.053    | 0.031    | 0.023    | 0.021    | 0.015    |

|           |         |          |          |          |          |          |          |
|-----------|---------|----------|----------|----------|----------|----------|----------|
| Ti37      | No.     | 40       | 19       | 20       | 20       | 20       | 20       |
|           |         | 1 mN     | 5 mN     | 15 mN    | 25 mN    | 50 mN    | 75 mN    |
| HIT (O&P) | Mean    | 7544.122 | 7243.358 | 7400.841 | 7453.491 | 7542.155 | 7581.351 |
| [MPa]     | Std Dev | 347.538  | 214.491  | 92.837   | 82.257   | 54.268   | 50.68    |
| EIT (O&P) | Mean    | 83.119   | 79.162   | 79.809   | 79.949   | 80.507   | 80.206   |
| [GPa]     | Std Dev | 2.397    | 1.011    | 0.506    | 0.456    | 0.329    | 0.32     |
| E* (O&P)  | Mean    | 87.306   | 83.15    | 83.83    | 83.977   | 84.563   | 84.246   |
| [GPa]     | Std Dev | 2.518    | 1.062    | 0.532    | 0.479    | 0.346    | 0.336    |
| Er (O&P)  | Mean    | 81.125   | 77.527   | 78.118   | 78.246   | 78.754   | 78.48    |

|          |         |        |         |         |        |         |         |
|----------|---------|--------|---------|---------|--------|---------|---------|
| [GPa]    | Std Dev | 2.177  | 0.924   | 0.462   | 0.416  | 0.3     | 0.291   |
| hm (O&P) | Mean    | 70.941 | 194.908 | 360.629 | 476.15 | 688.992 | 852.386 |
| [nm]     | Std Dev | 1.393  | 1.95    | 1.383   | 1.728  | 1.951   | 1.968   |
| Fm (O&P) | Mean    | 1.001  | 5.007   | 15.041  | 25.019 | 50.082  | 75.074  |
| [mN]     | Std Dev | 0.002  | 0.005   | 0.004   | 0.032  | 0.006   | 0.006   |
| m (O&P)  | Mean    | 1.495  | 1.435   | 1.417   | 1.401  | 1.402   | 1.39    |
| []       | Std Dev | 0.128  | 0.038   | 0.028   | 0.029  | 0.018   | 0.015   |