



**Figure S1.** Typical FTIR spectra for POM and MAOM fractions with different reclamation years, soil depths and soil sampling positions.

**Table S1.** The specific peak areas of four functional groups in POM and MAOM fractions by FTIR with different soil depths.

	Soil Depths		
	0–20 cm	20–40 cm	40–60 cm
<b>POM</b>			
alcohol C–OH/C–NH	6.5 ± 0.4	5.9 ± 0.4	6.2 ± 0.4
aliphatic C–H	0.15 ± 0.02	0.16 ± 0.03	0.14 ± 0.02
aromatic C=C/C=N	8.5 ± 2	4.9 ± 1	4.1 ± 2
polysaccharide C–O	16 ± 3	12 ± 1	14 ± 2
<b>MAOM</b>			
alcohol C–OH/C–NH	6.2 ± 1	6.3 ± 1	6.4 ± 1
aliphatic C–H	0.16 ± 0.03	0.13 ± 0.01	0.14 ± 0.01
aromatic C=C/C=N	8.8 ± 0.8	9.0 ± 0.8	8.7 ± 0.9
polysaccharide C–O	15 ± 1	15 ± 0.9	15 ± 1

Values are mean ± standard error. No statistical significance was found for any of the conditions compared at the level of  $p < 0.05$ .

**Table S2.** The specific peak areas of four functional groups in POM and MAOM fractions by FTIR with different soil sampling positions.

	Soil sampling positions				
	Slope crest	Upper slope	Middle slope	Lower slope	Furrow sole
<b>POM</b>					
alcohol C–OH/C–NH	5.8 ± 0.4	6.2 ± 0.4	6.5 ± 0.5	6.1 ± 0.5	6.6 ± 0.7
aliphatic C–H	0.15 ± 0.03	0.20 ± 0.05	0.15 ± 0.02	0.11 ± 0.02	0.13 ± 0.03
aromatic C=C/C=N	6.33 ± 2	7.93 ± 2	6.22 ± 1	3.50 ± 1	6.64 ± 3
polysaccharide C–O	12 ± 1	14 ± 1	19 ± 6	13 ± 2	13 ± 2
<b>MAOM</b>					
alcohol C–OH/C–NH	6.2 ± 0.3	6.6 ± 0.5	6.2 ± 0.5	5.9 ± 0.4	6.6 ± 0.6
aliphatic C–H	0.14 ± 0.02	0.14 ± 0.01	0.13 ± 0.01	0.18 ± 0.05	0.13 ± 0.02
aromatic C=C/C=N	8.7 ± 0.7	7.7 ± 0.4	8.8 ± 1	9.0 ± 1	11 ± 2
polysaccharide C–O	15 ± 1	14 ± 0.5	15 ± 1	14 ± 2	18 ± 2

Values are mean ± standard error. No statistical significance was found for any of the conditions compared at the level of  $p < 0.05$

**Table S3.** Soil organic matter water repellence (W), hydrophobicity index (HI), and degree of decomposition (DDI) of POM and MAOM fractions with different soil depths.

	Soil Depths		
	0-20 cm	20-40 cm	40-60 cm
<b>POM</b>			
W	0.28 ± 0.02	0.27 ± 0.02	0.24 ± 0.02
HI	0.01 ± 0	0.10 ± 0.02	0.01 ± 0
DDI	4.0 ± 0.3	3.9 ± 0.2	4.4 ± 0.2
<b>MAOM</b>			
W	0.21 ± 0.01	0.21 ± 0.01	0.20 ± 0.01
HI	0.010 ± 0	0.050 ± 0.02	0.020 ± 0.01
DDI	5.1 ± 0.2	5.0 ± 0.3	5.3 ± 0.2

Values are mean ± standard error. No statistical significance was found for any of the conditions compared at the level of  $p < 0.05$ .

**Table S4.** Soil organic matter water repellence (W), hydrophobicity index (HI), and degree of decomposition (DDI) of POM and MAOM fractions with different soil sampling positions.

	Soil Sampling Positions				
	Slope crest	Upper slope	Middle slope	Lower slope	Furrow sole
<b>POM</b>					
W	0.27 ± 0.02	0.27 ± 0.02	0.28 ± 0.03	0.24 ± 0.02	0.28 ± 0.02
HI	0.010 ± 0	0.010 ± 0	0.020 ± 0	0.16 ± 0.02	0.010 ± 0
DDI	4.0 ± 0.3	3.9 ± 0.3	3.9 ± 0.3	4.4 ± 0.3	4.1 ± 0.4
<b>MAOM</b>					
W	0.19 ± 0.01	0.19 ± 0.01	0.22 ± 0.02	0.20 ± 0.01	0.23 ± 0.01
HI	0.010 ± 0	0.010 ± 0	0.020 ± 0	0.050 ± 0.02	0.040 ± 0.01
DDI	5.4 ± 0.3	5.5 ± 0.3	5.0 ± 0.3	5.0 ± 0.3	4.6 ± 0.3

Values are mean ± standard error. No statistical significance was found for any of the conditions compared at the level of  $p < 0.05$ .