Table S1. The standard curve of each monosaccharide standard

No.	Peak Name	Points	R-Square	Y=a + b X	
			%	a	b
1	arabinose	5	99.940	-0.0522	0.5649
2	galactose	5	99.930	-0.1039	0.7453
3	glucose	5	99.918	-0.1689	0.9591
4	xylose	5	99.942	0.0080	0.7130
5	mannose	5	99.932	-0.0693	0.3475
6	fucose	5	99.901	0.0651	0.7125

Y represents the peak area and X denotes concentration of the monosaccharide standard (1-10 ppm).

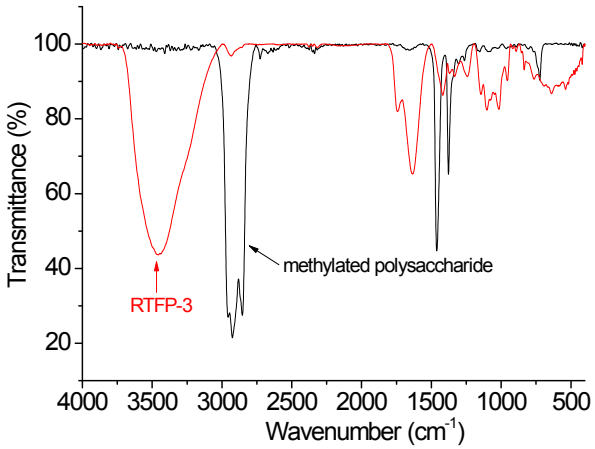


Fig. S1 IR spectra of completed methylated RTFP-3 and RTFP-3.

Annotation: The IR spectrum of RTFP-3 displayed a broad and intense peak at around 3456 cm^{-1} for the characteristic absorption of hydroxyl groups (-OH). After methylation, the peak at around 3456 cm^{-1} almost completely disappeared. Besides, the absorption peak at around 2900 cm^{-1} was greatly enhanced. These results show that the polysaccharide was completely methylated.

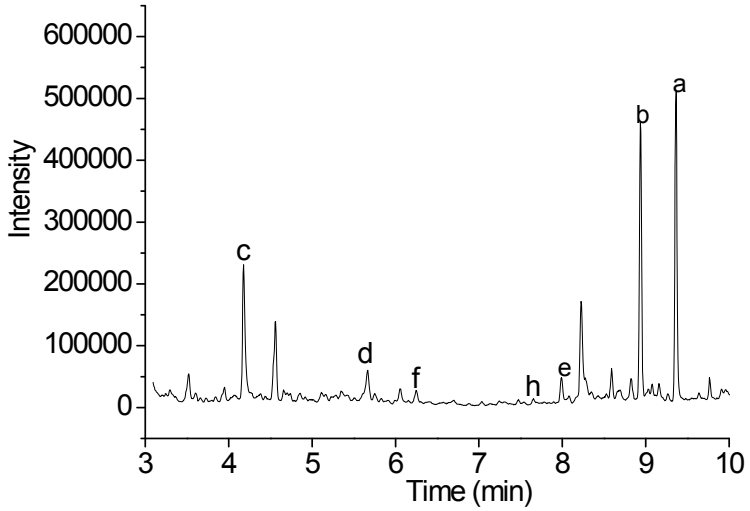
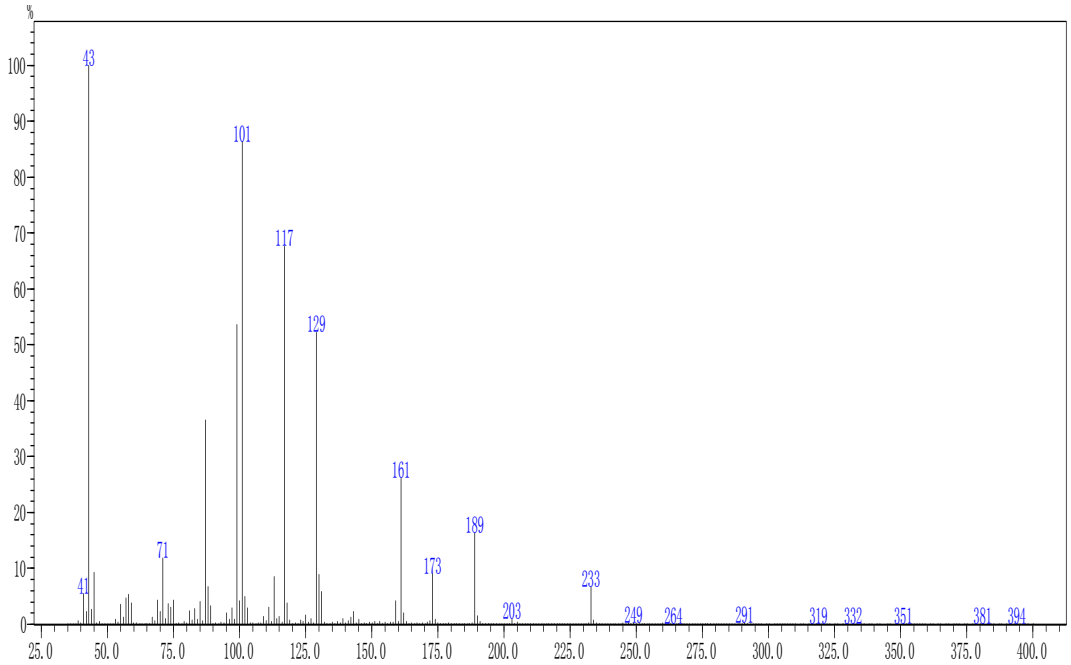


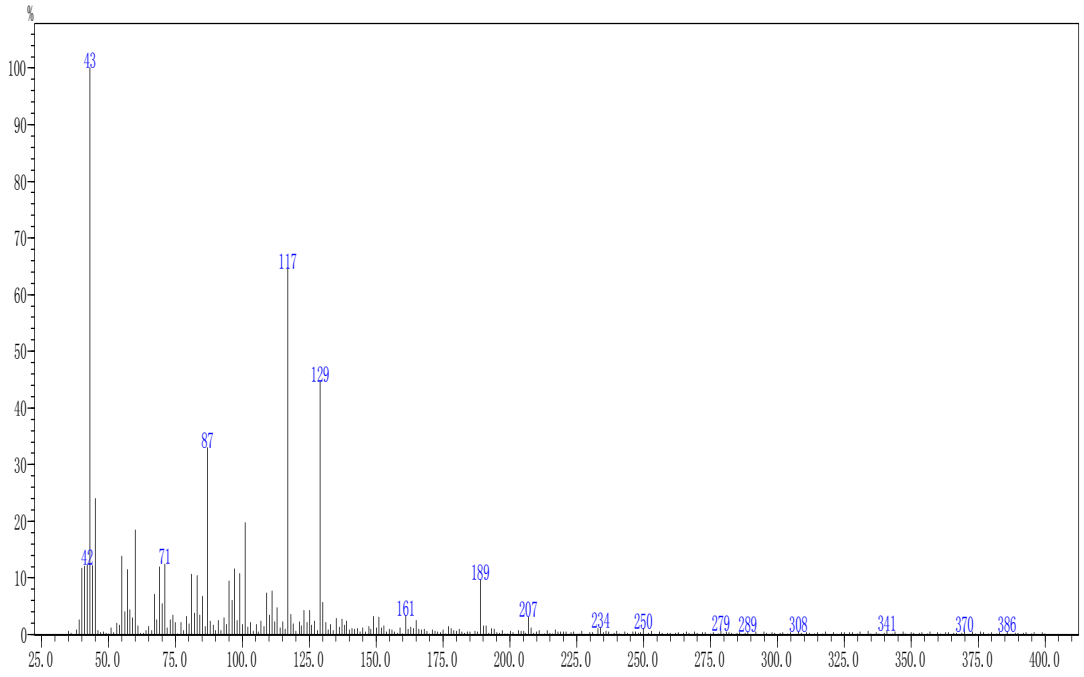
Fig. S2 GC-MS spectrum of methylated polysaccharide. a, b, c, d, e, f and h represent the partially methylated alditol acetate derived from a glycosidically linked sugar residue.

All the mass spectra of the partially methylated alditol acetate are listed as follows:

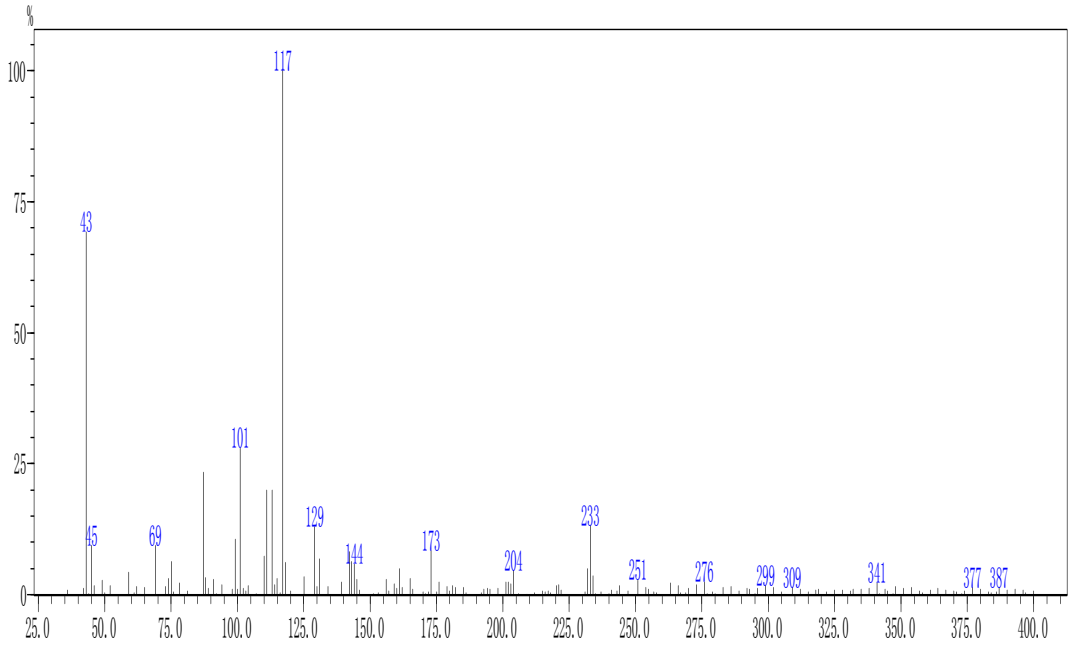
a: 1,5,6-Tri-O-acetyl-1-deuterio-2,3,4-tri-O-methyl-D-galactitol



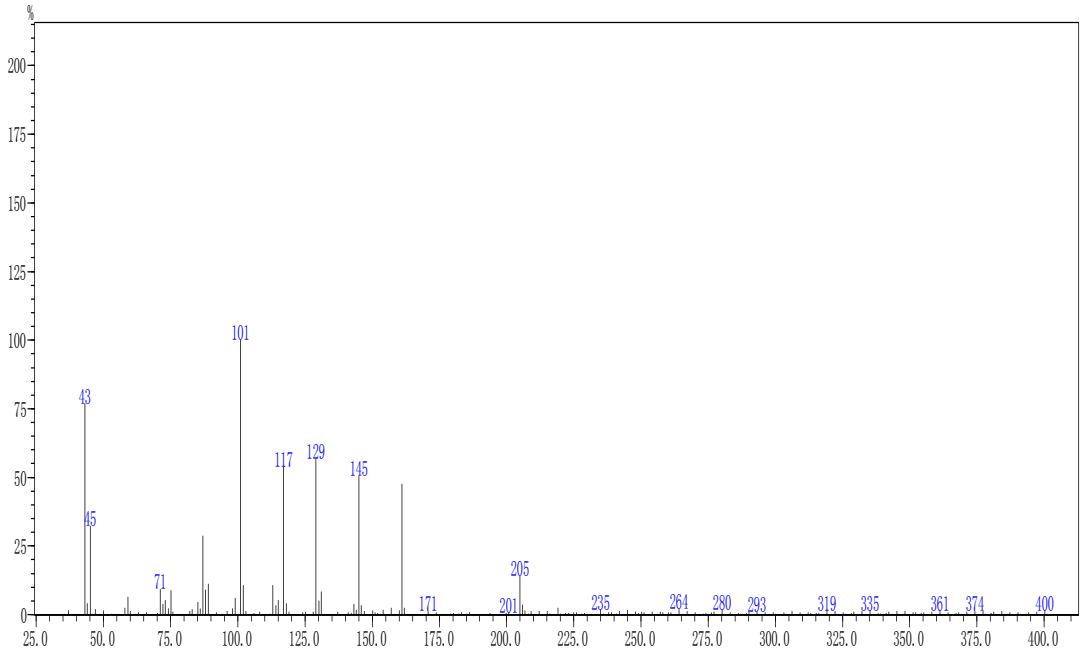
b: 1,4,5-Tri-O-acetyl-1-deuterio-2,3-di-O-methyl-D-arabinitol



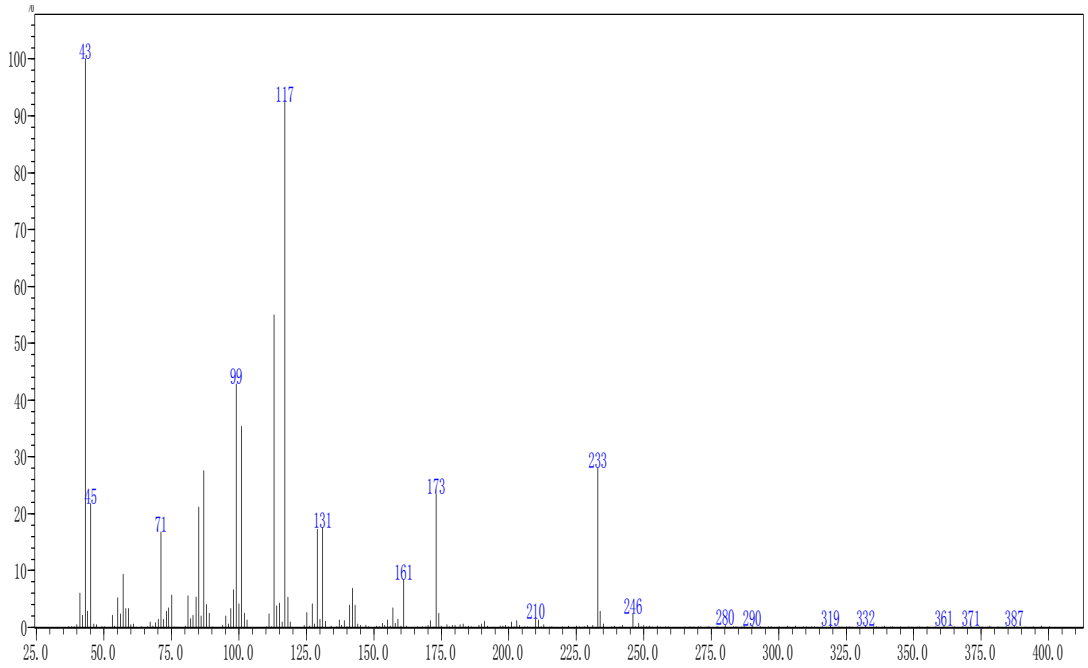
c: 1,3,4,5-Tetra-O-acetyl-1-deuterio-6-deoxy-2-O-methyl-L-galactitol



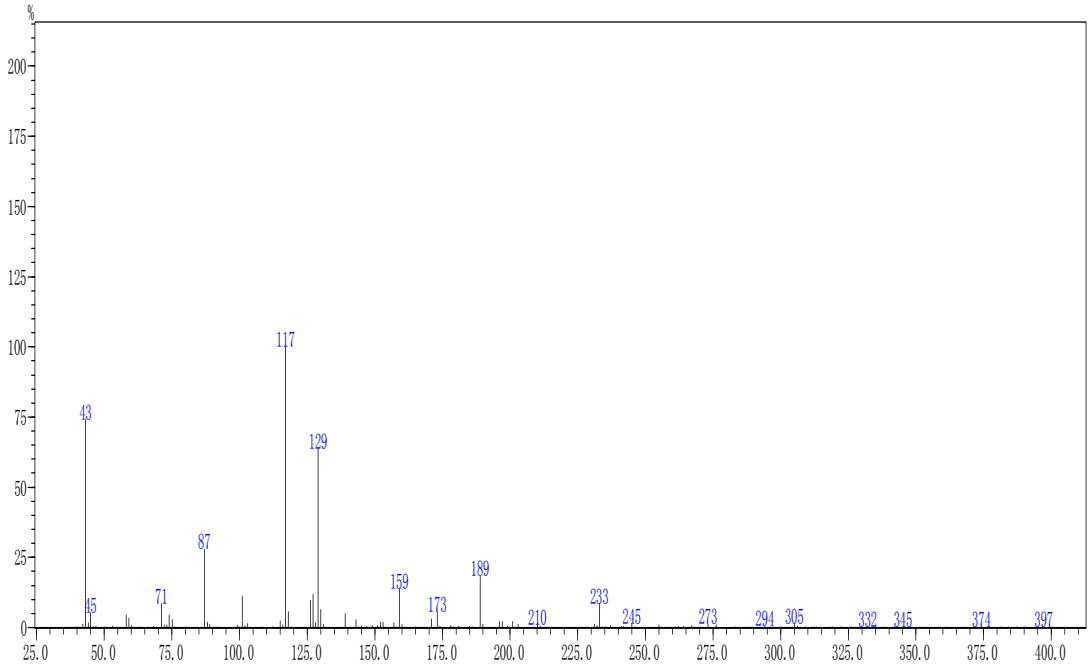
d: 1,5-Di-O-acetyl-1-deuterio-2,3,4,6-tetra-O-methyl-D-glucitol



e: 1,4,5-Tri-O-acetyl-1-deuterio-2,3,6-tri-O-methyl-D-glucitol



f: 1,3,5,6-Tetra-O-acetyl-2-(acetylmethylamino)-2-deoxy-1-deuterio-4-O-methyl-D-mannitol



h: 1,5-Di-O-acetyl-1-deuterio-2,3,4-tri-O-methyl-D-xylitol