

Supplementary Material

Table S1. Mean, SEM and number of replicates for data points in Figure 2.

| Fungi species | Group | Mean | SEM | Number of replicates |
|-----------------------|------------------|------|------|----------------------|
| <i>A. niger</i> | Comparison group | 0.95 | 0.06 | 3 |
| | Test group | 0.61 | 0.10 | 7 |
| <i>M. hiemalis</i> | Comparison group | 1.06 | 0.13 | 3 |
| | Test group | 0.88 | 0.07 | 7 |
| <i>P. chrysogenum</i> | Comparison group | 1.87 | 0.13 | 3 |
| | Test group | 0.92 | 0.21 | 7 |

Table S2. Mean, SEM and number of replicates for data points in Figure 3.

| Fungi species | GNP average diameter (nm) | Group | Mean | SEM | Number of replicates |
|-----------------------|---------------------------|------------------|------|------|----------------------|
| <i>A. niger</i> | 4.6 | Comparison group | 0.97 | 0.03 | 3 |
| | | Test group | 0.72 | 0.26 | 7 |
| | 82.3 | Comparison group | 1.18 | 0.09 | 3 |
| | | Test group | 0.64 | 0.11 | 7 |
| | 634.5 | Comparison group | 0.99 | 0.07 | 3 |
| | | Test group | 0.40 | 0.05 | 7 |
| <i>M. hiemalis</i> | 4.6 | Comparison group | 1.16 | 0.20 | 3 |
| | | Test group | 0.87 | 0.04 | 7 |
| | 82.3 | Comparison group | 1.23 | 0.08 | 3 |
| | | Test group | 1.00 | 0.05 | 7 |
| | 634.5 | Comparison group | 1.21 | 0.14 | 3 |
| | | Test group | 0.91 | 0.06 | 7 |
| <i>P. chrysogenum</i> | 4.6 | Comparison group | 1.86 | 0.62 | 3 |
| | | Test group | 0.85 | 0.12 | 7 |
| | 82.3 | Comparison group | 1.29 | 0.03 | 3 |
| | | Test group | 0.81 | 0.13 | 7 |
| | 634.5 | Comparison group | 1.62 | 0.70 | 3 |
| | | Test group | 0.94 | 0.22 | 7 |

Table S3. Mean, SEM and number of replicates for data points in Figure 4.

| Fungi species | GNP average diameter (nm) | Group | Mean | SEM | Number of replicates |
|--------------------|---------------------------|------------------|------|------|----------------------|
| <i>A. niger</i> | 0.74 | Comparison group | 1.18 | 0.28 | 3 |
| | | Test group | 0.58 | 0.02 | 7 |
| | 1.42 | Comparison group | 1.09 | 0.16 | 3 |
| | | Test group | 0.65 | 0.13 | 7 |
| | 52.26 | Comparison group | 1.02 | 0.03 | 3 |
| | | Test group | 0.59 | 0.22 | 7 |
| 391.05 | Comparison group | 1.04 | 0.03 | 3 | |
| | Test group | 0.56 | 0.08 | 7 | |
| <i>M. hiemalis</i> | 0.74 | Comparison group | 1.29 | 0.07 | 3 |
| | | Test group | 0.91 | 0.07 | 7 |
| | 1.42 | Comparison group | 1.24 | 0.05 | 3 |
| | | Test group | 0.80 | 0.07 | 7 |
| | 52.26 | Comparison group | 1.26 | 0.07 | 3 |
| | | Test group | 0.88 | 0.04 | 7 |
| 391.05 | Comparison group | 1.17 | 0.06 | 3 | |
| | Test group | 0.94 | 0.06 | 7 | |

| | | | | | |
|-----------------------|--------|------------------|------|------|---|
| <i>P. chrysogenum</i> | 0.74 | Comparison group | 2.09 | 0.50 | 3 |
| | | Test group | 0.68 | 0.13 | 7 |
| | 1.42 | Comparison group | 2.28 | 0.40 | 3 |
| | | Test group | 0.77 | 0.15 | 7 |
| | 52.26 | Comparison group | 1.10 | 0.07 | 3 |
| | | Test group | 0.64 | 0.12 | 7 |
| | 391.05 | Comparison group | 1.56 | 0.30 | 3 |
| | | Test group | 0.80 | 0.20 | 7 |

Table S4. Mean, SEM and number of replicates for data points in Figure 5.

| GNP shape | Fungi species | GNP concentration (mg/L) | GNP average diameter (nm) | | | | | | | | | | | |
|--------------------|-----------------------|--------------------------|---------------------------|------|---|---------|------|---|----------|------|---|-----------|------|---|
| | | | 61.69 nm (Standard) | | | 4.60 nm | | | 82.33 nm | | | 634.54 nm | | |
| | | | Mean | SEM | n | Mean | SEM | n | Mean | SEM | n | Mean | SEM | n |
| Spherical | <i>A. niger</i> | 393.94 | 22.30 | 3.88 | 4 | 12.16 | 2.34 | 4 | 16.22 | 3.31 | 4 | 12.16 | 2.34 | 4 |
| | | 98.49 | 36.49 | 2.34 | 4 | 24.32 | 3.31 | 4 | 36.49 | 2.34 | 4 | 26.35 | 2.03 | 4 |
| | | 19.70 | 44.59 | 2.34 | 4 | 32.43 | 3.31 | 4 | 46.62 | 2.03 | 4 | 34.46 | 2.03 | 4 |
| | | 3.94 | 62.84 | 3.88 | 4 | 56.76 | 3.31 | 4 | 62.84 | 5.10 | 4 | 48.65 | 3.31 | 4 |
| | | 0.98 | 93.24 | 5.23 | 4 | 93.24 | 5.23 | 4 | 93.24 | 7.02 | 4 | 72.97 | 3.31 | 4 |
| | <i>M. hiemalis</i> | 393.94 | 54.35 | 4.16 | 4 | 52.17 | 7.10 | 4 | 67.39 | 5.47 | 4 | 63.04 | 2.17 | 4 |
| | | 98.49 | 63.04 | 5.47 | 4 | 69.57 | 7.94 | 4 | 69.57 | 7.94 | 4 | 67.39 | 5.47 | 4 |
| | | 19.70 | 76.09 | 7.43 | 4 | 80.43 | 4.16 | 4 | 91.30 | 5.61 | 4 | 82.61 | 5.61 | 4 |
| | | 3.94 | 95.65 | 6.15 | 4 | 97.83 | 8.96 | 4 | 97.83 | 5.47 | 4 | 86.96 | 3.55 | 4 |
| | | 0.98 | 100.00 | 2.51 | 4 | 106.52 | 5.47 | 4 | 104.35 | 7.94 | 4 | 106.52 | 4.16 | 4 |
| | <i>P. chrysogenum</i> | 393.94 | 20.12 | 3.50 | 4 | 47.56 | 2.11 | 4 | 21.95 | 2.99 | 4 | 21.95 | 2.99 | 4 |
| | | 98.49 | 31.10 | 3.50 | 4 | 51.22 | 2.99 | 4 | 29.27 | 2.99 | 4 | 43.90 | 2.99 | 4 |
| | | 19.70 | 54.88 | 4.72 | 4 | 62.20 | 2.11 | 4 | 58.54 | 2.99 | 4 | 54.88 | 2.11 | 4 |
| | | 3.94 | 78.66 | 6.25 | 4 | 71.34 | 1.83 | 4 | 65.85 | 2.99 | 4 | 62.20 | 2.11 | 4 |
| | | 0.98 | 91.46 | 7.62 | 4 | 80.49 | 2.99 | 4 | 91.46 | 4.72 | 4 | 80.49 | 2.99 | 4 |
| GNP shape | Fungi species | GNP concentration (mg/L) | GNP average diameter (nm) | | | | | | | | | | | |
| | | | 0.74 nm | | | 1.42 nm | | | 52.26 nm | | | 391.05 nm | | |
| | | | Mean | SEM | n | Mean | SEM | n | Mean | SEM | n | Mean | SEM | n |
| Star/Flower-shaped | <i>A. niger</i> | 393.94 | 24.32 | 3.31 | 4 | 22.30 | 2.03 | 4 | 14.19 | 3.88 | 4 | 16.22 | 3.31 | 4 |
| | | 98.49 | 46.62 | 3.88 | 4 | 36.49 | 5.23 | 4 | 20.27 | 2.34 | 4 | 26.35 | 6.92 | 4 |
| | | 19.70 | 56.76 | 3.31 | 4 | 46.62 | 2.03 | 4 | 32.43 | 3.31 | 4 | 40.54 | 3.31 | 4 |
| | | 3.94 | 66.89 | 2.03 | 4 | 64.86 | 3.31 | 4 | 44.59 | 5.23 | 4 | 48.65 | 3.31 | 4 |
| | | 0.98 | 75.00 | 3.88 | 4 | 89.19 | 3.31 | 4 | 66.89 | 6.92 | 4 | 75.00 | 6.92 | 4 |
| | <i>M. hiemalis</i> | 393.94 | 45.65 | 2.17 | 4 | 43.48 | 3.55 | 4 | 63.04 | 6.52 | 4 | 52.17 | 5.02 | 4 |
| | | 98.49 | 56.52 | 5.61 | 4 | 58.70 | 6.52 | 4 | 67.39 | 4.16 | 4 | 63.04 | 7.43 | 4 |
| | | 19.70 | 78.26 | 3.55 | 4 | 69.57 | 7.94 | 4 | 82.61 | 5.61 | 4 | 84.78 | 8.23 | 4 |
| | | 3.94 | 89.13 | 2.17 | 4 | 93.48 | 6.52 | 4 | 91.30 | 5.61 | 4 | 86.96 | 6.15 | 4 |
| | | 0.98 | 97.83 | 5.47 | 4 | 100.00 | 7.53 | 4 | 104.35 | 7.94 | 4 | 102.17 | 5.47 | 4 |

| | | | | | | | | | | | | | |
|--------------------|--------|-------|------|---|-------|------|---|-------|------|---|-------|------|---|
| | 393.94 | 20.12 | 1.83 | 4 | 16.46 | 4.60 | 4 | 25.61 | 2.11 | 4 | 18.29 | 3.66 | 4 |
| | 98.49 | 31.10 | 1.83 | 4 | 29.27 | 2.99 | 4 | 32.93 | 2.11 | 4 | 29.27 | 2.99 | 4 |
| <i>P.</i> | 19.70 | 40.24 | 2.11 | 4 | 45.73 | 3.50 | 4 | 43.90 | 2.99 | 4 | 40.24 | 2.11 | 4 |
| <i>chrysogenum</i> | 3.94 | 62.20 | 4.72 | 4 | 56.71 | 4.60 | 4 | 56.71 | 3.50 | 4 | 56.71 | 3.50 | 4 |
| | 0.98 | 85.98 | 3.50 | 4 | 84.54 | 9.08 | 4 | 73.17 | 2.99 | 4 | 84.15 | 2.11 | 4 |

* n represents the number of replicates.