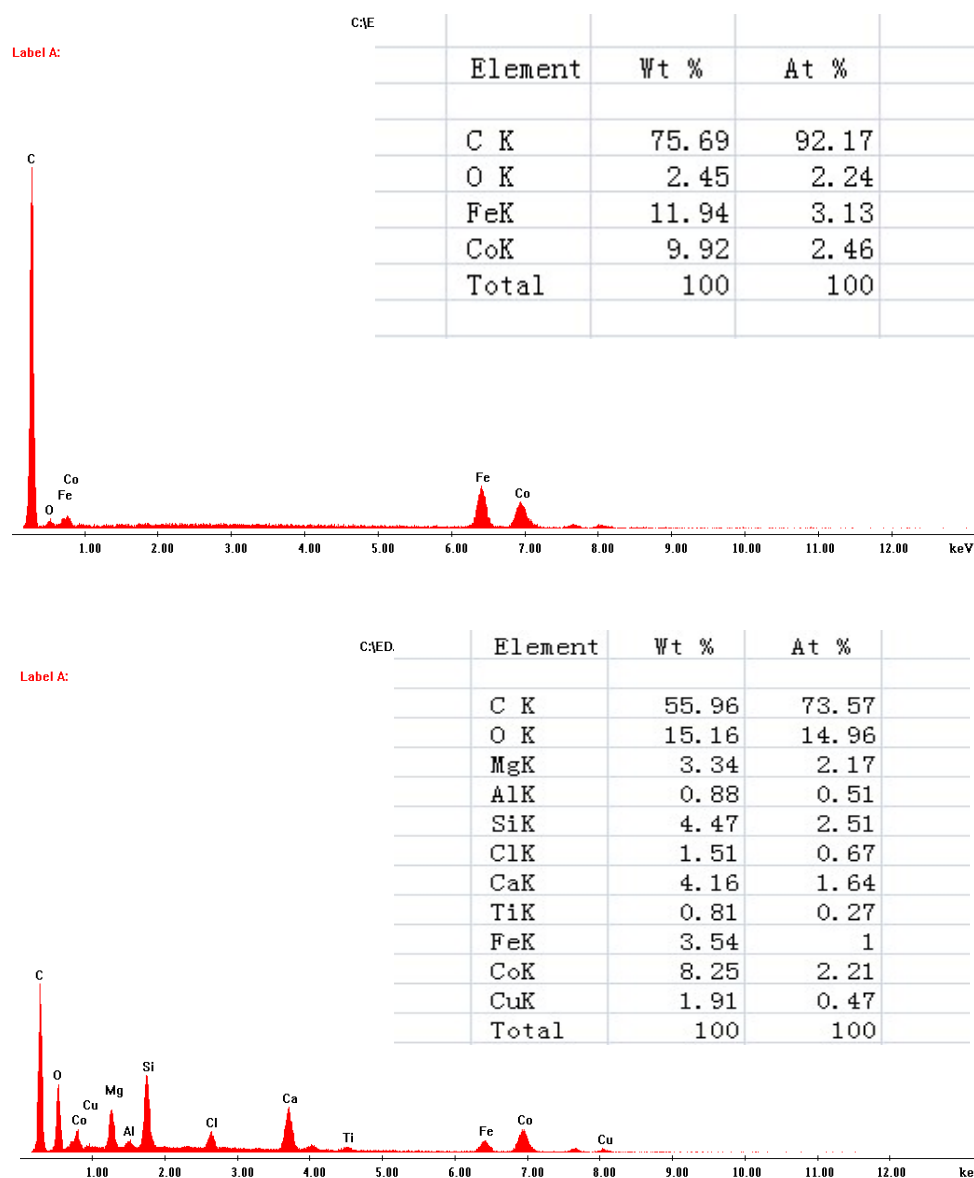


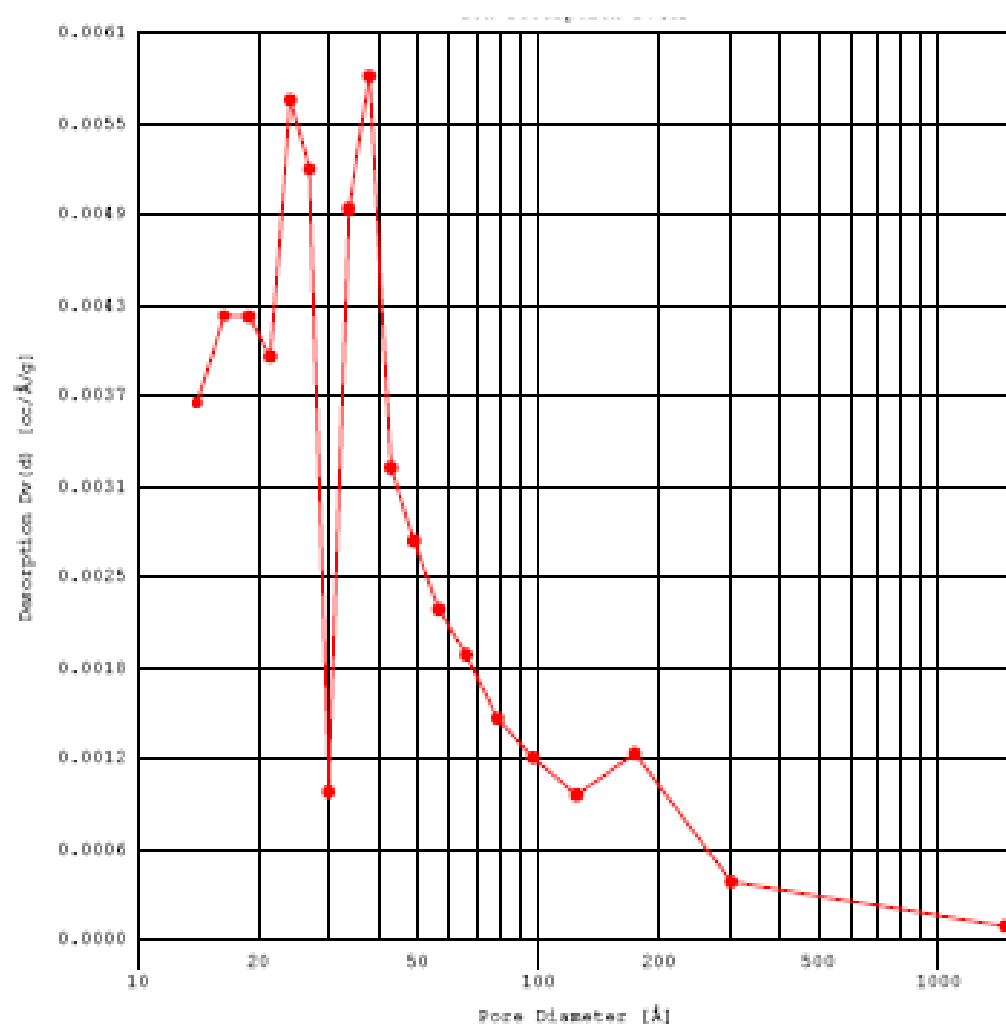
## Supporting Information

The EDS data are shown below, for the carbon materials from pure PP, there are about 75.69 wt% of carbon in the sample. However, there is around 56 wt% of carbon in the carbon materials from waste PP.

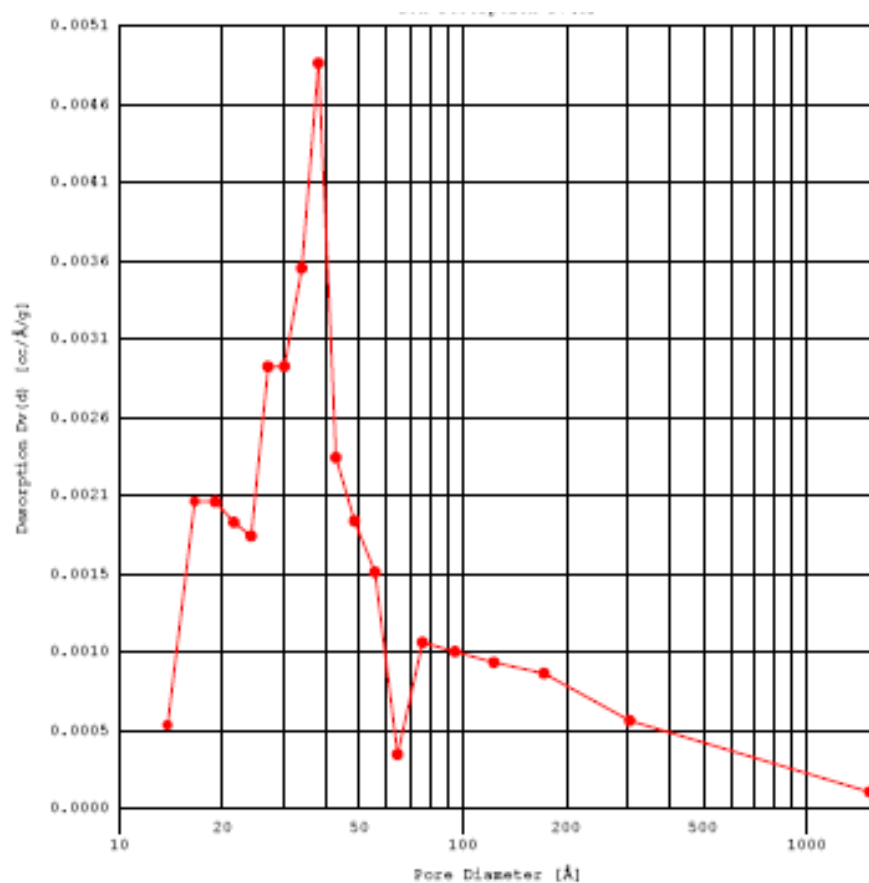


**Figure S1.** EDS data from carbon materials from pure PP (a) and Waste car bumper (b).

## Pore size distributions



**Figure S2.** Pore size distribution of carbon materials from pure PP.



**Figure S3.** Pore size distributions of carbon materials from waste PP.