

Table S1. Names, functions, and substrates of soil extracellular enzymes.

Ecology function	Extracellular enzymes	Substrate
Carbon cycle	BG	4-MUB- β -D-glucoside
	CBH	4-MUB- β -D-cellobioside
Nitrogen cycle	NAG	4-MUB-N-acetyl- β -D-glucosaminide
	LAP	L-Leucine-7-amino-4-methylcoumarin
Phosphorus cycle	AP	4-MUB-phosphate disodium salt