

**Table S1.** Effects of vegetation communities and precipitation treatments on enzyme Vmax, FTIR litter chemistry, and CAZyme gene abundance. Cohen's D is calculated for significant main effects (either vegetation or precipitation) while significant vegetation and precipitation interactions are denoted with an asterisk. Insignificant results have empty cells. P-values are denoted for significant main effects and their interactions as asterisks \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ , with main effects using p-values from Tukey's pairwise comparisons and interactions using p-values from mixed effect models. P = Precipitation treatment. V = Vegetation community.

+ Not significant under mixed effect modeling but had groups that were statistically significantly different ( $p < 0.01$ ) under Tukey's pairwise comparisons

		Transformation	V	P	V x P
Enzyme Vmax	AG	log10			
	AP	log10			
	BG	reciprocal			
	BX	log10			
	CBH	log10	2.9328***		
	LAP	reciprocal			
	NAG	log10	2.4994***		
FTIR band	1015 - 970 cm <sup>-1</sup>	reciprocal	2.0241***		
	1080 - 1015 cm <sup>-1</sup>		2.7182***		*
	1160 - 1100 cm <sup>-1</sup>		1.2610***	0.7146**	*
	1230 - 1160 cm <sup>-1</sup>		2.0109***		
	1475 - 1450 cm <sup>-1</sup>	reciprocal	2.0938***		
	1600 - 1545 cm <sup>-1</sup>			0.9759***	+
	1645 - 1620 cm <sup>-1</sup>			0.8644***	

	1750 - 1700 cm <sup>-1</sup>		3.4802***		
Putative substrate CAZyme gene abundance	Cellulose				
	Chitin		0.8150**		
	Hemicellulose		1.6573***		
	Lignin		1.0556***	0.7647**	
	Oligosaccharides	reciprocal	1.1331***		
	Peptidoglycan				
	Polysaccharides				
	Starch		1.3334***		
Community composition	F:B	reciprocal			
	Taxonomic diversity		0.9080***		+