

## Supplementary materials

Figure S1

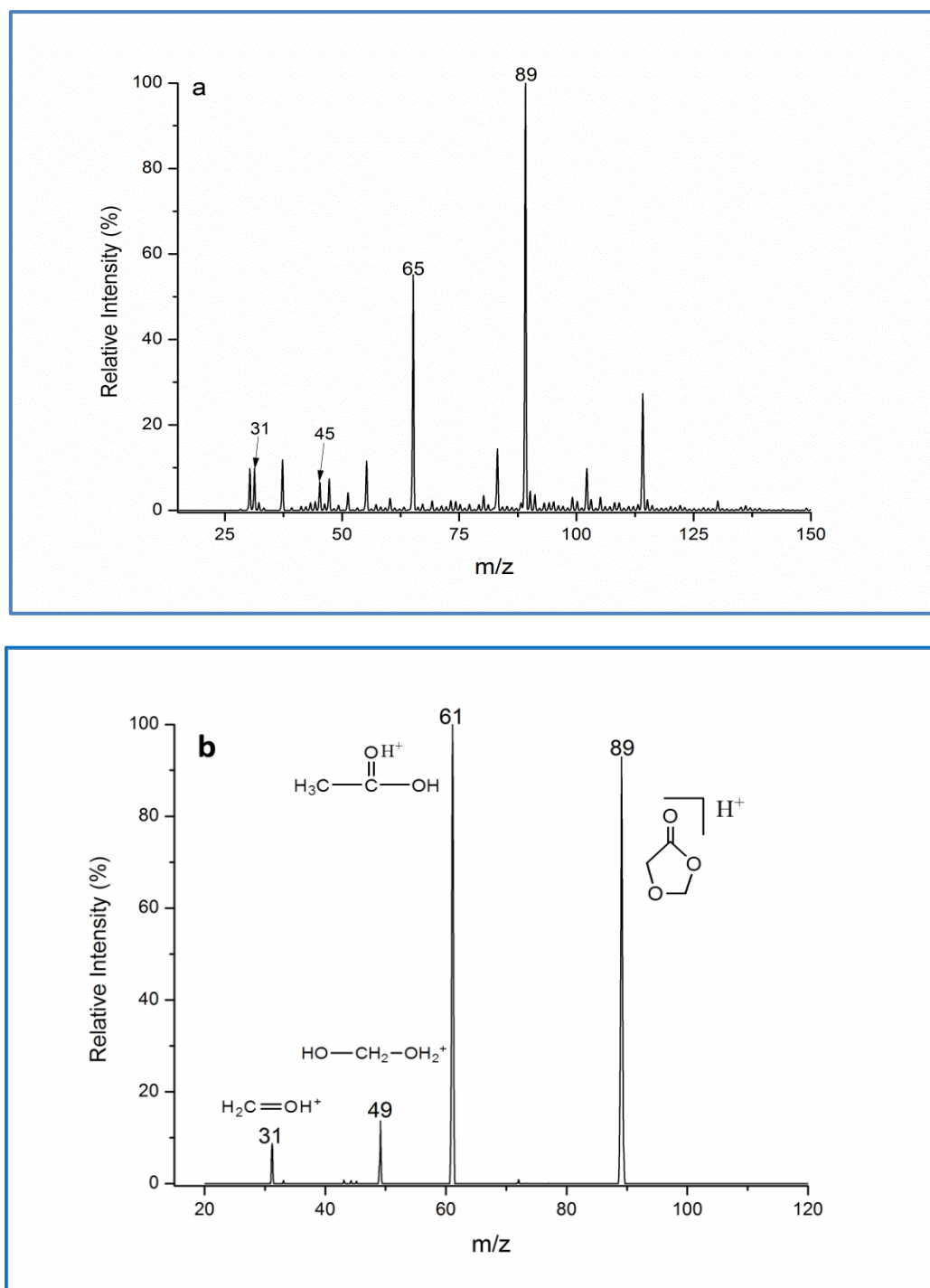


Figure S1 a shows the mass spectrum of 1,3,5-trioxane which is the monomer consisted of POM. Figure 1 b is the MS/MS spectrum of the precursor ion at m/z 89 in fig.1a.

Figure S2

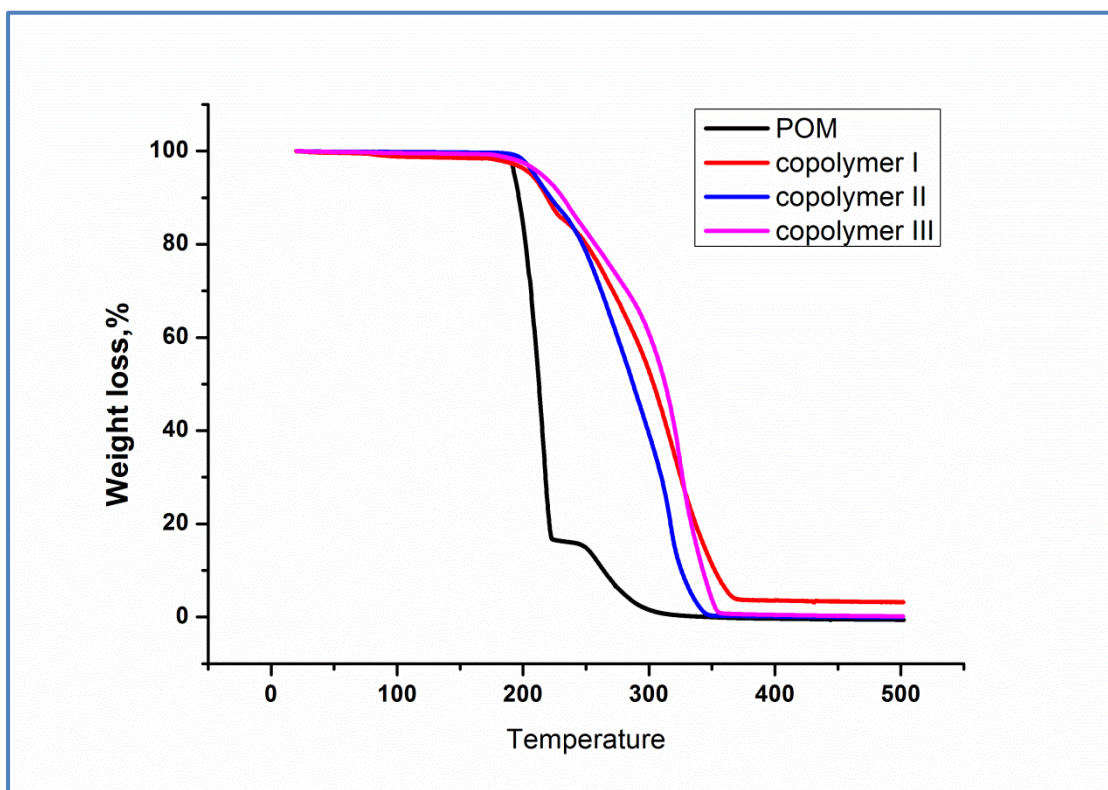


Figure S2 shows the TGA curve of POM and copolymer I, II and III. The result indicates that thermal degradation process can occur at the temperature between 200°C~350°C for the polymers analyzed.