**Table S3** Mantel test to determine the correlations between diazotrophic communities and soil factors.

|  |  |  |
| --- | --- | --- |
|  | *r* | *P* |
| pH | 0.011 | 0.946 |
| Total N | -0.009 | 0.952 |
| Total C | 0.113 | 0.368 |
| C/N | 0.150 | 0.191 |
| Total P | -0.202 | 0.100 |
| Total K | 0.139 | 0.401 |
| NH4+-N | -0.234 | 0.111 |
| NO3--N | 0.114 | 0.211 |
| Available P | **0.264**a | **0.038** |
| Available K | 0.195 | 0.090 |

a Values in bold indicate significant correlation (*P* < 0.05).