Table S1 Average values of forest soil enzyme activity and different group of PLFAs along the NSTEC.

Sampling	Enzyme activities				PLFAs							
site	BG	NAG	LAP	AP	tPLFA	Bacteria	Fungi	Acti-	F/B	G^+	G^-	G^+/G^-
HZ	244±8.6	111±5.5	41±0.8	459±5.0	17.7±1.2	9.4 ±0.4	0.9±0.1	0.4±0.2	0.09 ±0.01	4.5±0.4	4.23±0.2	1.4±0.1
LS	203±12.0	68±6.6	60±0.8	3297±17.5	16.8±1.2	7.9±0.4	0.6±0.1	0.5±0.4	0.06±0.01	4.5±0.4	2.88±0.1	1.6±0.1
CB	520±52.3	115±2.4	545±15.5	1213±90.6	22.2±1.9	12.3± 1.0	0.4±0.1	0.8±0.1	0.05±0.02	7.3± 0.4	3.21±0.9	1.6±0.1
DL	266±2.5	122±12.9	101±10.9	407±6.9	13.5±0.9	5.4±0.7	2.4±0.3	0.3±0.3	0.36±0.02	3.52±0.3	1.92±0.1	2.1±0.1
TY	267±21.9	189±2.4	367±11.1	356±41.0	8.0±0.3	3.7±0.1	0.3±0.1	0.2±0.1	0.07±0.01	1.85±0.1	1.53±0.1	1.2±0.1
SN	163±10.7	70±3.6	111±1.3	239±8.6	12.2±0.5	6.2±0.3	0.3±0.1	0.3±0.1	0.05±0.01	3.02±0.1	2.76±0.2	1.1±0.1
JL	67±4.3	35±0.5	83±2.9	845±33.2	9.8±0.8	4.2±0.2	0.7±0.3	0.3±0. 1	0.15±0.04	3.17±0.2	1.18±0.4	3.1±1.0
DH	71±0.4	20±1.2	81±0.4	1075±13.6	10.0±0.5	5.6±0.2	0.9±0.1	0.3±0.1	0.16±0.01	3.75±0.2	1.46±0.1	2.5±0.6
JF	37±3.4	14±3.1	77±1.4	656±40.5	7.9±1.2	4.4±0.5	0.6± 0.3	0.3±0.1	0.11±0.05	3.16±0.4	1.68±0.1	2.2±0.1

All values are presented as means ± SE (n=4). The enzyme activity (nmol·h^{-1} g^{-1} dry soil) and PLFAs (nmol·g^{-1} dry soil). C acquisition is represented by β-1,4-glucosidase (BG); N acquisition is measured by the potential activities of β-1,4-N-acetylglucosaminidase (NAG) and leucine aminopeptidase (LAP); P acquisition is measured as acid (alkaline) phosphatase (AP) activity. tPLFA, total PLFAs, Acti-, actinomycetes, F/B, fungi/bacteria; G^+/G^-, Gram-positive bacteria/ Gram-negative bacteria. The abbreviations of the sampling sites were showed in table 1.

Table S2 The plant diversity and community weighted means of plant functional traits

Sites	H′	LDMC (mg g^{-1})	SLA (m^2 kg^{-1})	Leaf C (g kg^{-1})	Leaf N (g kg^{-1})
HZ	0.53	365.6	8.5	487.5	19.4
LS	2.05	345.5	12.1	441.6	18.5
CB	2.14	287.8	18.5	108.7	6.12
DL	2.74	408.1	11.3	447.6	25.1
TY	1.01	421.6	9.5	494.0	19.5
SN	2.61	289.8	8.7	332.7	13.5
JL	2.73	359.3	6.2	392.6	14.2
DH	2.09	412.2	6.4	463.1	16.2
JF	4.08	nd	nd	nd	nd

H′: the diversity of the tree species; LDMC: the oven-dried mass of a leaf divided by its water-saturated fresh mass, SLA: the one-sided area of a fresh leaf divided by its oven-dried mass; Leaf C: Leaf carbon concentration; Leaf C: Leaf nitrogen concentration. nd: none detected. The abbreviations of the sampling sites were showed in table 1.

Table S3 The soil organic matter (SOM) decomposition rates during the28 days of incubation time (Mean±SE) ($\mu gC \cdot g^{-1}d^{-1}$)

Sites	1d	7d	14d	21d	28d	Average
HZ	3.23±0.24c	4.69±0.27a	3.40±0.17b	3.64±0.03a	2.19±0.13b	3.43±0.09b
LS	6.17±0.19a	4.60±0.44a	4.97±0.17a	3.83±0.17a	3.47±0.02a	4.61±0.14a
CB	3.74±0.13b	4.27±0.23b	3.36±0.13b	4.11±0.09a	3.41±0.43a	3.78±0.14b
DL	2.82±0.13d	2.66±0.08c	1.96±0.04c	2.38±0.02c	2.10±0.12b	2.38±0.05d
TY	3.92±0.27b	3.87±0.20b	3.75±0.36b	3.77±0.04a	3.50±0.06a	3.76±0.04b
SN	6.36±0.19a	5.36±0.24a	3.87±0.08b	3.19±0.16b	2.56±0.14b	4.27±0.10a
JL	2.88±0.08d	2.29±0.09c	2.40±0.08c	2.70±0.08c	1.82±0.03c	2.42±0.04d
DH	0.74±0.05e	0.58±0.06d	0.33±0.01d	1.03±0.12d	0.53±0.07e	0.64±0.04f
JF	2.21±0.06d	1.71±0.20c	1.72±0.29c	3.14±0.09b	1.30±0.03d	2.02±0.11e

Data labeled with different letters indicated soil organic matter (SOM) decomposition rates were significantly different at $P < 0.01$. The abbreviations of the sampling sites were given in the Table 1.

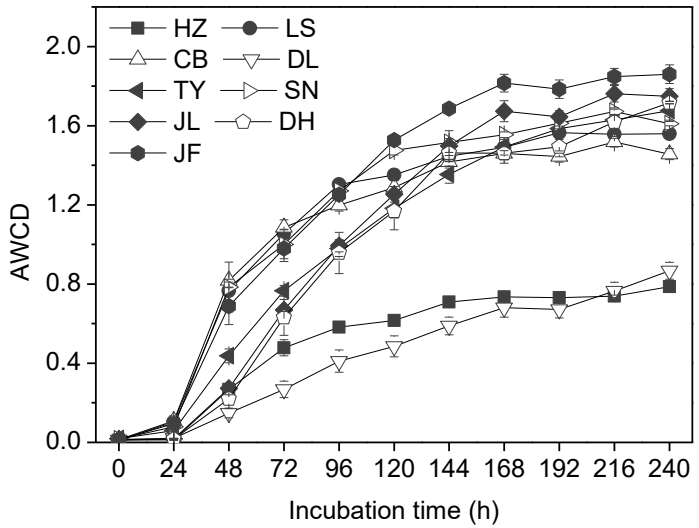

Fig.S1 Variation of the average well color development (AWCD) values during a 240-h incubation for the nine forests. The abbreviations of the sampling sites were showed in table 1.