

Table S1 Major element composition of clinopyroxene from the Dabie hornblendite.

| No. | Major oxides |                  |                                |      |      |       |       |                   |        | Apfu bases on 6 O |       |       |       |       |       |       |       |       |
|-----|--------------|------------------|--------------------------------|------|------|-------|-------|-------------------|--------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | SiO2         | TiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | FeO  | MnO  | MgO   | CaO   | Na <sub>2</sub> O | Total  | Si                | Ti    | Al    | Fe    | Mn    | Mg    | Ca    | Na    | Mg#   |
| 1   | 53.13        | 0.08             | 1.05                           | 4.79 | 0.13 | 15.85 | 24.04 | 0.17              | 99.26  | 1.969             | 0.002 | 0.046 | 0.148 | 0.004 | 0.876 | 0.954 | 0.012 | 0.855 |
| 2   | 52.31        | 0.19             | 2.48                           | 5.19 | 0.10 | 15.22 | 23.84 | 0.28              | 99.62  | 1.935             | 0.005 | 0.108 | 0.160 | 0.003 | 0.839 | 0.945 | 0.020 | 0.840 |
| 3   | 52.49        | 0.08             | 2.29                           | 6.12 | 0.18 | 14.83 | 22.97 | 0.57              | 99.53  | 1.948             | 0.002 | 0.100 | 0.190 | 0.006 | 0.820 | 0.913 | 0.041 | 0.812 |
| 4   | 53.12        | 0.03             | 0.63                           | 7.77 | 0.23 | 14.09 | 23.63 | 0.32              | 99.80  | 1.983             | 0.001 | 0.028 | 0.242 | 0.007 | 0.784 | 0.945 | 0.023 | 0.764 |
| 5   | 52.43        | 0.06             | 1.45                           | 8.16 | 0.28 | 13.53 | 22.64 | 0.59              | 99.15  | 1.971             | 0.002 | 0.064 | 0.257 | 0.009 | 0.759 | 0.912 | 0.043 | 0.747 |
| 6   | 52.59        | 0.11             | 1.79                           | 7.86 | 0.20 | 13.80 | 22.57 | 0.77              | 99.71  | 1.963             | 0.003 | 0.079 | 0.245 | 0.006 | 0.768 | 0.903 | 0.055 | 0.758 |
| 7   | 52.56        | 0.16             | 1.87                           | 6.59 | 0.15 | 14.09 | 23.51 | 0.47              | 99.49  | 1.959             | 0.004 | 0.082 | 0.206 | 0.005 | 0.783 | 0.939 | 0.034 | 0.792 |
| 8   | 52.40        | 0.11             | 1.14                           | 7.81 | 0.28 | 14.58 | 22.32 | 0.44              | 99.10  | 1.967             | 0.003 | 0.051 | 0.245 | 0.009 | 0.816 | 0.898 | 0.032 | 0.769 |
| 9   | 53.04        | 0.10             | 1.75                           | 8.09 | 0.29 | 14.15 | 22.15 | 0.59              | 100.20 | 1.968             | 0.003 | 0.076 | 0.251 | 0.009 | 0.782 | 0.880 | 0.042 | 0.757 |
| 10  | 52.61        | 0.09             | 1.47                           | 7.91 | 0.25 | 14.07 | 22.43 | 0.52              | 99.41  | 1.969             | 0.003 | 0.065 | 0.248 | 0.008 | 0.785 | 0.899 | 0.038 | 0.760 |
| 11  | 52.58        | 0.10             | 0.90                           | 8.56 | 0.37 | 14.45 | 22.65 | 0.41              | 100.04 | 1.965             | 0.003 | 0.039 | 0.268 | 0.012 | 0.805 | 0.907 | 0.030 | 0.750 |
| 12  | 52.75        | 0.09             | 1.59                           | 6.06 | 0.18 | 15.31 | 23.35 | 0.40              | 99.73  | 1.955             | 0.003 | 0.069 | 0.188 | 0.006 | 0.846 | 0.927 | 0.028 | 0.818 |
| 13  | 52.64        | 0.05             | 0.98                           | 5.92 | 0.13 | 15.06 | 24.14 | 0.33              | 99.25  | 1.964             | 0.001 | 0.043 | 0.185 | 0.004 | 0.838 | 0.965 | 0.024 | 0.819 |
| 14  | 52.62        | 0.08             | 1.59                           | 5.96 | 0.14 | 14.98 | 23.44 | 0.40              | 99.25  | 1.960             | 0.002 | 0.070 | 0.186 | 0.005 | 0.832 | 0.936 | 0.029 | 0.817 |
| 15  | 52.15        | 0.19             | 2.37                           | 6.15 | 0.18 | 14.95 | 23.29 | 0.40              | 99.74  | 1.935             | 0.005 | 0.104 | 0.191 | 0.006 | 0.827 | 0.926 | 0.029 | 0.813 |
| 16  | 52.50        | 0.15             | 2.15                           | 5.91 | 0.10 | 14.56 | 23.29 | 0.45              | 99.11  | 1.955             | 0.004 | 0.094 | 0.184 | 0.003 | 0.808 | 0.929 | 0.032 | 0.814 |
| 17  | 52.83        | 0.16             | 1.99                           | 6.01 | 0.12 | 14.85 | 23.41 | 0.47              | 99.88  | 1.954             | 0.005 | 0.087 | 0.186 | 0.004 | 0.819 | 0.928 | 0.034 | 0.815 |
| 18  | 52.50        | 0.32             | 2.65                           | 6.09 | 0.16 | 14.61 | 23.07 | 0.48              | 99.92  | 1.940             | 0.009 | 0.115 | 0.188 | 0.005 | 0.805 | 0.914 | 0.034 | 0.810 |
| 19  | 52.66        | 0.17             | 2.22                           | 6.04 | 0.14 | 14.98 | 23.11 | 0.38              | 99.76  | 1.949             | 0.005 | 0.097 | 0.187 | 0.004 | 0.826 | 0.917 | 0.027 | 0.816 |
| 20  | 53.44        | 0.07             | 0.82                           | 5.69 | 0.22 | 15.03 | 24.29 | 0.30              | 99.88  | 1.978             | 0.002 | 0.036 | 0.176 | 0.007 | 0.829 | 0.963 | 0.022 | 0.825 |

Table S2 Major element composition of plagioclase from the Dabie hornblendite.

| No. | Major oxides     |                                |      |       |                   |                  |        | Apfu based on 8 O |       |       |       |       |       |    |
|-----|------------------|--------------------------------|------|-------|-------------------|------------------|--------|-------------------|-------|-------|-------|-------|-------|----|
|     | SiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | FeO  | CaO   | Na <sub>2</sub> O | K <sub>2</sub> O | Total  | Si                | Al    | Fe    | Ca    | Na    | K     | An |
| 1   | 50.30            | 31.88                          | 0.10 | 14.54 | 3.41              | 0.08             | 100.31 | 2.287             | 1.708 | 0.004 | 0.708 | 0.300 | 0.005 | 70 |
| 2   | 55.80            | 28.49                          | 0.08 | 10.35 | 5.76              | 0.09             | 100.56 | 2.497             | 1.503 | 0.003 | 0.496 | 0.500 | 0.005 | 50 |
| 3   | 51.07            | 31.71                          | 0.04 | 14.34 | 3.64              | 0.04             | 100.85 | 2.306             | 1.688 | 0.002 | 0.694 | 0.319 | 0.002 | 69 |
| 4   | 53.65            | 29.61                          | 0.05 | 11.86 | 4.83              | 0.05             | 100.05 | 2.423             | 1.576 | 0.002 | 0.574 | 0.423 | 0.003 | 58 |
| 5   | 50.09            | 31.97                          | 0.12 | 14.56 | 3.36              | 0.04             | 100.14 | 2.281             | 1.716 | 0.005 | 0.711 | 0.296 | 0.003 | 71 |
| 6   | 50.67            | 31.52                          | 0.12 | 14.14 | 3.64              | 0.05             | 100.14 | 2.305             | 1.690 | 0.004 | 0.689 | 0.321 | 0.003 | 68 |
| 7   | 50.06            | 31.94                          | 0.12 | 14.29 | 3.28              | 0.04             | 99.72  | 2.286             | 1.719 | 0.004 | 0.699 | 0.290 | 0.002 | 71 |
| 8   | 51.90            | 30.49                          | 0.06 | 12.92 | 4.07              | 0.03             | 99.47  | 2.365             | 1.638 | 0.002 | 0.631 | 0.360 | 0.002 | 64 |
| 9   | 52.96            | 30.42                          | 0.08 | 12.59 | 4.38              | 0.01             | 100.45 | 2.387             | 1.616 | 0.003 | 0.608 | 0.382 | 0.001 | 61 |
| 10  | 49.78            | 31.79                          | 0.09 | 13.94 | 3.44              | 0.02             | 99.06  | 2.287             | 1.721 | 0.004 | 0.686 | 0.307 | 0.001 | 69 |
| 11  | 51.79            | 30.25                          | 0.11 | 12.90 | 3.91              | 0.08             | 99.04  | 2.370             | 1.632 | 0.004 | 0.633 | 0.347 | 0.004 | 65 |
| 12  | 49.54            | 32.06                          | 0.14 | 14.90 | 3.44              | 0.04             | 100.11 | 2.262             | 1.725 | 0.005 | 0.729 | 0.304 | 0.002 | 71 |
| 13  | 53.46            | 29.69                          | 0.13 | 11.71 | 5.02              | 0.06             | 100.06 | 2.417             | 1.582 | 0.005 | 0.567 | 0.440 | 0.003 | 56 |
| 14  | 54.22            | 28.91                          | 0.09 | 10.95 | 5.40              | 0.08             | 99.65  | 2.456             | 1.543 | 0.003 | 0.531 | 0.474 | 0.005 | 53 |
| 15  | 54.36            | 28.88                          | 0.16 | 11.27 | 5.23              | 0.13             | 100.03 | 2.455             | 1.537 | 0.006 | 0.545 | 0.458 | 0.007 | 54 |
| 16  | 54.08            | 28.93                          | 0.09 | 11.24 | 5.16              | 0.10             | 99.60  | 2.451             | 1.545 | 0.003 | 0.546 | 0.454 | 0.006 | 55 |

Table S3 Major element composition of carbonate within amphibole-hosted fluid inclusions in the Dabie hornblendite.

| No.      | Major oxides |       |       |      |                 |        | Apfu based on 3 O |       |       |       |       |       |
|----------|--------------|-------|-------|------|-----------------|--------|-------------------|-------|-------|-------|-------|-------|
|          | MgO          | CaO   | FeO   | MnO  | CO <sub>2</sub> | Total  | Mg                | Fe    | Ca    | Mn    | C     | Mg#   |
| Calcite  |              |       |       |      |                 |        |                   |       |       |       |       |       |
| 1        | 0.25         | 55.80 | 0.59  | 0.19 | 43.76           | 100.60 | 0.006             | 0.008 | 0.995 | 0.003 | 0.994 |       |
| 2        | 0.50         | 55.18 | 0.86  | 0.16 | 43.81           | 100.50 | 0.012             | 0.012 | 0.984 | 0.002 | 0.995 |       |
| 3        | 0.04         | 56.36 | 0.58  | 0.01 | 43.71           | 100.69 | 0.001             | 0.008 | 1.005 | 0.000 | 0.993 |       |
| 4        | 0.13         | 56.63 | 0.53  | 0.07 | 43.64           | 101.00 | 0.003             | 0.007 | 1.008 | 0.001 | 0.990 |       |
| 5        | 0.13         | 55.64 | 0.42  | 0.05 | 43.90           | 100.14 | 0.003             | 0.006 | 0.993 | 0.001 | 0.999 |       |
| 6        | 0.36         | 55.20 | 0.77  | 0.26 | 43.81           | 100.40 | 0.009             | 0.011 | 0.985 | 0.004 | 0.996 |       |
| 7        | 0.03         | 56.81 | 0.36  | 0.00 | 43.68           | 100.88 | 0.001             | 0.005 | 1.012 | 0.000 | 0.991 |       |
| 8        | 0.73         | 52.51 | 1.37  | 0.37 | 44.18           | 99.16  | 0.018             | 0.019 | 0.941 | 0.005 | 1.008 |       |
| Dolomite |              |       |       |      |                 |        |                   |       |       |       |       |       |
| 1        | 16.23        | 29.21 | 7.08  | 0.35 | 46.32           | 99.18  | 0.386             | 0.094 | 0.499 | 0.005 | 1.008 | 0.803 |
| 2        | 15.13        | 28.29 | 9.80  | 0.30 | 45.82           | 99.34  | 0.363             | 0.132 | 0.488 | 0.004 | 1.007 | 0.733 |
| 3        | 14.96        | 29.76 | 8.50  | 0.26 | 45.90           | 99.38  | 0.358             | 0.114 | 0.512 | 0.003 | 1.006 | 0.758 |
| 4        | 14.52        | 29.83 | 8.29  | 0.43 | 45.95           | 99.02  | 0.348             | 0.112 | 0.514 | 0.006 | 1.010 | 0.757 |
| 5        | 13.12        | 32.71 | 7.07  | 0.35 | 45.82           | 99.07  | 0.316             | 0.095 | 0.565 | 0.005 | 1.009 | 0.768 |
| 6        | 15.77        | 30.75 | 6.43  | 0.88 | 46.03           | 99.85  | 0.375             | 0.086 | 0.525 | 0.012 | 1.001 | 0.814 |
| 7        | 14.78        | 28.49 | 10.46 | 0.42 | 45.56           | 99.71  | 0.355             | 0.141 | 0.492 | 0.006 | 1.003 | 0.716 |
| 8        | 15.54        | 28.35 | 9.63  | 0.32 | 45.80           | 99.64  | 0.372             | 0.129 | 0.488 | 0.004 | 1.004 | 0.742 |
| 9        | 12.63        | 28.80 | 12.78 | 0.38 | 45.00           | 99.59  | 0.308             | 0.175 | 0.504 | 0.005 | 1.004 | 0.638 |
| 10       | 14.33        | 29.16 | 10.29 | 0.35 | 45.52           | 99.66  | 0.345             | 0.139 | 0.505 | 0.005 | 1.003 | 0.713 |
| 11       | 14.33        | 28.07 | 11.46 | 0.25 | 45.45           | 99.56  | 0.346             | 0.155 | 0.487 | 0.003 | 1.004 | 0.690 |
| 12       | 15.44        | 28.66 | 9.35  | 0.28 | 45.84           | 99.57  | 0.369             | 0.125 | 0.493 | 0.004 | 1.004 | 0.746 |
| 13       | 14.82        | 29.31 | 10.16 | 0.32 | 45.48           | 100.09 | 0.355             | 0.137 | 0.505 | 0.004 | 0.999 | 0.722 |
| 14       | 13.50        | 29.71 | 10.26 | 0.38 | 45.48           | 99.32  | 0.326             | 0.139 | 0.516 | 0.005 | 1.007 | 0.701 |