

## Supplementary materials

Figure S1

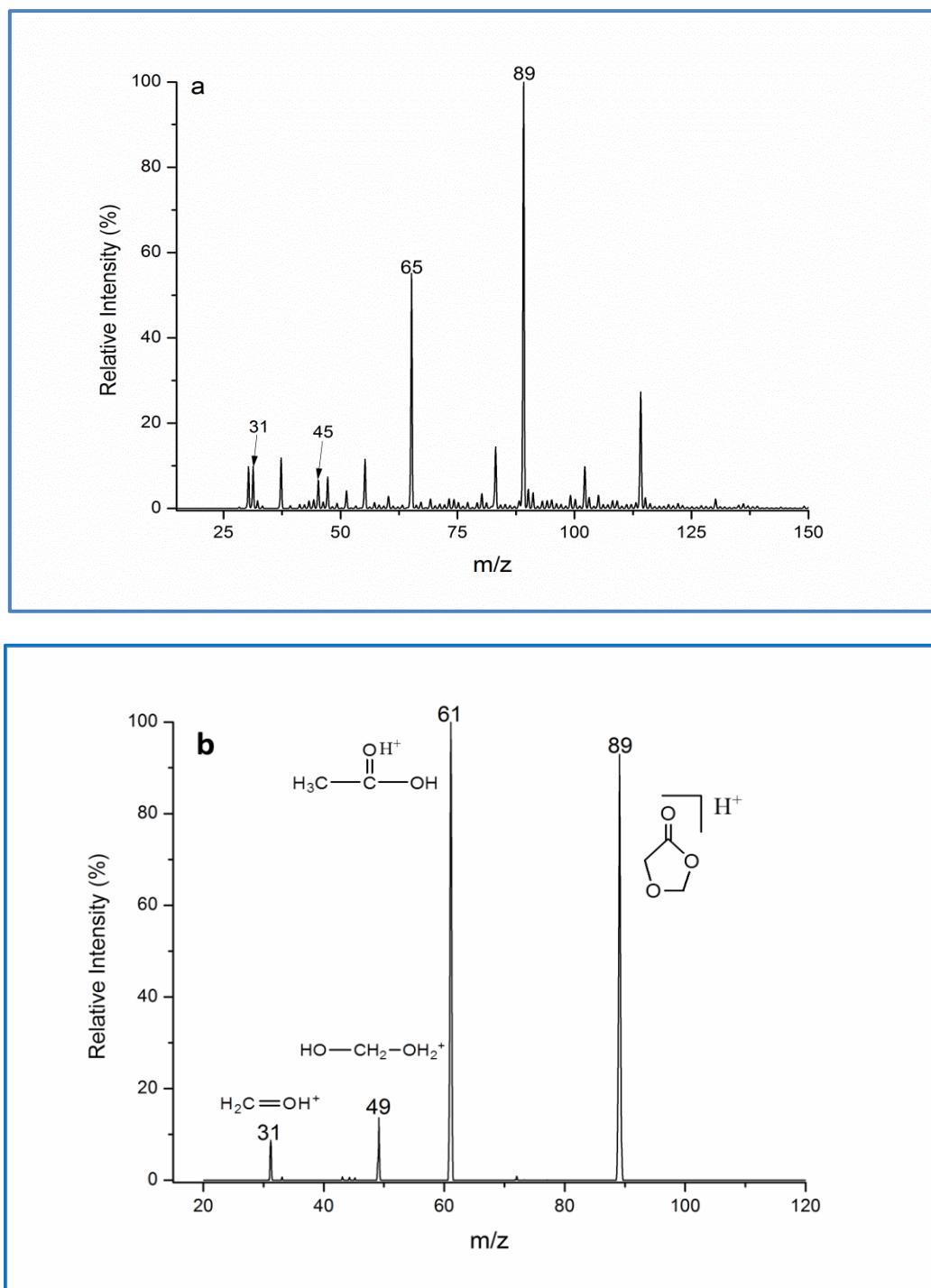


Figure S1 a shows the mass spectrum of 1,3,5-trioxane which is the monomer consisted of POM. Figure 1 b is the MS/MS spectrum of the precursor ion at  $m/z$  89 in fig.1a.

Figure S2

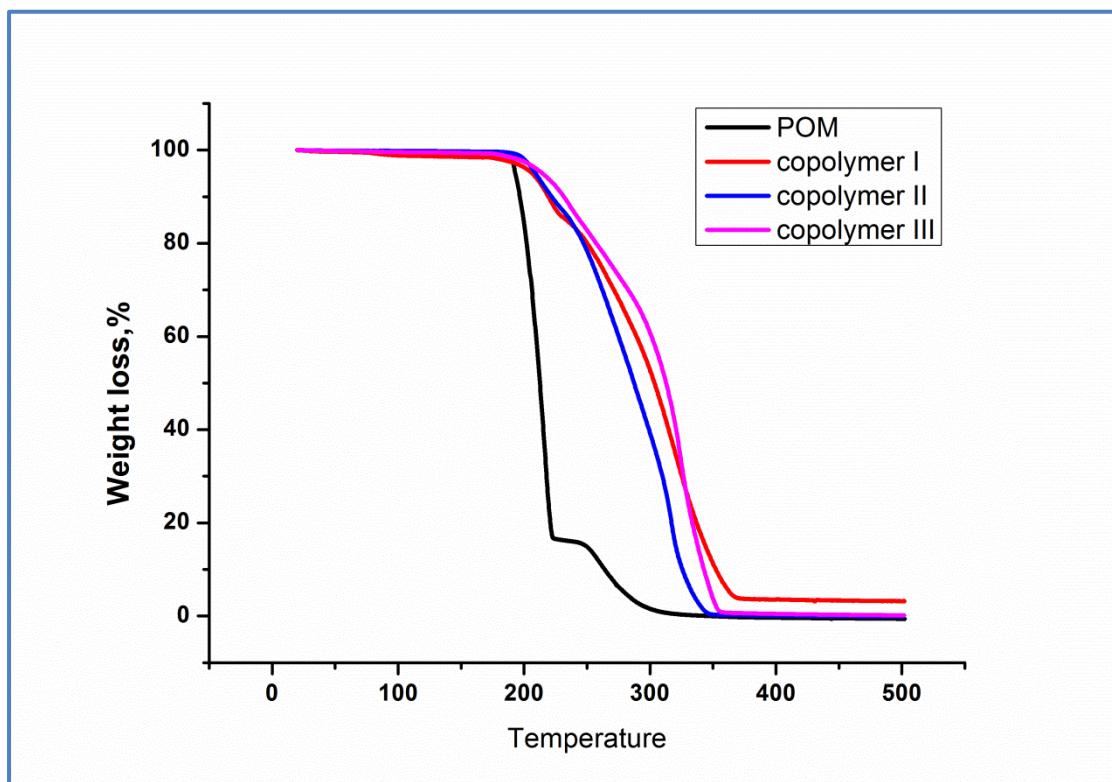


Figure S2 shows the TGA curve of POM and copolymer I, II and III.

The result indicates that thermal degradation process can occur at the temperature between 200 °C~350 °C for the polymers analyzed.