

### Supporting information

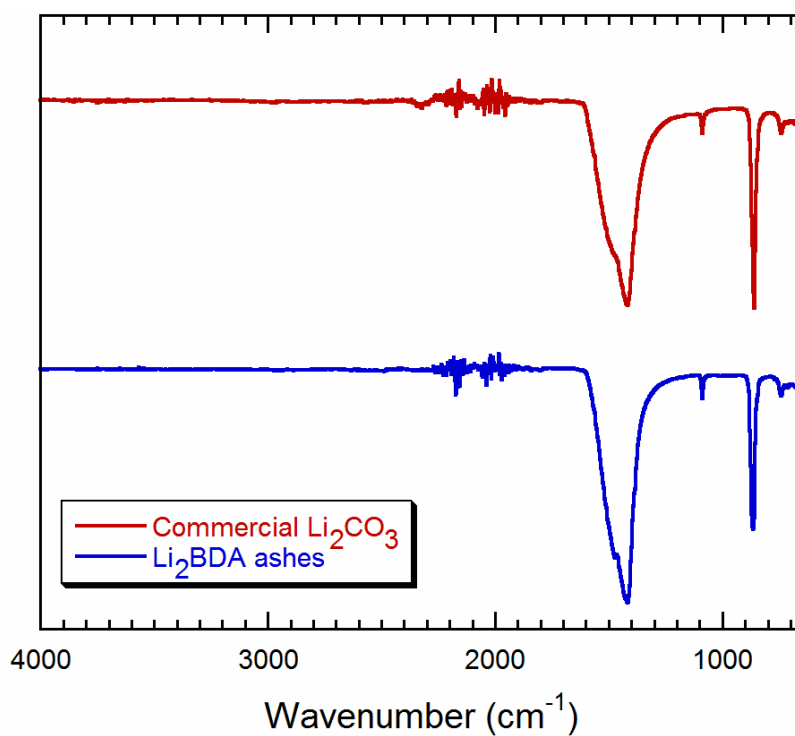


Fig. S1 IR spectra of commercial  $\text{Li}_2\text{CO}_3$  and  $\text{BDALi}_2$  ashes after pyrolysis at 600°C

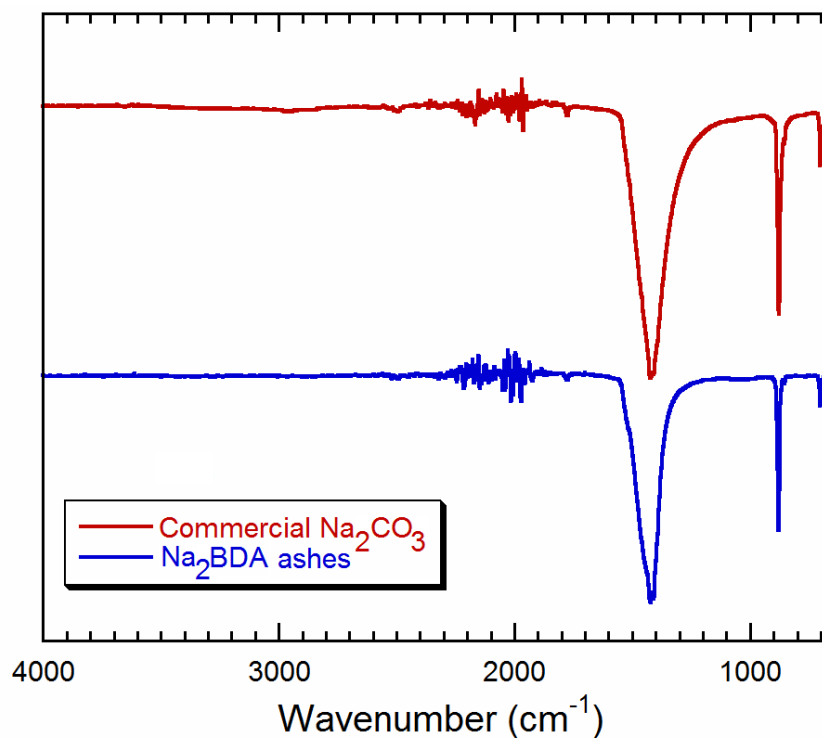
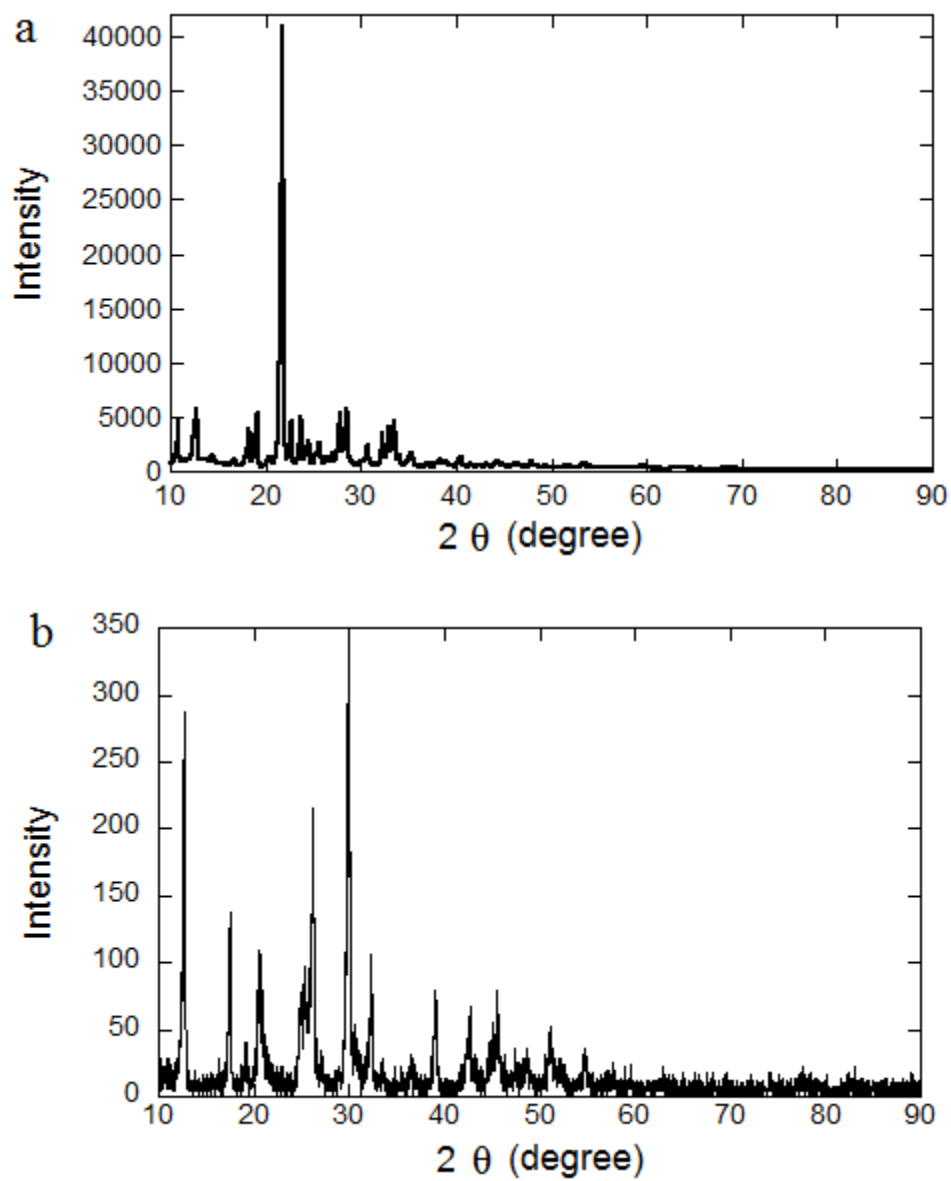


Fig. S2 IR spectra of commercial  $\text{Na}_2\text{CO}_3$  and  $\text{BDANa}_2$  ashes after pyrolysis at 550°C



**Fig. S3** XRD patterns of  $\text{Li}_2\text{BDA}$  (a) and  $\text{Na}_2\text{BDA}$  (b)