*Supplementary material*

Table S1. Mantel test statistics for extracellular enzyme activity and microbial community composition in the Ultisol, Alfisol, and Vertisol soils.

|  |  |  |
| --- | --- | --- |
| Soil types | R2 | *P* value |
| Ultisol | 0.067 | 0.13 |
| Alfisol | 0.008 | 0.39 |
| Vertisol | 0.013 | 0.35 |

Table S2. The PERMANOVA results for microbial community structure in the Ultisol, Alfisol, and Vertisol soils.

|  |  |  |
| --- | --- | --- |
| Soil types | R2 | *P* value |
| Ultisol | 0.042 | 0.35 |
| Alfisol | 0.024 | 0.41 |
| Vertisol | 0.110 | 0.12 |