

Supplementary data

**Structural characterization and osteogenic
bioactivities of a novel *Humulus lupulus*
polysaccharide**

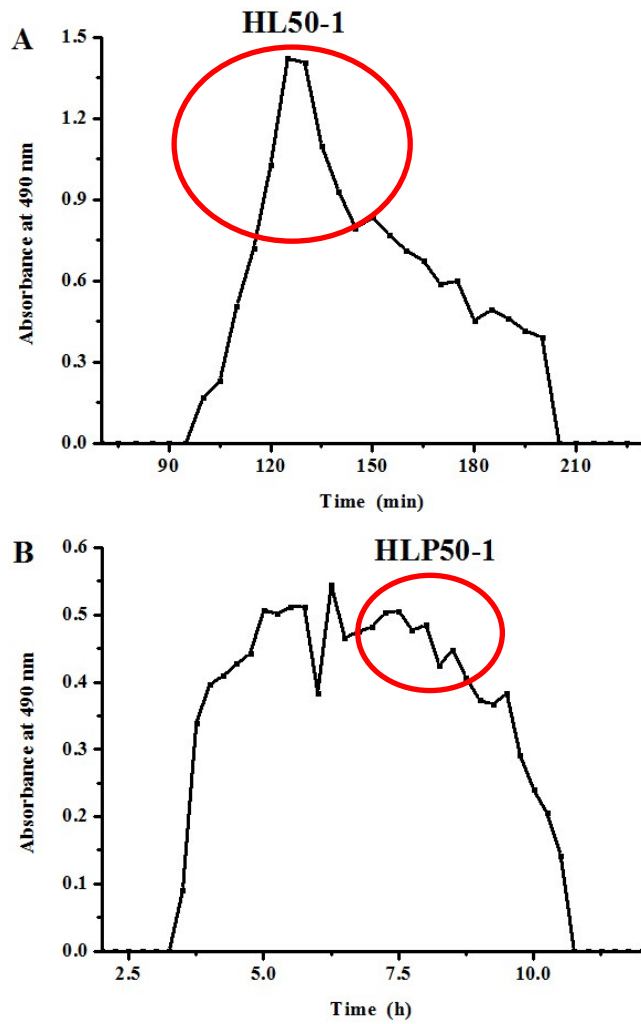


Fig. S1. (A) The elution profile of HL50 on a DEAE-Cellulose 52 anion exchange column. (B) The elution profile of HL50-1 on a Sephadex G-75 gel filtration column.

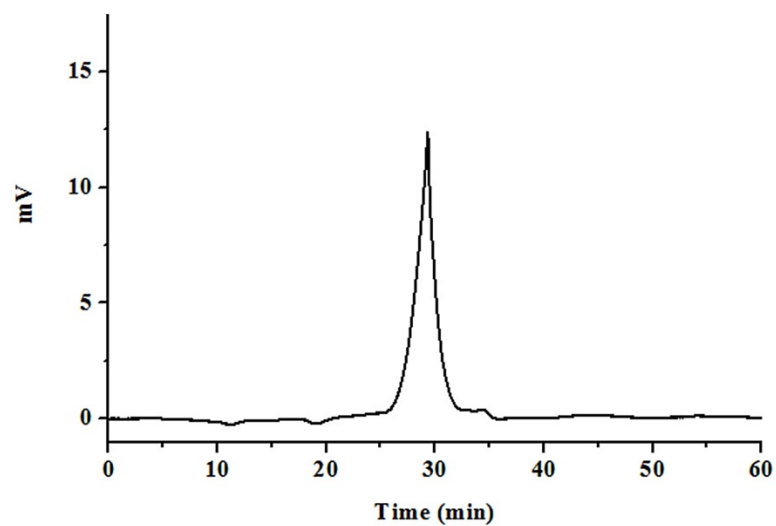


Fig. S2. HPGPC chromatogram of HLP50-1.

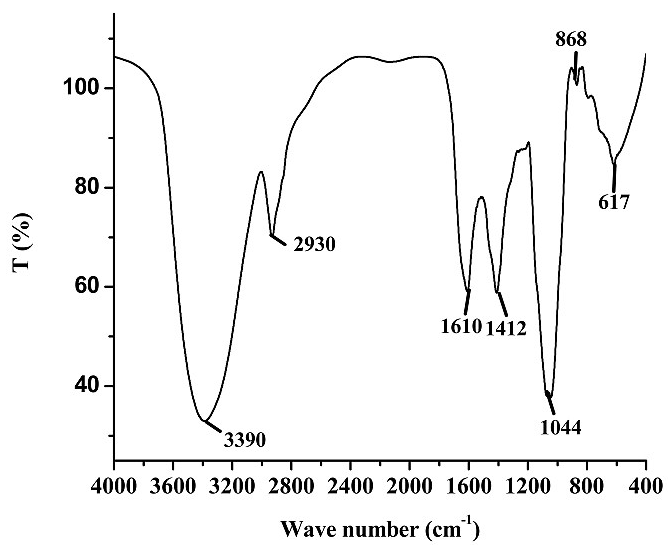
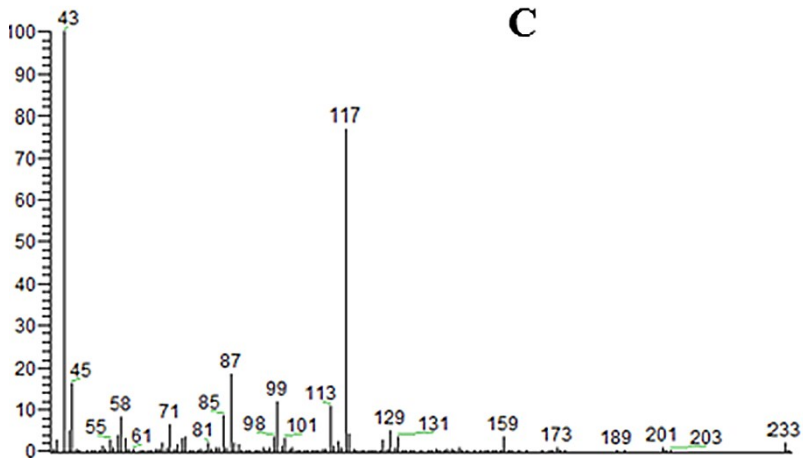
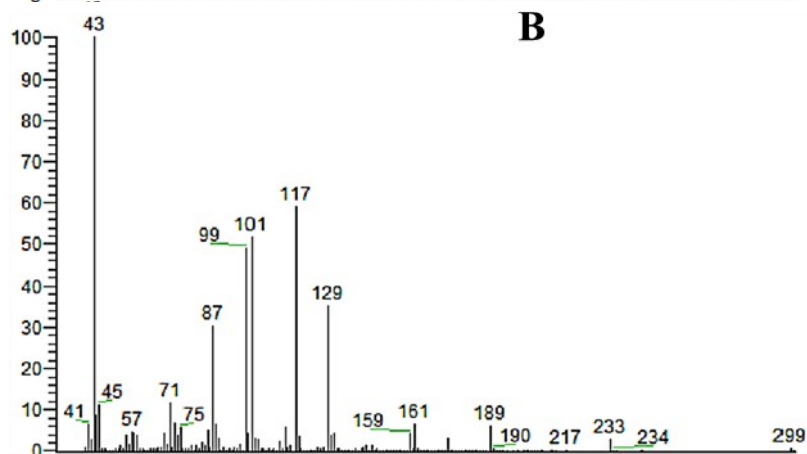
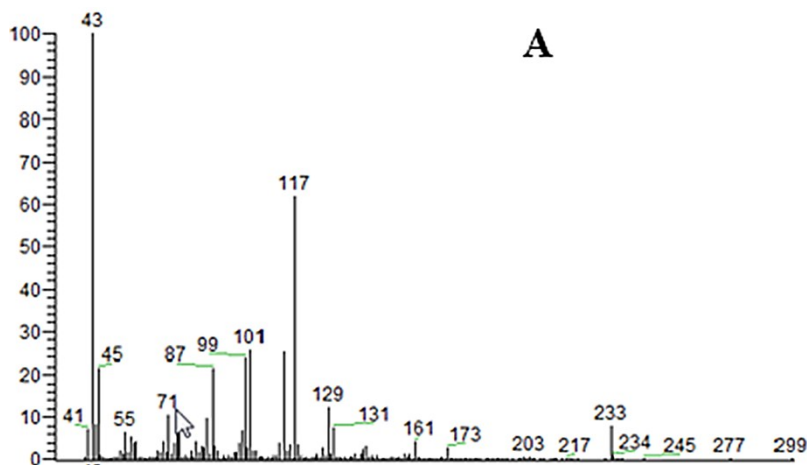
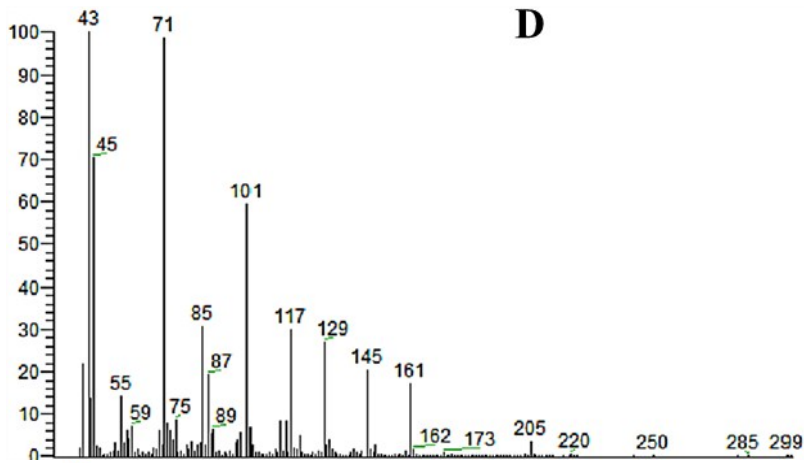
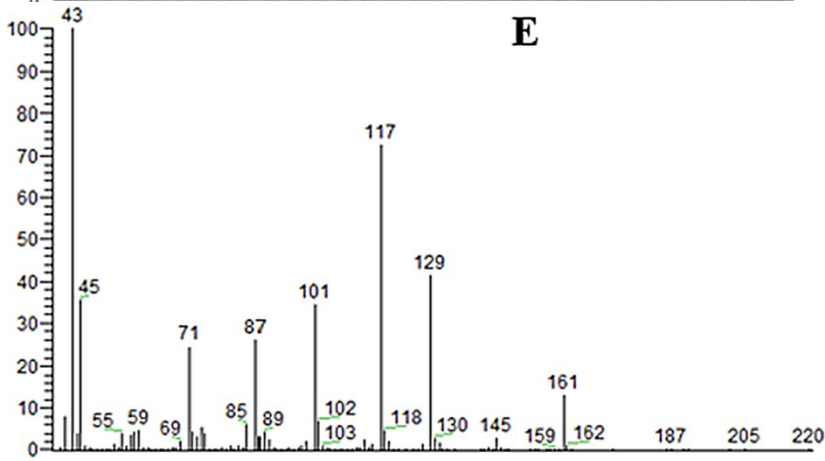


Fig. S3. FT-IR spectrum of HLP50-1 from 4000 to 400 cm^{-1} .

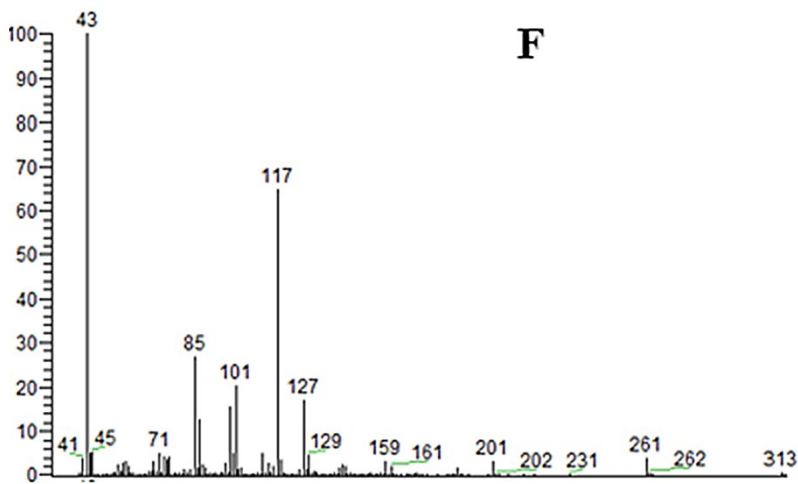




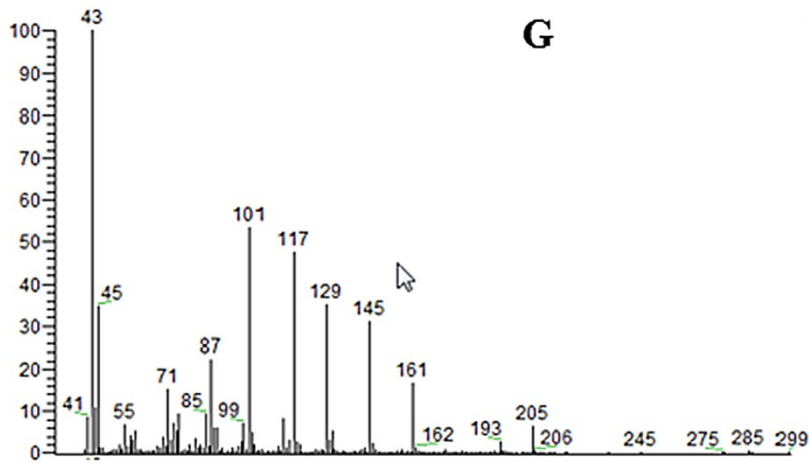
NL: 9.99E2
 HLP50-1-1#3088 RT:
 15.68 AV: 1 T: + c EI Full
 ms [40.00-400.00]



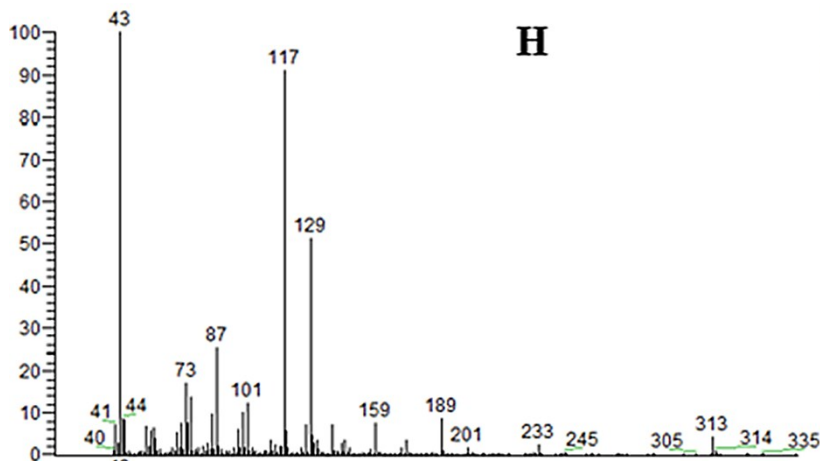
NL: 9.99E2
 HLP50-1-1#2354 RT:
 11.96 AV: 1 T: + c EI
 Full ms
 [40.00-400.00]



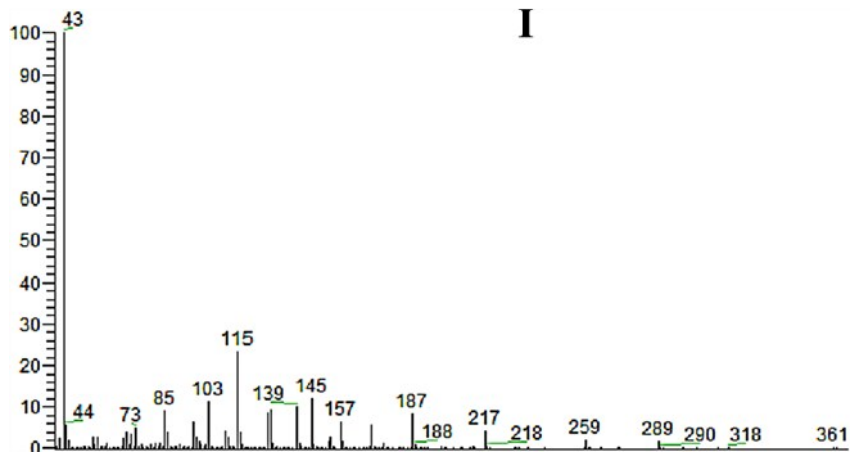
NL: 9.99E2
 HLP50-1-1#3949 RT:
 20.04 AV: 1 T: + c EI Full
 ms [40.00-400.00]



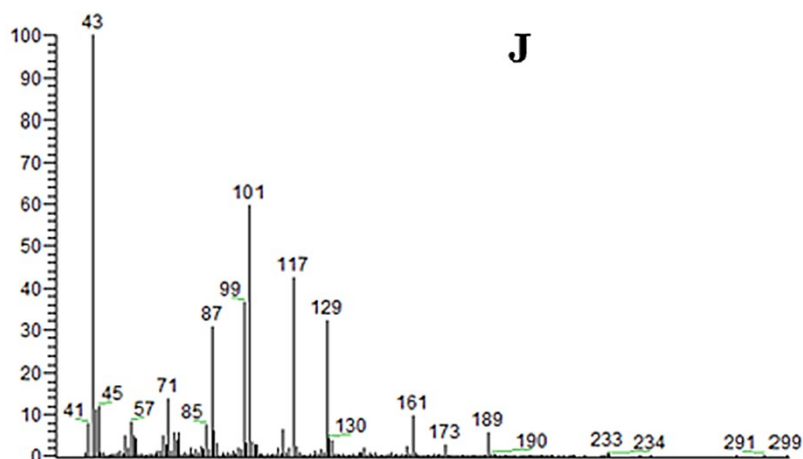
NL: 9.99E2
 HLP50-1-1#3186 RT:
 16.17 AV: 1 T: + c EI Full
 ms [40.00-400.00]



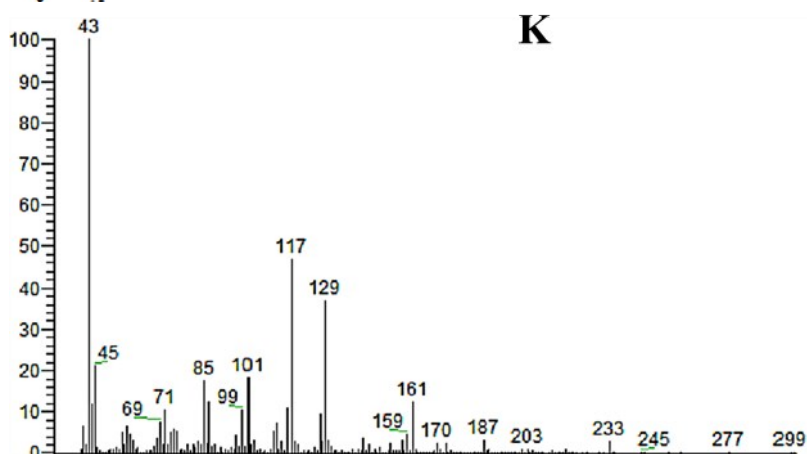
NL: 9.99E2
 HLP50-1-1#4047 RT:
 20.54 AV: 1 T: + c EI Full
 ms [40.00-400.00]



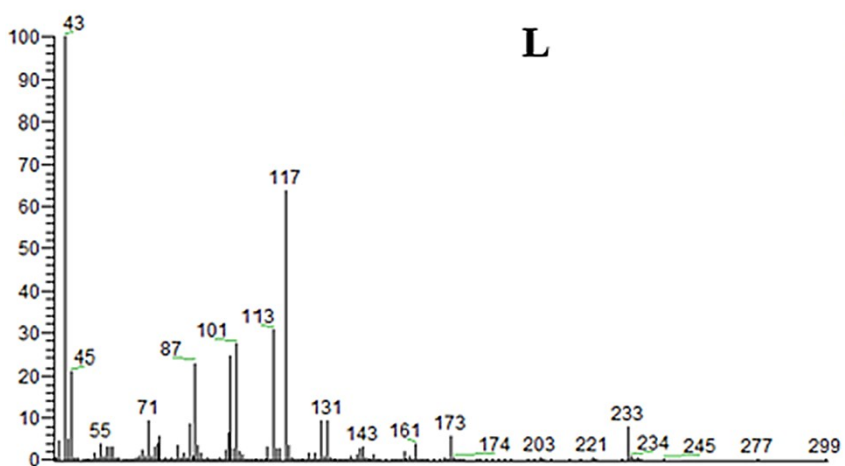
NL: 9.99E2
 HLP50-1-1#4380
 RT: 22.23 AV: 1 T:
 + c EI Full ms
 [40.00-400.00]



NL: 9.99E2
 HLP50-1-1#3566 RT:
 18.10 AV: 1 T: + c EI Full
 ms [40.00-400.00]



NL: 9.99E2
 HLP50-1-1#3547 RT:
 18.00 AV: 1 T: + c EI Full
 ms [40.00-400.00]



NL: 9.99E2
 HLP50-1-1#3485
 RT: 17.69 AV: 1 T: +
 c EI Full ms
 [40.00-400.00]

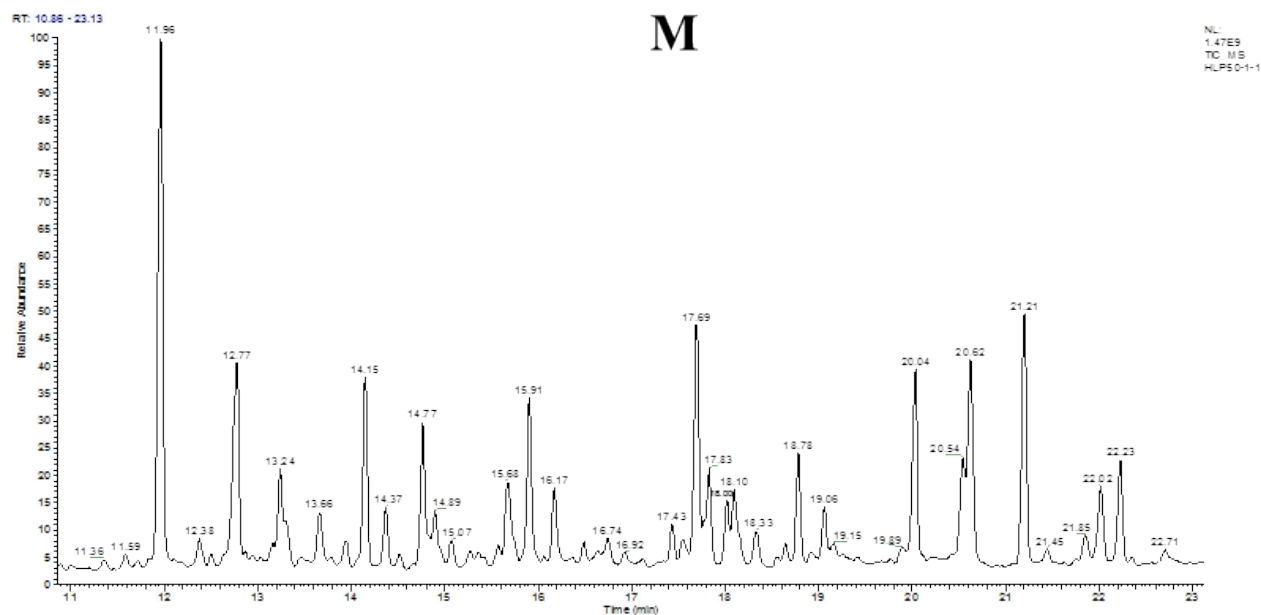


Fig. S4.

- (A) The mass spectrum of 1, 4, 5-tri-*O*-acetyl-2, 3, 6-tri-*O*-methyl-D-glucitol.
- (B) The mass spectrum of 1, 5, 6-tri-*O*-acetyl-2, 3, 4-tri-*O*-methyl-D-mannitol.
- (C) The mass spectrum of 1, 3, 5-tri-*O*-acetyl-2, 4-di-*O*-methyl-6-deoxy-L-mannitol.
- (D) The mass spectrum of 1, 5-di-*O*-acetyl-2, 3, 4, 6-tetra-*O*-methyl-D-glucitol.
- (E) The mass spectrum of 1, 4-di-*O*-acetyl-2, 3, 5-tri-*O*-methyl-L-arabitol.
- (F) The mass spectrum of 1, 4, 5, 6-tetra-*O*-acetyl-2, 3-di-*O*-methyl-D-galactitol.
- (G) The mass spectrum of 1, 5-di-*O*-acetyl-2, 3, 4, 6-tetra-*O*-methyl-D-galactitol.
- (H) The mass spectrum of 1, 3, 5, 6-tetra-*O*-acetyl-2, 4-di-*O*-methyl-D-glucitol.
- (I) The mass spectrum of 1, 2, 3, 4, 5-penta-*O*-acetyl-D-xylitol.
- (J) The mass spectrum of 1, 5, 6-tri-*O*-acetyl-2, 3, 4-tri-*O*-methyl-D-glucitol.
- (K) The mass spectrum of 1, 3, 5-tri-*O*-acetyl-2, 4, 6-tri-*O*-methyl-D-galactitol.
- (L) The mass spectrum of 1, 4, 5-tri-*O*-acetyl-2, 3, 6-tri-*O*-methyl-D-galactitol.
- (M) The total ion current profile for GC/MS analysis of derivative of HLP50-1.