**S2 Table**. Phosphorus loading on biochar and activated carbon used in release experiments and on samples used for XANES analysis.

|  |  |  |
| --- | --- | --- |
| Sample | Incubation P concentration (mg/L) | Total P (mg/kg) |
| BN | 0 | 359 |
| BN 2% Fe1 | 10 | 329 |
| AC | 0 | 953 |
| AC 2% Fe | 10 | 1462 |
| AD | 0 | 16334 |
| AD 2% Fe | 10 | 16992 |

1A separate lot of biochar was acquired for this experiment, which had a slightly lower inherent total P value.