

### Supporting information



Fig.S1. The rhizomes of *P. kingianum* (A) 、 *P. cyrtonema* (B) 、 *P. sibiricum* (C).

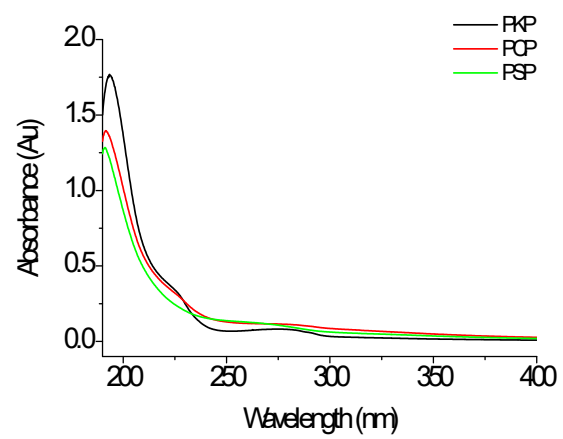


Fig.S2. UV spectrum of PCP, PKP and PSP.

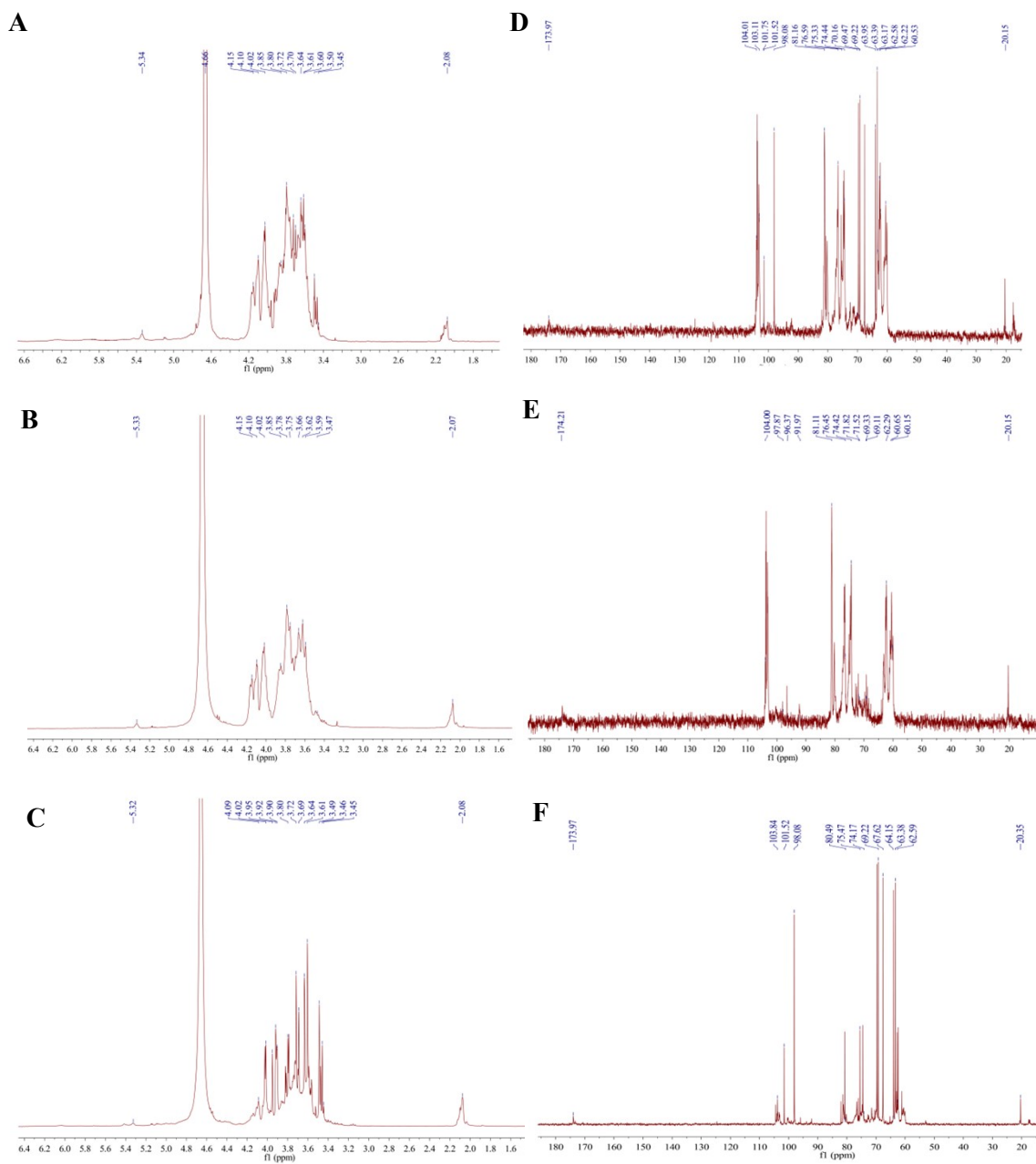


Fig.S3.  $^1\text{H}$  NMR (A-C) and  $^{13}\text{C}$  NMR (D-F) spectra of PKP (A and D), PCP (B and E), and PSP (C and F), respectively.

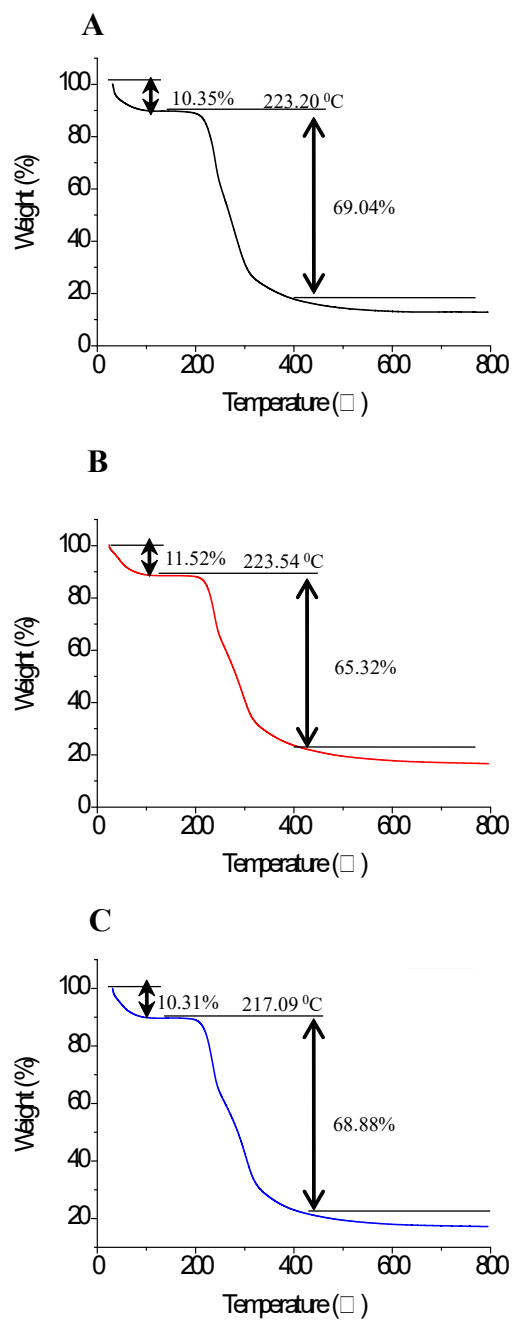


Fig.S4. TGA curves of PKP (A), PCP (B), and PSP (C).